

**THE CAPITAL COMMONS: DIGITAL MONEY AND CITIZENS’
FINANCE IN A PRODUCTIVE COMMERCIAL REPUBLIC**

ROBERT C. HOCKETT *

Table of Contents

I. <i>Introduction: Commerce, Finance, and Productive Republics</i>	346
II. <i>Hybrid Finance: A Brief Recapitulation</i>	362
III. <i>Hybrid Finance: Why and How We Got Here</i>	368
A. Why Credit and Currency.....	368
B. Why Uniformity.....	378
IV. <i>Hybrid Finance: Why We Retain It—And Why We Need Not</i>	391
A. Why We Retain It: New Facts, Old Thoughts.....	392
B. Why We Need Not: New Facts, New Prospects.....	396
V. <i>Citizen Finance: What We Now Can and Must Do</i>	402
A. Liability Side: Reserve Accounts, Citizen Wallets, and Resident Wallets.....	404
B. Asset Side: NIC, SBA, PSF, and Other Public Issuances.....	421
C. Systemic Ramifications: Private Sector Transformation, Public Sector Consolidation.....	432
VI. <i>Citizen Finance: Logistics & Technics</i>	441
A. From Abstract Accounting to Concrete Logistics: Making It Happen.....	442
B. From Macro Logistics to Micro Technics: Why to Digitize Now.....	448
VII. <i>From Citizen Finance to Citizen Fintech: The Democratic Digital Dollar & Its Possible Forms</i>	460
A. Moneys and Payment Systems.....	461

* Edward Cornell Professor of Law, Cornell University; Visiting Professor of Finance, Georgetown McDonough School of Business; Senior Counsel, Westwood Capital, LLC; Advisory Board, Digital Fiat Currency Institute; Advisory Board, Public Banking Institute. Warm thanks to Dan Alpert, David Andolfatto, Kaushik Basu, Aaron James, Ron Kim, Jamie McAndrew, Paul McCulley, Sarah Bloom Raskin, Robert Shiller, Dan Tarullo, Alan Thomas, and Paul Tucker. Special thanks to my alter ego Saule Omarova, with whom I regularly co-author on many of the subjects of this paper, and with whom I am now tracing some of the system-wide implications of proposals like the one made here in detail.

B. From Payments to Moneys: Technical Options for the Democratic Digital Dollar—and Its Counterparts Abroad	477
VIII. <i>Citizen Finance & the Digital Dollar: Cavils and Competitors</i>	488
IX. <i>Conclusion: From Fintech to Ourtech—And Our Finance</i>	497

I. Introduction: Commerce, Finance, and Productive Republics

Americans have long prided themselves on their innovative entrepreneurial culture and the associated creative dynamism of their productive economy. They have likewise long celebrated the fact that their polity was founded as, and in many ways remains, a democratic republic—a *res publica* (“public thing”) inclusively constituted and managed by materially independent and freely associating citizens, households, and firms (*personae privata*).¹ This ideal of the “commonwealth” or “good society,” traceable to 17th century English and 18th century Scottish Enlightenment updatings of Renaissance Italian and Roman Republican antecedents, often travels together with two related conceptions—those of a “commercial republic” and the “exchange economy” that serves as any such republic’s material foundation.²

Key to the formation and healthy maintenance of any such society and associated economy are their mode or modes of *finance*—the means by which current resources find deployment in the production of future resources, or “wealth.”³ Virtually by definition in any such society and associated economy, these modes themselves will involve at least some degree of private sector project-planning and associated “private ordering.”⁴ Finance being a matter of channeling

¹ Cf. ROBERT HOCKETT, *A REPUBLIC OF OWNERS* (forthcoming Yale University Press, 2020).

² *Id.* See also Robert Hockett, *A Jeffersonian Republic Through Hamiltonian Means: Values, Constraints, and Finance in an American ‘Ownership Society’*, 79 S. CAL. L. REV. 45 (2006) [hereinafter *Jeffersonian Republic*]; Robert Hockett, *Materializing Citizenship: Finance in a Producers’ Republic*, 63 EMORY L.J. 55 (2014) [hereinafter *Materializing Citizenship*]; and Robert Hockett, *Pre-Liberal Autonomy & Post-Liberal Finance*, 77 L. & CONTEMP. PROB. 105, 126 (2014) [hereinafter *Pre-Liberal Autonomy*].

³ See sources cited *id.* See also Robert Hockett, *Rousseauvian Money* (Cornell Law Sch., Research Paper No. 18-48), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3278408 [hereinafter *Rousseauvian Money*].

⁴ See sources cited *id.*

today's resources to the production of tomorrow's resources, and such "channeling" in any exchange economy being at least partly a matter of contractual transfer, *financial* modalities will make at least some use of *commercial* modalities.⁵ They will employ modes of payment through which productive units can purchase access to productive "inputs" that they do not already have—that is, finance their productive operations—in producing the "outputs" that constitute their material wealth.⁶

This reliance of financial modalities on commercial modalities in any exchange economy on the one hand, and the aforementioned "mixed" public/private character of any republic, including a commercial republic, on the other hand, confront the citizens of any such republic with a critical foundational choice. That is the choice of what roles the "public" and "private" sectors will play in *supplying* the indispensable value-transfer ("payment"), value-storage ("saving"), and other commercial and financial infrastructures used by productive units on the one hand, and what associated roles public and private should play in governing productive financial *flows* via those structures on the other hand.⁷ Should production itself be a private sector affair while financing production is made a public sector affair, for example? Should the reverse be the case? Or, should *both* finance and production be mainly public or mainly private affairs?

In the American commercial republic, we have more or less definitively answered, to our own satisfaction at least, the "who does production" question—at least from the founding era to the present day: we have elected to leave production primarily, though not of course solely, "in private hands." We don't have extensive networks of "public sector industry" and "state-owned enterprises," for example, even though we do have some "government corporations" and "government-sponsored enterprises" (GSEs).⁸

⁵ *Id.* See also Robert Hockett, *The Democratic Digital Dollar: A Digital Savings and Payments Platform for Fully Inclusive State, Local, and National Money and Banking Systems*, 10 HARV. BUS. L. REV. 1, 2 (2020) ("Because a money is simply what counts for purposes of accounting, accumulating, and transferring value within a given value-storage and -payments system, supplying a universally accessible architecture of the kind here designed is equivalent to supplying a universal (1) currency, (2) trade and payments, and (3) retail banking platform to all who participate.").

⁶ *Id.*

⁷ *Id.*

⁸ See *infra* Parts III and IV.

Where the *financing* of production is concerned, by contrast, we have been decidedly more ambivalent throughout our history. On the one hand, we have in the past founded and operated two national development banks—the First and Second Banks of the United States, which helped oversee and finance national economic development in the late 18th and early 19th centuries.⁹ And we have founded and operated at least two more *modern* national institutions dedicated to productive *mobilization* and what might be called national *redevelopment*—viz. the War Finance Corporation (WFC) and the Reconstruction Finance Corporation (RFC), which presided over national war mobilization and productive revitalization during the first half of the 20th century.¹⁰

On the other hand, we have also allowed a nominally private sector “financial services industry” both to flourish and to grow into an ever-larger part of our GDP-measured macro-economy, especially over the past 50 years.¹¹ And we tell ourselves to this very day that this industry is the primary driver—indeed both the coordinator and the “fuel”-supplier—of our national production processes themselves.¹²

The fact of the matter, then, is that while the American commercial republic’s productive processes both are and have always to this point been by and large privately ordered, our financial system is and has always been *hybrid* in character. It has been a mix of combined public and private sector credit allocation on the one hand, and variably successful public credit modulation on the other hand—success and failure in turn fluctuating with changing degrees of public sector appreciation that credit allocation on the one hand, and modulation on the other, cannot ultimately be kept separate.¹³

It is this problem—that of fluctuating success and failure in the mixed public/private financing of private sector production—which I aim to address, even to solve, through this article. I aim to do that by showing how best to end financial hybridity itself, separating our financial system into distinct public and private sector components along lines that make good institutional sense as a matter of both

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

¹³ See *infra* Part I. The modulation versus allocation distinction, and the ultimate practical inseparability of the two, is introduced in Robert Hockett, *A Fixer-Upper for Finance*, 87 WASH. U. L. REV. 1213 (2010) [hereinafter *Fixer-Upper*]. It also figures prominently in the work cited *infra* note 17.

democratic republican justice and commercial republican productivity. But, specifying in detail what this entails requires more specificity both about the nature of our distinctly American *species* of financial hybridity on the one hand, and about what susceptibilities to disease are encoded in the DNA, so to speak, of that species on the other hand. Explicating what parts or portion of our financial system should be made forthrightly part of “the commons” in our “commonwealth,” in other words, requires that we carefully explicate what parts of it already are.

For the past 160 years, the American financial system has operated not only as a generically hybrid arrangement, but more specifically as a public-private *franchise* arrangement.¹⁴ At the core of our franchise lie the sovereign public (the “public” of our “republic”) and its money-modulator—the issuer and manager of its monetized full faith and credit, its “money”—on the one hand, and the private sector financial institutions and markets that are publicly licensed to allocate most of the resultant “credit-money” on the other hand.¹⁵

For the half-century following the mid-1860s, our public money-modulator was the Office of the Comptroller of the Currency (OCC), a regulator whose name is suggestive but whose role grew progressively more obscure to the public once its original mandate was transferred, in principal part, to the Federal Reserve (Fed) circa 1913.¹⁶ Since the latter date, and especially since the banking reforms of the

¹⁴ See Robert Hockett, *Finance without Financiers* in DEMOCRATIZING FINANCE 5–6 (Erik Olin Wright ed., forthcoming Verso Press, 2020 [2015]) [hereinafter *Finance without Financiers*] (discussing how the privately owned banks in conjunction with a publicly administered sovereign currency create a public-private partnership); Robert C. Hockett & Saule T. Omarova, *The Finance Franchise*, 102 CORNELL L. REV. 1143, 1147 (2017) [hereinafter *Finance Franchise*] (explaining that at its core, the financial system can be seen as public-private partnership); see also *infra* Part I (explaining further the public/private partnership in our hybrid financial system).

¹⁵ *Finance without Financiers*, *id.* at 9–11 (explaining how banks, having monetized the full faith and credit, make up the core of the financial system); *Finance Franchise*, *id.* at 1164 (same). For more on money, credit-money, modulation, and allocation see *supra* note 13, and *infra* Parts II–IV.

¹⁶ See Robert C. Hockett, *Money's Past Is Fintech's Future: Wildcat Crypto, the Digital Dollar, and Citizen Central Banking*, 2 STANFORD J. BLOCKCHAIN L. & POL'Y 1, 8 (2019) [hereinafter *Money's Past*] (“The Federal Reserve Act (‘FRA’) of 1913 established the Fed that we all know today, and transferred de facto and de jure administration of the national money supply from the Comptroller to this new entity.”).

1930s, the Fed has served as our republic's primary money-modulator, while private sector financial institutions have continued to act as our primary, though not as our sole, money-allocators.¹⁷

Over the last decade, developments in several distinct “spaces” have prompted what is in effect, even if not yet in name, a broad reassessment of our hybrid financial arrangements.¹⁸ One such development has been the worldwide financial debacle of just over a decade ago, as followed by its debt-deflationary sequel—a still-lingering malady that proximately originated in American financial dysfunction and ultimately culminated in global economic devastation.¹⁹ These

¹⁷ See, e.g., ROBERT HOCKETT, *FINANCING THE NEW GREEN DEAL: A PLAN OF ACTION AND RENEWAL* (forthcoming Palgrave Economics 2020) (discussing the modulatory and allocative tasks); *Fixer-Upper*, *supra* note 13, at 142 (introducing the idea of financial “regulation as modulation”); Robert C. Hockett & Saule T. Omarova, *Private Wealth and Public Goods: A Case for a National Investment Authority*, 43 J. CORP. L. 437, 441 (2018) [hereinafter *National Investment Authority*] (reminding readers of the difference between the credit modulation task and the credit allocation task); Robert Hockett, *The Macroprudential Turn: From Institutional ‘Safety and Soundness’ to Systemic ‘Financial Stability’ in Financial Supervision*, 9 VA. L. & BUS. REV. 201, 229 (2014) [hereinafter *Macroprudential Turn*] (declaring that the reason the central bank is suited to regulate finance macroprudentially is because the central authority already is a money-modulator and that money); Robert C. Hockett & Saule T. Omarova, *Public Actors in Private Markets: Toward a Developmental Finance State*, 93 WASH. U. L. REV. 103, 144 (2015) [hereinafter *Public Actors*] (stating the Fed's role as a modulator, and extending it, by analogy, to the labor market); Robert Hockett, *Bretton Woods 1.0: A Constructive Retrieval for Global Finance*, 16 N.Y.U. J. L. & PUB. POL'Y 401, 404 (2013) [hereinafter *Bretton Woods 1.0*] (observing that the central bank has essential credit-modulator duties that if it is prevented from exercising can have negative consequences); Saule T. Omarova, *New Tech Versus New Deal: Fintech as a Systemic Phenomenon*, 36 YALE J. REG. 735, 735, 742 (2019) [hereinafter *New Tech Versus New Deal*] (explaining the private right of credit allocation and the public responsibility of credit modulation); *Finance Franchise*, *supra* note 1, at 1213 (summarizing the task the central bank has in modulating the credit supply, and the task private institutions have in allocating the credit).

¹⁸ See, e.g., *National Investment Authority*, *supra* note 4, at 438 (outlining the different issues across several spaces that have impacted the American financial system).

¹⁹ See, e.g., *Bretton Woods 1.0*, *supra* note 4, at 452 (“Scarce wonder, then, that the IMF reported, in 2009, the first worldwide economic contraction since the 1940s. Was the Fed asleep at the switch?”); *Fixer-Upper*, *supra* note 4, at

events and their extended aftermath have led some to propose elimination or curtailment of the mandate of the public member of our public-private finance franchise—“end[ing] the Fed,” as one cry has it²⁰—or binding its hands by removing the public credit element from public credit-money through reinstating some variant of the antiquated practice of “pegging” currencies to exogenously given stocks of glittering metals.²¹ The same developments have prompted others to propose elimination or curtailment of the mandate of the *private* members of our public-private finance franchise arrangement—that is, to eliminate or dramatically reduce our banking institutions’ credit-disseminating role through “100% money” (also known as “narrow banking”), or, somewhat more modestly, what I will call “40% money” proposals.²²

A second, related development prompting a rethink of our American brand of public-private hybrid finance has been a growing awareness, on the part of many observers, that substantial sectors of the American citizenry not only are disproportionately harmed by finance-associated productive dysfunction, but also are denied access both to essential savings and payment infrastructures and, therefore, to the very financial system that too often generates financial and, with it, productive breakdown in the first place.²³ This recognition, the modern

1218 (citing the real estate crash of 2008 as an event that caused both an American and global financial downturn).

²⁰ See, e.g., RON PAUL, END THE FED 141 (2009) (“The Federal Reserve should be abolished because it is immoral, unconstitutional, impractical, promotes bad economics, and undermines liberty.”).

²¹ Compare DAVID A. STOCKMAN, THE GREAT DEFORMATION: THE CORRUPTION OF CAPITALISM IN AMERICA 706–12 (2013) (setting out thirteen different ways in which the Fed and its policies could be reformed), and JAMES RICKARDS, CURRENCY WARS: THE MAKING OF THE NEXT GLOBAL CRISIS 255–58 (2012) (explaining various ways that the Fed’s policies can be improved to have a better currency) with Robert C. Hockett, *Don’t Catch His Eye*, SALON (Apr. 4, 2013, 9:08 PM), https://www.salon.com/2013/04/04/don%E2%80%99t_catch_his_eye_david_stockman%E2%80%99s_alien_abduction_partner/ [<https://perma.cc/VX8N-KANQ>] (concluding that the solution is not to restrict the Fed, but rather to exercise good judgement ourselves).

²² For more on these proposals, see *infra* Part V.

²³ See, e.g., MEHRSA BARADARAN, HOW THE OTHER HALF BANKS: EXCLUSION, EXPLOITATION, AND THE THREAT TO DEMOCRACY 162 (2015) (proposing a more strengthened Community Reinvestment Act); Michael S. Barr & Rebecca M. Blank, *Savings, Assets, and Banking among Low-Income Households: Introduction and Overview*, in INSUFFICIENT FUNDS 1–22, 3 (Rebecca M. Blank and Michael S. Barr eds., 2009) (explaining the concept of financial inclusion in including financial services for the poor); ELLEN

BROWN, THE PUBLIC BANKS SOLUTION: FROM AUSTERITY TO PROSPERITY 397 (2013) [hereinafter PUBLIC BANKS SOLUTION] (explains the public banking solutions at the federal level); ELLEN BROWN, WEB OF DEBT 342 (2012) [hereinafter WEB OF DEBT] (citing community banking as an example of public banking); BUILDING INCLUSIVE FINANCIAL SYSTEMS: A FRAMEWORK FOR FINANCIAL ACCESS (Michael S. Barr et al., eds. 2007) [hereinafter BUILDING INCLUSIVE FINANCIAL SYSTEMS] (discussing the current state of microfinance and ideas to increase access to financial services); ORGANIZING ACCESS TO CAPITAL: ADVOCACY AND THE DEMOCRATIZATION OF FINANCIAL INSTITUTIONS 10–13 (Gregory D. Squires ed., 2003) (detailing the benefits of the Community Reinvestment Act as a reason for strengthening it); JULIA ANN PARZEN & MICHAEL HALL KIESCHNICK, CREDIT WHERE IT'S DUE: DEVELOPMENT BANKING FOR COMMUNITIES (1992) (discussing development banks and their role in expanding financial access); MICHAEL SHERRADEN, ASSETS AND THE POOR: A NEW AMERICAN WELFARE POLICY 305–08 (1991) (explaining policy innovations that can result in greater asset building for the poor); Michael Sherraden, *Asset-Building Policy and Programs for the Poor*, in ASSETS FOR THE POOR: THE BENEFITS OF SPREADING ASSET OWNERSHIP 302 (Thomas M. Shapiro & Edward N. Wolff eds., 2001) (discussing how the poor are unlikely to benefit from asset-based policies due to lack of participation and highly regressive tax benefits); LISA SERVON, THE UNBANKING OF AMERICA: HOW THE NEW MIDDLE CLASS SURVIVES 170 (2017) (arguing for more government involvement in the financial sector, and in banking, focus the banks on serving the public); MICHAEL A. STEGMAN, SAVINGS FOR THE POOR: THE HIDDEN BENEFITS OF ELECTRONIC BANKING (1999) (arguing electronic banking will expand financial access to the poor); MUHAMMAD YUNUS, A WORLD OF THREE ZEROS: THE NEW ECONOMICS OF ZERO POVERTY, ZERO UNEMPLOYMENT, AND ZERO CARBON EMISSIONS 248 (2018) (explaining the creation and concept of social business funds to help the public); Michael S. Barr, *Banking the Poor*, 21 YALE J. REG. 121, 128 (2004) (explaining the importance of strengthening the community reinvestment act). For sympathetic but sober critiques, see *Pre-Liberal Autonomy*, supra note 2 at 126 (outlining the importance of public community reinvestment alternatives, among them microlending); *Materializing Citizenship*, supra note 2 at 68 (“Small-scale community reinvestment, development banking, and microlending, as well as reenlisting the Postal Service as a savings outlet for the financially humble, are all very good ideas—particularly the latter, in my view”). On the Occupy Money Cooperative, of which the author is a founding Board Member, see *The Occupy Money Card*, POPULAR RESISTANCE.ORG (July 22, 2013), <https://popularresistance.org/the-occupy-card/> [<https://perma.cc/XUR3-WHKS>] (calling for using the occupy card to pay, and each transaction being a form of protest with every purchase against the financial institutions); see also Quentin Fottrell, *Is Occupy Debit Card Bad for the 99%?*, MARKETWATCH (Oct. 8, 2013, 9:29 AM), <https://www.marketwatch.com/story/is-occupy-debit-card-bad-for-the-99-2013-10-02> [<https://perma.cc/>

manifestations of which first began to appear in the 1990s, has prompted calls for publicly facilitated micro-lending or micro-finance, for an “Occupy Bank,” for public banking, for a strengthened Community Reinvestment Act, and for sundry forms of publicly facilitated financial inclusion or “banking [of] the poor.”²⁴ Although proponents do not always seem fully cognizant of it, these proposals link up quite intimately with the first class of proposals via an underappreciated yet quite consequential common denominator—the role that widening wealth and income inequality plays in underwriting both commercial-cum-financial exclusion *and* financial-cum-macroeconomic fragility.²⁵

Finally, a third development prompting a rethink of our hybrid American form of public-private finance has been the spread of new technologies of trade and payment—in effect, new commercial infrastructures.²⁶ These have led some to prognosticate, in some cases

HXL4-A8ZZ] (examining the consequences of the occupy card movement and its effects on financial markets).

²⁴ See, e.g., Margot Adler, *Occupy Groups Reimagine the Bank*, NPR (Mar. 27, 2002), <https://www.npr.org/2012/03/27/149443425/alternative-banking-groups-aid-occupy-movement> [<https://perma.cc/CW5J-NFVF>] (explaining the Occupy Bank Working Group’s hopes of a democratic or national bank to better serve the underbanked community); Eillie Anzilotti, *The One Strategy That Could Finance the Whole Green New Deal*, FAST COMPANY (June 26, 2019), <https://www.fastcompany.com/90364616/public-banking-can-finance-the-green-new-deal> [<https://perma.cc/GVN5-VZNV>] (discussing the rise of the public banking idea, the operation of public banks, and how they can aid in the Green New Deal); Marguerite S. Robinson, *The Microfinance Revolution: Sustainable Finance for the Poor*, THE WORLD BANK (2001), <http://documents.worldbank.org/curated/en/226941468049448875/sustainable-finance-for-the-poor> [<https://perma.cc/YF8Z-YU9Z>] (discussing the need for and benefits of microfinance).

²⁵ See Robert Hockett, *Income Inequality and Financial Fragility*, 77 VANDERBILT L. REV. *EN BANC* 119, 120 (2018) (explaining that the significant wealth and income inequality is linked to market fragility); Robert Hockett & Daniel Dillon, *Income Inequality and Market Fragility: Some Empirics in the Political Economy of Finance*, Part I & II, 63 CHALLENGE __ (2019) (forthcoming), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2204710.

²⁶ See *infra* Part IV (showing a comprehensive overview, as attentive to perils as to opportunities). For a comprehensive overview, as attentive to perils as to opportunities, see *New Tech Versus New Deal*, *supra* note 17, at 737 (giving examples of fintech and cryptocurrencies affecting the public-private finance model); see also *Finance without Financiers*, *supra* note 14, at 25 (discussing new technologies in the modern shadow banking markets); Finance Franchise,

breathlessly, that sovereign currencies are destined to be pushed aside and replaced by privately issued crypto-currencies, digital assets, and other forms or outgrowths of “fintech.”²⁷ Advocates of this crypto-utopian (I will call it “cryptopian”) persuasion sometimes sound rather like “metalists” of the sort mentioned above, inasmuch as they tout crypto-currencies’ contrived scarcity as a characteristic that renders them something like 21st century “digital gold.”²⁸ Other, in my view more careful, observers also see promise in blockchain, other distributed ledger, and cognate computing and coding technologies of the kind that now underwrite crypto-assets, but see promise of a much different sort.²⁹ They see the prospect of a safer, faster, and more secure value-storage and transfer system—a payments system that, depending on who deploys and administers it, can make for more just and efficient central banking and finance too.³⁰

supra note 1, at 1202 (explaining that fintech portrays itself as a revolutionary alternative to the existing financial system).

²⁷ These claims are now far too numerous to cite comprehensively, and grow increasingly difficult to read without laughter, though I engage with them *infra* Parts III–IV. For a few recent examples typical of the genre, *see, e.g.*, Frank Holmes, *Bitcoin Could Replace Cash in 10 Years*, BUS. INSIDER (May 1, 2018, 6:44 PM), <https://www.businessinsider.com/bitcoin-might-replace-cash-10-years-2018-5> (discussing the maturation and growth of digital currency and claiming cryptocurrency is a contender to replace cash in the future); Paul Schrod, *Cryptocurrency Will Replace National Currencies by 2030, According to This Futurist*, MONEY (Mar. 1, 2018), <http://time.com/money/5178814/the-future-of-cryptocurrency/> [<https://perma.cc/UF4N-FEA5>] (explaining that cryptocurrencies are positioned to replace fiat currencies in the next 10 years); Aman Swami, *Cryptocurrency Will Replace Fiat Currency in the Future Says Famous Venture Capitalist*, DOLLAR DESTRUCTION (May 19, 2018), <https://dollardestruction.com/5441/> [<https://perma.cc/T5EP-C9F8>] (discussing Tim Draper’s view that cryptocurrency will replace fiat currencies completely).

²⁸ *See, e.g.*, NATHANIEL POPPER, *DIGITAL GOLD: THE INSIDE STORY OF THE MISFITS AND MILLIONAIRES TRYING TO REINVENT MONEY X* (2015) (stating that in designing bitcoin, the “Cypherpunks” decided it should be scarce, a characteristic of successful coinage).

²⁹ *See Money’s Past*, *supra* note 3, at 10 (explaining that the distributed ledger provided by cryptography will result in the federal reserve issuing its own form of a digital dollar that will be safer and more efficient).

³⁰ *See infra* Part IV.B (discussing the benefits of cryptography in providing safer and more efficient payment systems, rather than to be used as brand new cryptocurrencies); *see also Money’s Past*, *supra* note 3, at 10 (explaining that the distributed ledger provided by cryptography will result in the federal

I aim with this article to end financial hybridity and address the aforementioned “what part of our commonwealth’s financial system should be part of the commons” question by developing the case for the latter view—the view that sees qualified promise in public deployment of digital technology in the realms of both commerce and finance.³¹ Just as importantly, and in the same cause, I also aim to make a new case for the “pro-public” camps in respect of the other two recent developments just noted—critique of the private financier’s role in our nation’s hybrid financial system, and advocacy of a more unambiguously *public* form of banking and finance in our productive republic.³² I aim to do all of this with a single far-reaching proposal that will find useful schematic expression on both the asset and the liability sides of present-day Fed and Treasury balance sheets—effectively our public ledger. And, I hope to make my case on grounds of both political justice and productive efficiency on the one hand, and our commercial and financial history on the other—a history that manifests a distinct teleological trajectory.³³

reserve issuing its own form of a digital dollar that will be safer and more efficient); Robert Hockett, *Betting on Betacoin*, FORBES (Dec. 17, 2017, 5:59 PM) <https://www.forbes.com/sites/rhockett/2017/12/17/betting-on-betacoin/#1661e5124670> [<https://perma.cc/D456-LA4P>] [hereinafter *Betting on Betacoin*] (showing that the distributed ledger and cryptography can be used to improved our current payment system, and not creating cryptocurrencies).

³¹ My earlier, more tentative endorsements include, e.g., *Finance without Financiers*, *supra* note 1, at 28–29 (discussing the Fed’s relationship to repo technologies); *Finance Franchise*, *supra* note 1, at 1120–21 (recognizing that the U.S. may soon be involved with transforming digital currencies into tradable raw materials); *Money’s Past*, *supra* note 3, at 1–2 (discussing growing public interest in cryptocurrencies); *Betting on Betacoin*, *supra* note 17 (discussing how, like Sony’s investments in video technology in the 1970s, the public may seek to invest in cryptocurrencies).

³² In *Finance without Financiers*, *Finance Franchise*, and *Public Actors*, the prospect remained open that the public-private franchise arrangement could remain viable if the franchisor and its designated agents—in particular the Congress, the White House, the Fed and the Treasury—could remain mindful of the franchisor’s critical role in the division of labor. *Finance without Financiers*, *supra* note 1, at 14–19; *Finance Franchise*, *supra* note 1, at 1146–49; *Public Actors*, *supra* note 4, at 137. I still believe this, but am now more pessimistic about the likelihood of continuous cognizance, across differing political eras, of that that role. As I argue below in Part V, I think the proposal that I make here will effectively “institutionalize” that cognizance in a manner that renders it more robust and enduring.

³³ See *infra* Parts V and VI (referencing citizen finance-related proposals).

The proposal, which I call “Citizen Finance,” is in a way simple and long overdue, even while bearing many attractively transformative ramifications that appear to have escaped notice until now. It is that our republic’s monetary and fiscal authorities—our Fed and Treasury—cease conducting their money-modulating and implicit capital-allocating operations primarily *indirectly*, via the media of private sector bank reserve accounts, associated private sector bank and capital market lending, and Fed open market operations in generic Treasury securities on private sector financial markets, and instead do so *directly*—by (a) channeling monetized public full faith and credit primarily through *public investment institutions* rather than private sector depository institutions and “shadow banks” as they do now, on the asset side of the balance sheet, and (b) a new national payments platform and associated system of what I call digital Citizen and Resident Wallets, on the liability side of the balance sheet.³⁴

³⁴ There is some overlap between my proposal and (a) my more limited “Inclusive Value Ledger” legislation now proposed in the State of New York; (b) those of a number of central banks worldwide, discussed *infra*, Part VI; and (c) a number of friends and colleagues with whom I have discussed these and related matters for some five or six years now. *See, e.g.*, Robert Hockett, *The New York Inclusive Value Ledger: A Peer-to-Peer Savings and Payments Platform for an All-Embracing and Dynamic State Economy* (white paper, 2019), available at <https://ronkimnewyork.com/downloads/The-New-York-Inclusive-Value-Ledger-Sept-2019.pdf> (last visited Mar. 7, 2020); JONATHAN McMILLAN, *THE END OF BANKING* 159–61 (2014) (describing how ending private banking would lead to redefining the public sector’s role in the financial system, particularly with respect to digital money); Morgan Ricks, John Crawford, & Lev Menand, *A Public Option for Bank Accounts (Or Central Banking for All)*, (Vanderbilt Law Research Paper 18-33, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3192162 (discussing the benefits, implications, costs, and objections of creating FedAccounts); David Andolfatto, *Fedcoin: On the Desirability of a Government Cryptocurrency*, MACROMANIA (Feb. 3, 2015), <http://andolfatto.blogspot.com/2015/02/fedcoin-on-desirability-of-government.html> [<https://perma.cc/4P2W-W6P2>] (addressing Koning’s proposal and proposing a “Fedwire for All,” which would allow for any digital cash users to access closed centralized ledgers); *Central Banks Should Consider Offering Accounts to Everyone*, ECONOMIST (May 26, 2018), <https://www.economist.com/finance-and-economics/2018/05/26/central-banks-should-consider-offering-accounts-to-everyone> (arguing that accounts with central banks should be widely-available); Nicholas Gruen, *Central Banking for All: A Modest Proposal for Radical Change*, NESTA, 6–8 (Mar. 17, 2014), <https://www.nesta.org.uk/report/central-banking-for-all-a-modest-case-for-radical-reform/> [<https://perma.cc/Q6BH-5MUD>] (supporting

The public investment institutions, several species of which I have authored or co-authored on elsewhere,³⁵ will channel finance capital primarily to productive and socially desirable infrastructural and primary market, not to speculative secondary and tertiary market, investments.³⁶ They will thereby take the Fed and the Treasury out of the business of financing or otherwise abetting mere betting in securities and derivative markets, and move them instead into the publicly critical work, essential in any commercial republic or exchange economy where productive units engage in private ordering, of financing inclusively productive activity and public goods provision on the asset side of the public balance sheet.

The corresponding Citizen and Resident Wallets on the liability side of the balance sheet will for their part be dividend-yielding or interest-bearing, much as are present-day private sector bank Fed reserve accounts and individual demand deposits held at depository institutions or money market funds. But, now the returns will effectively convey stakes in the nation's productive accumulation—its sustainable “economic growth”—to the citizenry and business enterprises operating in salutary sectors of the “real” economy, rather than rents

retail branches for central banking services and connecting government-sponsored banking accounts to more bank payment systems); J.P. Koning, *Fedcoin*, MONEYNESS (Oct. 19, 2014), <http://jpkoning.blogspot.com/2014/10/fedcoin.html> [<https://perma.cc/Q82Y-EX32>] (advocating for the creation of “Fedcoin” and allowing users to remain anonymous by using accounting benefits available through the Fed); Dirk Niepelt, *Reserves for Everyone—Towards a New Monetary Regime?*, VOX: CEPR POLICY PORTAL (Jan. 21, 2015), <https://voxeu.org/article/keep-cash-let-public-hold-central-bank-reserves> [<https://perma.cc/W233-4RL5>] (arguing that the public should have access to central bank accounts but that cash should not be phased out); Robert Sams, *Which Fedcoin?*, CRYPTONOMICS (Feb. 5, 2015), <https://cryptonomics.org/2015/02/05/which-fedcoin/> [<https://perma.cc/QSY2-W52L>] (analyzing Koning's and Andolfatto's arguments while also questioning why accounts with the Federal Reserve do not exist). More on these proposals *infra* Part VII.

³⁵ See, e.g., sources cited *supra* note 4 (listing the author's scholarship on public investment institutions).

³⁶ By “primary” market I mean the market for funds used to finance non-financial production. By “secondary” market I mean the market for re-sale of claims generated by primary market financing. And by “tertiary” market I mean the market for derivative claims referencing—that is, “bets” placed upon secondary market price movements among—claims traded on secondary markets.

paid to publicly privileged, privately owned speculative financial institutions.

Returns on Citizen and Resident Wallets will be raiseable when it proves necessary, during bubbles or unsustainable booms, collectively to scale back aggregate credit-money generation and associated spending.³⁷ They will likewise be lowerable, even to negative rates or their functional (“helicopter money”) equivalent, when it proves necessary to boost credit generation or debt-free spending during busts or recessions.³⁸ Citizen and Resident Wallets in this sense will lend themselves—pun only partly intended—to digital “QE for the People” and Fed “helicopter drops” directly to citizens and their productive enterprises, rather than to commercial banks and other favored financial institutions, during times of acute financial or economic distress calling for extraordinary expansion measures like those pioneered by the Fed between 2009 and 2016.³⁹ This will in turn make for far more direct—and, I shall argue, more inclusive and distributively just—monetary and even fiscal policy than do present arrangements. It will also make for much greater and more equitable productive, commercial, and financial participation on the part of our citizenry, as well as a fit use for new fintech technologies as these now develop and proliferate.⁴⁰

In effect, then, what I propose is to reclaim those public utility functions that our hybrid finance franchise arrangement now outsources to private sector franchisee institutions, and to return them “in house” to our sovereign republican franchisor institutions.⁴¹ There will

³⁷ See Koning, *supra* note 21; Andolfatto, *supra* note 21; Sams, *supra* note 21; Ricks, Crawford, & Menand, *supra* note 21, at 22–23 (discussing how central banks could choose to raise rates when necessary).

³⁸ These are in my view critically important features of the plan, for reasons sounding in the modulatory and allocative tasks mentioned in *supra* note 21. *See id.*

³⁹ See Timothy A. Canova, *The Role of Central Banks in Global Austerity*, 22 IND. J. GLOBAL LEGAL STUD. 665, 689–93 (2015) (advancing the view that the Fed’s approach to quantitative easing, which favored Wall Street financial institutions over Main Street businesses, was inadequate at bolstering broad sections of the economy after the 2008 financial crisis).

⁴⁰ More on these features, too, *infra* Parts V and VI (addressing “citizen finance” and how it will both benefit new fintech and promote financial inclusion).

⁴¹ The importance of these matters is discussed thoroughly *infra* Parts II–VI. They are also my primary concerns in, e.g., *Finance without Financiers*, *supra* note 1; *Finance Franchise*, *supra* note 14; FINANCING THE GREEN NEW

still be, of course, privately accumulated wealth, privately offered financial services for wealth-accumulators, and private sector investments of many a familiar kind. But there will no longer be indefinitely extended, monetized public full faith and credit flowing (or hemorrhaging) toward artfully inflated secondary and tertiary financial and derivatives markets as our present arrangement enables and, all too often, all but assures.⁴² Instead, public full faith and credit will flow only toward primary markets and such secondary or tertiary markets—like those for home mortgage, higher education, small business, family farm, and public utility loans—as legitimately require, for reasons sounding in justice or systemic market failure, sovereign assistance.⁴³

Private investors will likely increase their primary market investment activity, as distinguished from secondary and tertiary market speculative activity, as well under my proposed new arrangement. That will be thanks to the impetus—and the collectively underwritten stability—that sustained public investment in those primary and other markets affords: an impetus and stability whose absence at present denies, in classic “market failure” fashion, productive investment opportunities to yield-requiring “patient capital.”⁴⁴ Meanwhile, secondary and tertiary markets, which with public credit-money are now larger by orders of magnitude than any bona fide liquidity or hedging

DEAL, *supra* note 17; *National Investment Authority*, *supra* note 17; and *Development Finance State*, *supra* note 17.

⁴² *Infra* Parts V and VI (highlighting the benefits of “citizen finance”).

⁴³ *Id.* On some of those public secondary and tertiary market-making activities, *see, e.g.*, Robert Hockett, *Open Labor Market Operations*, 62 CHALLENGE 113, 121 (2019) [hereinafter *Open Labor*] (discussing Fannie Mae’s involvement in secondary market in mortgage instruments); Robert Hockett, *Republican Home-Owning*, FEDERAL RESERVE BANK OF ST. LOUIS 15-16 (2018), https://www.stlouisfed.org/~media/files/pdfs/hfs/assets/2018/tipping-points/hockett_tipping_points_paper_2018_12.pdf?la=en [https://perma.cc/SV42-E7RW] [hereinafter *Republican Home-Owning*] (discussing Fannie Mae’s involvement in secondary market in mortgage instruments); Robert C. Hockett & Saule T. Omarova, “Private” Means to “Public” Ends: Governments as Market Actors, 15 THEO. INQ. IN L. 53, 61–62 (2014) [hereinafter *Governments as Market Actors*] (discussing Fannie Mae’s and Sallie Mae’s secondary market-making activities); *Jeffersonian Republic*, *supra* note 2 at 135–37 (addressing Fannie Mae’s involvement in secondary market-making).

⁴⁴ More on this impetus *infra* Part IV. *See also* Hockett, FINANCING THE GREEN NEW DEAL, *supra* note 4; *National Investment Authority*, *supra* note 4, at 453 in which its importance is front and center.

need ever could justify, will become mainly private affairs—and much smaller on that account.⁴⁵ Indeed, they will become what they have long falsely claimed that they are—sites of “one-to-one” credit-*intermediation* rather than “one-to-many” credit-*multiplication* and “none-to-many” credit-*generation*.⁴⁶

And while fintech is not strictly necessary to make all of this possible—indeed we could, and probably should, have put in place something like Citizen Finance during the New Deal if not indeed earlier, when Fedwire was introduced back in 1918⁴⁷—it certainly makes things both easier and more urgent today than they would have looked yesterday. That is particularly so now, as central banks worldwide look to upgrade their national payments infrastructures even while private sector financial conglomerates look to commandeer crypto and fintech development to their own, hardly pro bono purposes.⁴⁸

My full proposal and justifying argument proceed as follows. Part I briefly rehearses the constitutive elements and transactional relations—the agents and structure and “flows”—of that hybrid franchise arrangement, which now characterizes our financial system, an arrangement I have mapped out more painstakingly in earlier work.⁴⁹ It describes how the flow of credit-money throughout our financial system is essentially a flow of monetized public full faith and credit from central bank, through private sector banks, financial markets, and

⁴⁵ More on this, too, *infra* Part IV. See also FINANCING THE GREEN NEW DEAL, *supra* note 4; *Finance without Financiers*, *supra* note 1, at 41 (discussing how, in secondary markets, “endogenously generated credit-money can recursively drive prices to dangerous, crash-prone heights”); *Finance Franchise*, *supra* note 1, at 1170–71 (describing how government-backed securities are constantly a portion of global assets); FINANCING THE GREEN NEW DEAL, *supra* note 4, at PIN (PAREN); *National Investment Authority*, *supra* note 4, at 470–71 (indicating private parties would continue to be involved in secondary markets); *Public Actors*, *supra* note 17, at 134 (highlighting how government leadership in secondary markets could provide an advantage for profit-seeking private actors).

⁴⁶ These terms stem from the work cited *supra* note 1, and are reprised *infra* Part I.

⁴⁷ More on Fedwire and its significance *infra* Parts V and VI.

⁴⁸ As more fully discussed *infra* Parts V.B and VI; see also *supra* notes 3, 4, and 17 (discussing developments in technology and fintech, and both U.S. and global financial architecture affecting economic development).

⁴⁹ See, e.g., *Finance without Financiers*, *supra* note 14 (explaining how financial flows stem from public accommodation and monetization of privately originated loans); *Finance Franchise*, *supra* note 14.

“shadow banks,” to primarily speculative borrowers.⁵⁰ It also reminds readers of why this form of credit-generation and –dissemination is far more unproductive and indeed even destructive than mere “intermediation” would be.

Part II then briefly recounts the political, economic, and monetary circumstances that prompted and partly justified public/private financial hybridity when our combined money and payments, banking, and financial systems were first instituted, *ad hoc* and in stages, over a century ago.⁵¹ Part III then lays out the ways in which matters have changed since back then—ways that now render the full franchise arrangement no longer necessary or, it now seems, even tenable.

Part IV commences the process of mapping my public “finance-reclamation” proposal—again, “Citizens Finance”—in detail, addressing at each stage what failures in the present arrangement the proposed arrangement will rectify.⁵² In so doing, it traces the ramifications of my proposed changes throughout the financial system, as well as its implications for familiar but no longer sensible distinctions we draw between public fiscal and monetary operations. Part V discusses logistics and highlights the sense in which Citizens’ Finance can be seen as an end-state toward which our nation’s commercial, monetary, and financial evolution has been trending or groping for at least a century and a half, if not since our Founding.⁵³

In effect, I show, we are now reaching a stage of development at which consolidated “public ledger finance,” which is inherently more stably productive and equitable but for centuries was less feasible than “token finance” once societies grew too large and far-flung to keep plenary citizen “account books,” is once again possible. That is the real promise of fintech—the promise of consolidating money, payments, and finance into something that is public, productive, and sustainable again.

⁵⁰ *Finance without Financiers*, *supra* note 14, at 12–13 (explaining how financial flows stem from public accommodation and monetization of privately originated loans); *Finance Franchise*, *supra* note 1, at 1156–57 (explaining this flow as the “operative logic” of finance and the franchise agreement).

⁵¹ See *Finance without Financiers*, *supra* note 14, at 1149 (outlining how the hybrid public-private franchise debunks a standard paradigm and the new interpretation redefines the dynamics of the financial system).

⁵² See *Public Actors*, *supra* note 4; *National Investment Authority*, *supra* note 4, at 469–75 (discussing the NIC proposal).

⁵³ *Money’s Past*, *supra* note 3 (detailing the financial evolution towards a digital dollar).

Part VI makes clear how new digital technologies make both implementation and operation of Citizens Finance both much easier and more necessary than would otherwise have been the case, even while they are not, strictly speaking, necessary to do what I believe now needs doing.⁵⁴ In this connection, it also discusses specific technical options for the Democratic Digital Dollar component of Citizen Finance, including the options now being explored by forward-looking central banks worldwide.⁵⁵ Part VII addresses anticipated objections and alternatives to Citizens' Finance, demonstrating along the way the superiority of what I here advocate to competing suggestions that I suspect likely critics will favor. Then I conclude and look forward.

II. Hybrid Finance: A Brief Recapitulation

Our financial system is essentially a public-private franchise arrangement.⁵⁶ The good that the franchise distributes is not hotel rooms, foodstuffs, or auto-parts that conform to reliably uniform standards across an integrated national economy. It is instead a national payment, credit, and value-storage medium—the monetized full faith and credit of the United States.⁵⁷ Our system distributes, in other words, a uniform national currency and its credit equivalent—dollar-denominated debt—most of it in the form of what is alternatively called “credit money,” “bank money,” “deposit money” or “broad money.”⁵⁸

Our sovereign republic issues this good, and like any franchisor promulgates and enforces certain “quality control” measures to ensure that specific exemplars of the good conform to a uniform stan-

⁵⁴ *Id.* at 11 (“Direct central banking, in short, is thus apt to be far more effective, saving friendly and consumer-friendly even than indirect central banking has been.”).

⁵⁵ *Id.* (discussing the benefits and feasibility of a Fed-issued digital dollar).

⁵⁶ This Part summarizes the detailed account of the U.S. financial system as a whole found in *Finance without Financiers*, *supra* note 14, and *Finance Franchise*, *supra* note 14.

⁵⁷ See *Finance without Financiers*, *supra* note 14, at 6 (defining the franchise arrangement); *Finance Franchise*, *supra* note 14, at 1156 (defining the franchise arrangement).

⁵⁸ See *Finance without Financiers*, *supra* note 14, at 11 (describing how credit-money can be issued); *Finance Franchise*, *supra* note 14, at 1156 (explaining how credit-money fits into the franchise agreement as the capital for public franchisors).

dard.⁵⁹ Licensed private sector banking and other financial institutions in turn act as franchisees, distributing the good—again, monetized public full faith and credit—for the public sector franchisor and earning what I call “privatized seignorage” for their trouble by being permitted to charge interest for lending, and fees for managing, republic-issued credit-money.⁶⁰

It is easiest to trace the truth of this claim in connection with commercial banks, which extend dollar-denominated credit in the form of newly opened or credited deposits for borrowers.⁶¹ These bank-issued deposits are immediately spendable (“drawable upon”) as money—that is, as full payment equivalents of Federal Reserve notes, better known as dollar bills—in virtue both of the role that our system confers upon banks in our Fed-administered national payments infrastructure, and of the role Fed accommodation plays in conferring money status on payments made out of licensed bank deposit accounts via that payments infrastructure.⁶² But effectively the same thing now happens in other subsectors of the financial sector—notably capital markets, money and commercial paper markets, repo markets, derivatives markets, and other shadow banking markets—as well as, thanks to the multilateral credit and payments linkages we now permit among all of these markets, private sector banks, and our republic’s central bank, the Fed.⁶³ The upshot is a financial system that is far less about

⁵⁹ See *Finance without Financiers*, *supra* note 14, at 26 (“[Repo transactions] have not yet become subject to the ‘quality control’ standards that the franchisor imposes upon those forthright franchisees.”).

⁶⁰ See *id.* at 11 (describing the process in how private franchisees might earn a profit—the “privatized seignorage”—by dispensing a good provided by the sovereign franchisor).

⁶¹ *Id.*, at 8 (using commercial banks as a counterexample to the intermediation interpretation). *Finance Franchise*, *supra* note 14 (reiterating that our financial system is a franchise agreement and does not follow the intermediation orthodoxy).

⁶² See *Finance without Financiers*, *supra* note 14, at 12 (“Accommodation and monetization are the processes through which the sovereign enables credit to be indefinitely generated in immediately spendable form, by committing ex ante to convert certain private liabilities into public liabilities that serve as money.”); *Finance Franchise*, *supra* note 1, at 1156–57 (defining what accommodation means).

⁶³ *Finance without Financiers*, *supra* note 14, at 40 (“In sum, then, all of the shadow banking channels enable the capital and money markets to amplify and replicate, in all salient respects, the functions of traditional banks.”); *Finance Franchise*, *supra* note 14, at Part III, IV.

“intermediating” scarce private capital, as banking and financial orthodoxy still surprisingly proclaim, than it is about *generating* and *multiplying* often over-abundant, because mis-allocated, *public* capital, a.k.a. credit-money.

As just suggested, an unfortunate misconception, both assumed by non-experts and reinforced by some lawyers, financiers, economists, and public servants who ought to know better, is that banks simply lend what others have antecedently deposited, and that other financial subsectors likewise just intermediate between such private sector accumulators of putatively scarce capital and end-users of capital.⁶⁴ In the case of the banking sector, the assumed picture is nicely captured by phrases like “loanable funds,” on at least one understanding of that phrase, and slogans like “deposits make loans.”⁶⁵ In fact, however, it is far more accurate to speak of “loan-generated funds” and say “*loans make deposits*,” since most of what we see in the way of deposits is simply the bank balance-sheet’s liability-side equivalent of bank-disseminated, publicly enabled, dollar-denominated asset-side *credit*.⁶⁶

The real key to loans’ spendability as deposit account “bank money” (again, that is a term of art) is not those loans’ fictitious derivation from antecedently deposited private-sector-supplied funds, as the dominant misconception—what I call “the intermediated scarce private capital myth”—has it.⁶⁷ It is, rather, what I have elsewhere

⁶⁴ *Finance without Financiers supra* note 14, at 4, 6 (suggesting an alternative to the ‘intermediate’ interpretation); *Finance Franchise supra* note 14, at 1147 (defining the franchise agreement by dispelling the intermediation interpretation).

⁶⁵ *Finance without Financiers supra* note 14, at 14 (describing loanable funds to be an orthodox notion that Hockett later dispels). *See also Finance Franchise, supra* note 14, at 1159 (defining “loanable funds” and its relation to banking sector).

⁶⁶ *Finance without Financiers, supra* note 14, at 15 (explaining bank lending transactions—the bank will record the loan as an asset and the deposit as a liability); *Finance Franchise, supra* note 14, Introduction and Parts II–III.

⁶⁷ *See Finance without Financiers, supra* note 14, at 5–9 (explaining the “intermediated scarce private capital orthodoxy” view is false); *Finance Franchise, supra* note 14, at 1146 (“The intermediated-scarce-private-capital orthodoxy is a myth, in turn, because it profoundly misrepresents the reality of modern financial systems.”).

dubbed Fed “accommodation” and “monetization.”⁶⁸ That is to say, Fed-recognized clearing and settlement, through the public payments architecture that the Fed oversees and administers, of payments drawn upon deposit accounts maintained with publicly licensed and enabled banking and other financial institutions.⁶⁹

The license in question, in turn—the best known and most coveted “flavor” of which is known among specialists as the “bank charter”—is essentially a franchise contract.⁷⁰ Required reserves and capital buffers, like portfolio regulation, consumer financial protection, and other modalities of financial regulation, are in turn simply terms of that contract.⁷¹ They amount to quality control terms meant to maintain the stability of the franchisee banks and other financial institutions, along with the payments infrastructure that they largely constitute, upon which the public relies, all while preventing both (a) exploitation of that same “general public” and (b) over-issuance (inflation) of the public money in relation to the quantum of available goods and services that this money can command.⁷²

Thanks in part to their deliberately cultivated borrowing, other transactional, and affiliative relations with banking institutions, and in part to public backstopping of themselves along with the banks during times of financial distress, nonbank financial institutions have steadily become, as suggested above, *de facto* franchisee institutions as well.⁷³

⁶⁸ *Finance without Financiers*, *supra* note 14, at 11 (explaining “what can be called public “accommodation” and “monetization” of initially privately extended credit.”).

⁶⁹ *Finance without Financiers*, *supra* note 14, at 17 (explaining federal bank accommodation is necessary given central banks administer payments infrastructure on which privately drawn checks clear at par from private banks); *Finance Franchise*, *supra* note 14, at 1162 (explaining central bank accommodation is an unavoidable result of administering a payments system on which privately drawn check clear at par from private banks).

⁷⁰ *Finance without Financiers*, *supra* note 14, at 6 (“[C]ontemporary financial systems as we now find them are best interpreted as public-private franchise arrangements.”).

⁷¹ *See id.* (explaining the terms of the “franchise” operate like a licensing agreement where the Fed contracts out their monetized full faith and credit).

⁷² *See id.* at 16 (explaining financial regulation, like reserve requirements or capital requirements, mitigate the risk privately-owned banks create when over-lending or lending at rates that increase inflationary pressures).

⁷³ *See id.* at 23 (explaining “capital, and now also money, markets amplify and replicate the role of banking and Treasury securities markets as channels for dispensing the full faith and credit of the sovereign” just as banks do under

As shown in prior work, they now issue and multiply public credit-money much as do banks, and do so far in excess of anything they borrow from depositors, investors, and other non-bank counterparties.⁷⁴ Nonbank financial institutions assist, in a word, not only in credit-intermediation but in credit-multiplication and -generation too, again as our commercial banks do.⁷⁵ And this is made possible by public accommodation and facilitation of these institutions' transactions in manners that resemble or replicate public accommodation of banks' and their depositors' transactions. In short, then, money being simply "that which pays" in the making of payments, and "what pays" in turn mainly comprising as it does payments made out of loan-credited transaction accounts, our money system boils down to our Fed-overseen and -enabled payment and financial systems.⁷⁶

The upshot of this set of arrangements is that even the capital and money markets, and even the repo and derivatives markets, and even the rest of the so-called "shadow banking" sector, are now franchisees in our public-private finance franchise too, albeit less carefully monitored than traditional depository institutions (that being part of their point).⁷⁷ All of these institutions are now privately owned and operated distributors of that endogenously generated public good which is the monetized full faith and credit of the United States, also known as the money supply.⁷⁸ And, this is so even though these insti-

their 'franchisee' agreements). *See also id.* (discussing the financial crisis of 07–09 that shed light on so called, "shadow bank[s,]" that replicate the banking industry and similarly promote public accommodation and monetization).

⁷⁴ *Id.* ("[Nonbank financial institutions are] now a critically important complement to the traditional banking sector where credit-money proliferation is concerned.")

⁷⁵ *Id.* (explaining the "credit-money proliferation" complements our traditional banks).

⁷⁶ *See Democratic Digital Dollar, supra* note 5, at 1; also *Finance without Financiers, supra* note 14, at 30 (explaining a non-bank derivative transaction replicates bank lending and "necessarily augments public accommodation and monetization as described" above).

⁷⁷ *Finance without Financiers, supra* note 14, at 6 ("[C]ontemporary financial systems as we now find them are best interpreted as public-private franchise arrangements.")

⁷⁸ *Id.* ("Under the terms of the franchise, the sovereign public effectively licenses private financial institutions to dispense a vital and indefinitely extensible public resource—the sovereign public's monetized full faith and credit.")

tutions continue also to intermediate.⁷⁹ What I call credit-multiplication and -generation, in other words, now *accompany* and vastly *exceed or supplant* credit-intermediation *throughout* our financial system, with its share of transaction volume and the associated money supply growing ever larger through time to the point that it dwarfs what has been antecedently accumulated.⁸⁰ And, thanks to our system's ties to our central bank—our Fed—the *credit-share's* growth is the *public-share's* growth.⁸¹ The overwhelmingly greater part of that monetized full faith and credit which is our money is, in other words, quite literally *ours—our republic's*.

Why is this? How did we get here? The brief functional trajectory that I will now narrate addresses these questions. More importantly, it shows that what I propose in this paper “fulfills,” in a sense, our polity's monetary, commercial, and financial history—a history from what I call “ledger money” to “token money” and back that manifests a distinct teleological pattern in its steady “dialectical” unfolding.⁸²

⁷⁹ *Id.* at 5 (explaining that many financial institutions intermediate).

⁸⁰ *Id.* at 9 (“Finance capital in the form of credit might instead be more accurately said to be ‘generated’ by lending institutions than ‘intermediated’ or ‘multiplied’ by them.”).

⁸¹ *Id.* at 34 (“The Fed's converting both private borrower liabilities and private insurer liabilities into public liabilities amounts to its monetizing that much more public full faith and credit, and injecting it into the financial system.”).

⁸² I allude to the familiar “Hegelian” pattern pursuant to which, as societies develop, solutions that they have earlier developed to particular challenges grow obsolete as the forms that those challenges take themselves develop, then are updated to address the new forms that the challenges take. See G.W.F. HEGEL, PHÄNOMENOLOGIE DES GEISTES (1807). In the present context, I will be showing in Parts II through IV how monetary relations within any community begin as informal accounting—credit, debit, and hence “payment”—relations tractable on mental or paper “account books,” or ledgers; then move to circulating currencies that function as payment ledger substitutes when societies grow too large and productively complex for their credit and debit—their “payment”—relations to be tracked mentally or on paper account books; and then return, in a sort of “higher synthesis,” to ledger accounting once communications and payment technologies grow sufficiently sophisticated to track even complex and far-flung sets of credit and debit relations.

III. Hybrid Finance: Why and How We Got Here

Why we first instituted a *de facto* public-private finance franchise arrangement, and why we have allowed it to radiate steadily outward from its banking and payments system core to the farthest reaches of our shadow banking and broader financial system, can be gleaned by addressing three questions. All three are implicated by the opening remarks in Part I above, where I said that our system distributes a uniform national currency and its credit equivalent.

The pertinent questions that this observation raises are: first, why “currency and its credit equivalent”; second, why uniformity; and third, why uniformity through franchising rather than through direct distribution? My replies to these questions indicate not only why we now publicly franchise, but also why we both can and now ought to move on to a more thoroughly republican form of ledger finance such as Part IV describes and prescribes.

A. Why Credit and Currency

I begin with a brief reminder of what a financial system is for, and the roles credit, money, and payments play in any such system.

1. Credit: Production & Payment in Time

As I suggested in introducing this paper, finance is the means by which people or entities presently lacking in resources necessary to engage in productive activity secure temporary access to those resources from others who have them.⁸³ It is, in other words, the means by which productive units productively borrow.⁸⁴ One way to do this

⁸³ See *Finance Franchise*, *supra* note 14, at 1213 (explaining finance, specifically the franchise arrangement just discussed, is meant to supply the economy with sufficient credit to support productive enterprise).

⁸⁴ There is, accordingly, a trans-temporal element baked in to the concept of finance, as the word’s etymology—‘fin,’ meaning ‘finish’ or ‘end’—itself suggests. I refer here primarily to ‘productive’ finance rather than finance for consumption because productive activity is in an important sense ‘prior’ to consumption activity. Any economy that has moved beyond gathering to hunter gathering or more is an economy in which that which is consumed has been grown, killed, constructed or otherwise produced. Indeed, even much gathering is in a certain sense producing. See *Rousseauvian Money*, *supra* note 3 at 37–38 (describing financial institutions as making productive activity

would be for the would-be user of resources simply to borrow them directly from their possessors, then return them as-is or in-kind.⁸⁵ A credit transaction then would occur, with the lender conveying the needed resource and the borrower conveying a promise to return the resource as-is or in-kind at some later date, perhaps with a premium couched as a “rental” payment.⁸⁶

This would amount to a borrowing rendition of barter, as inconvenient and transaction-slowing, and therefore production-slowing, as barter is in any exchange economy with a complex division of labor and resources deployed in productive activity.⁸⁷ Non-stone age economies accordingly employ some form of fungible *money or ledger accounting* in exchanges of resources and repayment promises just as they employ money or ledger accounting in exchanges of goods and services.⁸⁸ It is how they efficiently transfer and track mutual credits and debits among transacting parties.

possible, whereby productive activity “allow[s] us . . . to spend now (part of) what we won’t actually have until later.”)

⁸⁵ See *Rousseauvian Money*, *supra* note 66, at 38–41 (explaining that “when you borrow money . . . you just temporarily trade your own notes for Fed notes”).

⁸⁶ *Id.* (discussing the function of promissory notes and ensuing obligations upon the borrower).

⁸⁷ *Id.* at 13 (“And because we organize productive activity, in a decentralized exchange economy such as our own, largely by swapping obligations—that is, by contracting—the principal medium through which such organizing is done is our money.”).

⁸⁸ I do not intend this as a historical claim, but a functional one. Nor do I mean by “exchange economy” a “private ownership economy.” With respect to the latter point, communal economies involve exchange just as private property economies do. And as to the first point, no historical evidence supports the common economist’s argument that money ‘was invented to improve upon barter,’ or even that barter occurred much at all. Indeed all available evidence suggests that monetary arrangements grew out of highly ‘networked’ state, social, and religious authority-maintained credit systems. See, e.g., PETER EINZIG, *PRIMITIVE MONEY* 316 (2d ed. 1966) (illustrating several definitions of money, including “means of purchasing goods and services and of defraying social costs” and “a commodity which is habitually and without hesitation taken by anybody in exchange for a commodity”); DAVID GRAEBER, *DEBT: THE FIRST 5,000 YEARS* 21–23 (2011) (describing the forms money has taken, including as a “medium of exchange, unit of account, and store of value”); A. HINGSTON QUIGGIN, *A SURVEY OF PRIMITIVE MONEY* 3-4 (Barnes & Noble, Inc. 1970) (1949) (categorizing money as a “recognized medium of exchange, a standard of value and a symbol of wealth”); MICHAEL

The same medium that is used to *purchase* goods or services for production or consumption is accordingly *lent*—or “advanced”—for the purchase of goods and services; indeed the latter appears historically to precede the former.⁸⁹ We call that medium “money,” which amounts among other things to a universally usable mode of payment for—or claim upon—resources.⁹⁰ Money is how, or that with which, we pay—it is that which “counts” for purposes of our “accounting” to one another where mutual exchange and attendant obligations are concerned.⁹¹

2. *Currency: From Ledgers to Tokens—and Back*

Money of course need not take any particular physical form. Where societies are small enough, or claim-tracking technologies sophisticated enough, a formally or informally kept “account book” or “mental ledger” suffices to “keep score”—that is, to keep track of everyone’s claims and counterclaims, credits and debits, assets and

HUDSON & MICHAEL VAN DE MIEROP, DEBT AND ECONOMIC RENEWAL IN THE ANCIENT NEAR EAST 165–69 (2002) (summarizing seventeenth and eighteenth century financing, including the credit system that supported the natural resources market); Alfred Mitchell-Innes, *What is Money?*, 30 BANKING L.J. 377, 377–78 (1913) (describing that “by common consent one particular commodity is fixed on which is generally acceptable and which therefore, everyone will take in exchange for the things he produces or the services he renders and which each in turn can equally pass on to others in exchange for whatever he may want; That this commodity thus becomes a ‘medium of exchange and measure of value.’ That a sale is the exchange of a commodity for this intermediate commodity which is called ‘money’ . . .”).

⁸⁹ See *Rousseauvian Money*, *supra* note 66, at 38 (suggesting that “money’s being a kind of circulating credit/debit is part of what enables it to function as an inter-temporal claim—a ‘store of value’—in the first place”).

⁹⁰ *Id.* at 34–36 (“Insofar as money functions as a medium of exchange, it can be thought of as a claim upon what it’s exchanged for. It’s status as legal tender makes it a legal claim upon what it buys—a claim upon resources.”)

⁹¹ *Id.* at 16–17 (“The next thing to note is how readily our obligations here—what is due, what is owed—will be ‘cashed out’ at discharge into something like money. In so doing, we’ll see not only money’s rootedness in normativity, obligation, accountability and associated accounting, but also its elaboration into the notions of credit, asset, and liability that populate the familiar legal and financial ‘universe’ . . .”).

liabilities.⁹² Coin and currency get into the act only when societies grow large and complex enough to render informal “mental” accounting and even paper “book-keeping” incapable of tracking all transactions, while still being technologically underdeveloped enough to render a single formally kept *digital* social account book or ledger not yet practicable.⁹³

Currency and coin are in this sense intermediate-stage payment technologies in monetary evolution.⁹⁴ They are means of “*keeping* accounts” with each other in a common “*unit* of account”—a “common currency” or “coin of the realm”—even when we do not all know one another or have means of recording and tracking our many exchanges with one another on one common ledger or spreadsheet.⁹⁵ They are in other words primitive *ledger-substitutes*, we might say.⁹⁶

This observation affords us a clue as to why coin and currency issuance typically become sovereign functions—in a republic, republican functions—as economies and the polities in which they are always embedded grow ever more populous, socially complex, and technologically advanced.⁹⁷ Just as people in very small societies or protopolities could in theory keep accounts with one another through debit and credit entries in a common mental or paper book-like ledger, so

⁹² *Id.* at 38 (“And just as your merely ‘mentally tracked’ promise did in our you, me, and Jean-Jacques story, where scale was sufficiently small, trust sufficiently high, and matters sufficiently simple as to allow for the keeping of mere ‘mental accounts.’”).

⁹³ *Id.* at 24–25 (“When populations grow larger and asset/liability relations grow more farflung and complex, however, things must be ‘formalized’ and ‘regularized.’ That is so if for no other reason than to enable us all to ‘keep track’ and ‘verify.’”); see also QUIGGIN, *supra* note 70, at 4–5 (describing general difficulties in a bartering system and that such problems were later avoided by “elaborate customs of credit, deferred payments or payment by services.”).

⁹⁴ *Rousseauvian Money*, *supra* note 66, at 28 (describing the process by which currency can be introduced and formalized until it is officially made commonplace).

⁹⁵ *Id.* (“What we do is develop means of converting . . . small-group-recognizable ‘horizontal,’ or ‘private,’ IOUs into full-polity-recognizable ‘vertical,’ or ‘public,’ IOUs. Then we have truly common ‘common currency.’”).

⁹⁶ *Id.* at 18–19 (illustrating informal ledgers via running chores hypothetical).

⁹⁷ *Id.* at 24–26 (“When populations grow larger and asset/liability relations grow more farflung and complex, however, things must be ‘formalized’ and ‘regularized.’ That is so if for no other reason than to enable us all to ‘keep track’ and ‘verify.’”).

could they decentralize that account-keeping as they grew larger and no longer able to use the same physical book.⁹⁸ They could do so by conveying individually issued promissory notes to one another, with holders understood to have claims upon issuers.⁹⁹

This is essentially how wooden “tally sticks” and breakable clay, then metal, tablets and bars—the first circulating currencies—functioned in ancient societies.¹⁰⁰ The break pattern clearly identified who owed whom by reference to who held each half of the broken token.¹⁰¹ The problem this left was that the same growth in population and economic complexity that prompted the move from mental accounting to what we might call “metal accounting”—that is, to commercial- and financial-instrument-issuing—ultimately rendered *private* instrument-issuing, like mental accounting, unsatisfactorily transaction-limiting and hence production-limiting too.¹⁰² Broad transferability and hence usability of claim tokens was limited to those able to “credit”—that is, to believe in the *credibility* of—the token-issuer.¹⁰³

⁹⁸ *Id.* at 9 (“Productive and distributive activity in decentralized exchange economies pervasively involves joint exchanges of promises, hence joint issuance of countless reciprocal obligations . . . Citizens . . . authorize one another to demand that such promises be honored and obligations be met.”).

⁹⁹ *Id.* at 26–27 (introducing the concept of promissory notes and the resulting inter-person obligations).

¹⁰⁰ *Rousseauvian Money*, *supra* note 66, at 44 (“The important thing about claim checks was never their material form, but the fact that they reliably represented claims. Receipts of this kind actually took many different material forms over time. In the early Near East, clay tokens stamped with the grain authority’s seal were the most convenient form.”).

¹⁰¹ Mitchell-Innes, *supra* note 70, at 395 (describing the process by which a coin was broken to serve as a tally for a debtor-creditor relationship); HENRY DUNNING MACLEOD, *THE THEORY OF CREDIT* 83–84 (2d ed. 1889) (illustrating the different types of substances used to represent currency).

¹⁰² *Rousseauvian Money*, *supra* note 66, at 46–47 (“The credit-money—the ‘finance capital’—supply must be able to grow at a rate that allows for this resource stock to grow through the productive activity of those who need claims upon current such resources—that is, again, money—in order to produce future resources”); Mitchell-Innes, *The Credit Theory of Money*, 31 *BANKING L.J.* 151 (1914) (discussing how buying and selling are really only exchanging promises to pay); N.T. Skaggs, *Debt as the Basis of Currency*, 57 *AM. J. ECON. & SOC.* 453, 456–59 (1998) (discussing the disadvantages of a metallic currency, and the evolution of money).

¹⁰³ *Rousseauvian Money*, *supra* note 66, at 47 (“It’s all about optimizing productive capacity . . . Too little money—too little finance capital—

It was natural in this circumstance to begin centralizing token-issuance, which for present purposes is best seen as a step toward reinstating centralized bookkeeping to societies that have grown beyond *both* informal account-keeping *and* private token-issuing.¹⁰⁴ This form of centralization has historically taken two forms.¹⁰⁵ And, the second of these forms can be viewed in principle as the near-completion of the first, even though in some cases it has in practice chronologically preceded the first, owing to late discovery of the need for currencies to become “elastic,” as I will explain.¹⁰⁶

The first mode of centralization was the establishment of institutions with which large numbers of people could maintain monetary—that is, again, credit and debit—relations, which then could act as account-keepers for all of them, transferring credits and debits among them on single account books.¹⁰⁷ Call this “the physical ledger strategy,” a more broadly usable digital rendition of which I will be schematizing and advocating below¹⁰⁸

The second mode of centralization was for sovereign or quasi-sovereign authorities themselves to issue tokens that could function as claims and payment media far more widely—at the limit, throughout their jurisdictions or realms—than could privately-issued tokens.¹⁰⁹ Subjects or citizens then could lay hold of such tokens either by making tax payments in kind—for example, in the form of crop shares paid the local liege lord, or grain bushels requisitioned by a priestly authority—or by temporarily swapping private promissory tokens for

diminishes such capacity. . . Too much money— too much finance capital—diminishes the reliability of money as a claim-transfer device, hence again productive capacity.”).

¹⁰⁴ *Id.* at 14 (“ . . . [J]ust as state and economy emerge, respectively, out of the (contract-like) authority and (contract-like) obligation birthed by the joint ‘we,’ so is money simply the authoritative means of signifying and discharging the multiple (contract-like) obligations. . . ”).

¹⁰⁵ *Id.* at 37 (discussing the purpose of financial institutions, especially in regards to enabling productive activity).

¹⁰⁶ *Id.* at 39–40 (explaining the dual private promissory note and public promissory note system).

¹⁰⁷ *See id.* at 19 (explaining the concept of a ledger as a set of accounts through which multiple parties owing obligations to each other another transfer debt and credit).

¹⁰⁸ *Rousseauvian Money*, *supra* note 66, at 19 (“[W]e’ll call it a *ledger*.”).

¹⁰⁹ *Id.* at 26 (“[M]odern societies deem certain ‘privately’—that is ‘horizontally’—incurred obligations ‘publicly recognized’ and hence ‘vertically’ enforceable in special adjudicative institutions we call ‘courts.’”).

public promissory tokens.¹¹⁰ Here centralization of issuance substitutes for centralization of account-keeping. Call this “the sovereign issuance” strategy, which I shall show now to be digitally mergable with the ledger strategy when I get to Parts IV through VI below.

In most societies still in existence, the second mode of re-centralization seems to have preceded the first, with the first added on only later as societies groped toward recognition that money supplies must be elastic and what I call “modulatable”—that is, adjustable to accommodate fluctuating transaction and productive credit demand.¹¹¹ Authorities dispensed tokens as evidences of payment-obligations’—in effect, tax obligations’—fulfillment.¹¹² Because the mentioned obligations were universal and ongoing, the tokens, as de facto tax receipts representing the authority’s obligation to recognize payments’ having been made, were universally desired.¹¹³

These tokens of “vertical” credit/debit relation between sovereign and subject or republic and citizen accordingly came to function as means of discharging even “horizontal” credit/debit relations among subjects or citizens *inter se*.¹¹⁴ Originally fashioned of clay into which sovereign seals could be stamped before baking for purposes of authentication, in time they came to be fashioned of more durable yet malleable metals resistant to corrosion, for which purposes gold and

¹¹⁰ See *id.* at 43 (observing receipts can function as assets to their recipients and as liabilities to their issuers). See also EINZIG, *supra* note 70, at 316 (illustrating several definitions of money, including “means of purchasing goods and services and of defraying social costs” and “a commodity which is habitually and without hesitation taken by anybody in exchange for a commodity”).

¹¹¹ *Rousseauvian Money*, *supra* note 66, at 42 (explaining civilizations heavily dependent on agriculture stored grain during ‘fat years’ in anticipation of ‘lean years’ due to fluctuating crop yields).

¹¹² *Id.* at 42 (“Growers were required to make ‘grain deposits’ into a community pool, which requirement operated as a kind of tax or mandatory social insurance premium, both of which boil down to essentially the same thing . . .”).

¹¹³ *Id.* at 43 (“These are public liabilities that circulate as private assets, so everyone uses and accepts them.”).

¹¹⁴ *Id.* at 43 (“Once ‘tax receipts’ become ‘vertical claim checks’ . . . they begin circulating as ‘horizontal claims’ too among those who need them. . .”).

silver were most suitable.¹¹⁵ Here lies the origin of sovereign-stamped metal coinage—not to mention of coin-metals’ perceived preciousness.¹¹⁶

Banks got into the money business—indeed, came even so much as to exist—in these societies much later than tribute-requisitioning and receipt-issuing sovereigns and quasi-sovereigns.¹¹⁷ They began as metal-smiths whose business required the keeping of safes.¹¹⁸ Safe-ownership led naturally to a sidelight, that of metal storage for a fee—bailment.¹¹⁹ Holding metal in trust for many people in time came to recommend issuance of “claim checks” used to keep track of whose metal-stores metal-smiths held.¹²⁰ Some smiths—the most trusted ones—might well have simply kept books.¹²¹ Others, with clients less trusting, issued verifiable claim tokens.¹²²

In time it came to be recognized that claim tokens could substitute, as payment media, for the heavier metal coins or other

¹¹⁵ *Id.* at 43 (explaining claim checks represented by many different material forms such as clay tokens in the early Near East and overtime by precious metals).

¹¹⁶ *Id.* at 44 ([T]hese metals *became* ‘precious’ largely because they came to be used widely as material representations of money claims.”). An irony here is that these ‘precious’ metals, rather than becoming money because they were precious, instead became precious because they were money. See Daniela Pylypczak-Wasylyszn, *The Historical Value of Silver: A 2000-Year Overview*, COMMODITYHQ.COM (June 24, 2015), <https://commodityhq.com/education/a-brief-2000-year-history-of-silver-prices/> [https://perma.cc/734G-UPLC] (documenting declines in money-price of silver when it has ceased to be used as a money medium).

¹¹⁷ *Rousseauvian Money*, *supra* note 66, at 45 (“The benches— or ‘*banca*,’ as benches are still called in Italy where this practice first developed— on which metalsmiths did their smithing gave their name to what we now call ‘banking’.”).

¹¹⁸ *Id.* (“People began ‘depositing’ their metal with metalsmiths who happened to have safes, for ‘safe-keeping.’”).

¹¹⁹ *Id.* (explaining how once claim checks began circulating as paper currency metalsmiths could issue checks for lending at interest).

¹²⁰ *Id.* (“People began ‘depositing’ their metals with metalsmiths who happened to have safes, for ‘safekeeping.’ The smiths for their part issued paper claim checks—or ‘notes’ representing claims upon the deposited metals.”).

¹²¹ *Id.* (explaining the smiths’ move from metal to banking).

¹²² *Id.* at 45 (“People began ‘depositing’ their metals with metalsmiths who happened to have safes . . . [t]he smiths for their part issued claim checks . . . representing claims upon the deposited metals.”).

objects that they represented claims upon, and then that they also could be issued in excess of those metal stores themselves.¹²³ The life of fully functional “elastic currencies”—moneys whose supply could in theory be modulated more readily than metals could be mined and then minted—effectively commenced at this juncture.¹²⁴ Metal-smiths who had banked soon became bankers, full stop.¹²⁵ These bankers could spend their own claim checks as money or lend them to others at interest so long as they did not issue too far in excess of metal stores.¹²⁶ Fractional-reserve banking was born.¹²⁷

Public authorities appear to have permitted this eventually burgeoning private practice owing to the advantages an elastic currency afforded.¹²⁸ Money supplies could grow to accommodate growing transaction volume as economies grew, even when metal-mining could not keep pace.¹²⁹ All that was needed was to ensure that they did not grow *too* fast—at rates that brought excess inflationary pressure, excess liquidity risk, or both.¹³⁰ (Excess metal-mining, which did sometimes happen even if but rarely, could exert similar inflationary pressure. This seems to have happened, most notably, after Spain and Portugal struck silver in conquered South American territories.) So sovereigns allowed, but also regulated, private bank currency issuance

¹²³ *Id.* (“It also didn’t take long for the metalsmiths to discover . . . [o]nce their claim checks began circulating as paper currency, they could issue such checks *to themselves* in order to buy things.”).

¹²⁴ *Id.* (explaining how coins were magnified by practice of issuing derivative paper claims as multiples of metallic claims, causing the money supply to increase many-fold).

¹²⁵ *Id.* (“[P]eople began ‘depositing’ their metals with metalsmiths who happened to have safes The smiths issued paper claim checks . . . upon the deposited metals.”).

¹²⁶ *Id.* (“Once their claim checks began circulating as paper currency, they could issue such checks to themselves in order to buy things. They could also issue such checks for lending at interest. As long as the checks were not issued too far in excess of the metal in store, there was no danger in doing this, and there was much gain to be had.”).

¹²⁷ *Id.* (“[T]he practice of issuing more notes than one had metal became known as ‘fractional reserve banking.’”).

¹²⁸ *Id.* (“In time this line of work unsurprisingly became much more lucrative than metalsmithing.”).

¹²⁹ *Id.* (“[T]he elastic currency could be ‘over-stretched,’ issued too far in excess of the metal that ‘backed’ it.”).

¹³⁰ *Rousseauvian Money*, *supra* note 66, at 45–46 (“One could . . . ‘over-promise’ by issuing too many promissory notes, which would undercut the value of promise and promissory note alike.”).

based upon sovereign coin issuance.¹³¹ And, they let bankers lend in those currencies at interest so as to facilitate trade, investment, productive activity, and growth.¹³² In effect, they shared their seigniorage, which their coin issuance long had afforded, with bankers in the form that new note issuance afforded.¹³³

This privatized “note seigniorage” was meant to serve as an incentive to bankers to lend prudently and productively—that is, in ways that were well calculated to prove wealth-generating.¹³⁴ In effect, sovereigns were outsourcing the role of productively issuing and lending sovereign claims upon resources, money—in elastic, readily multipliable, hence modulatable paper form—to their citizens.¹³⁵ And, they were controlling the quality of the multiplied money by requiring licensure of its private disseminators and regulating their activities.¹³⁶ In effect, what I call the finance franchise was born.¹³⁷

But, with the currency elasticity and prudent lending incentives this system brought came a vulnerability as well, the seriousness of which varied inversely with the effectiveness of sovereign franchi-

¹³¹ A banker who over-issued and went insolvent in consequence was deemed ‘bankrupt’—a term that derives from the practice of public officials ceremonially—*rupta*, from which the English word ‘rupture’ derives—the benches—*banca*—on which metal-smith bankers plied their trade in late Medieval Italy, where modern European banking originated. (The Italians were first among Europeans because they were first to trade extensively with Asia and North Africa, where commercial and associated financial practice were then far in advance of their European counterparts.) See *id.* at 46 (observing much of bank regulation during olden days involved licensing requirements and reserve regulations to avert risk of elastic currency being issued too far in excess).

¹³² *Rousseauvian Money*, *supra* note 66, at 46 (explaining how various jurisdictions permitted banks to issue claim tokens for promoting growth).

¹³³ *Id.* at 45 (stating that note issuance allowed for “a currency whose supply could be grown both to accommodate growing transaction activity and to finance growing productive activity”).

¹³⁴ *Id.* at 45–46 (observing that “this practice of issuing more notes than they had metal made banker’s business . . . profitable”).

¹³⁵ *Id.* at 40, 45–46 (theorizing that publicly licensed private banks act as outsourced credit checkers for the central sovereign entity).

¹³⁶ *Id.* at 40 (stating that federally regulated banks “assist our Fed . . . in temporarily transforming private money into public money”).

¹³⁷ *Id.* at 41 (stating that reliance on the “public full faith and credit” of the sovereign allows for “the franchise” of proliferated private banking by a multitude of financial entities).

sor monitoring of franchisee institutions' activities.¹³⁸ That was the danger of losing, through the franchise arrangement itself, precisely that form of monetary uniformity and associated *de facto* account centralization that sovereign coin issuance had afforded in the first place.¹³⁹

This takes us to a closer look at the need for monetary uniformity, as well as at the single most idiosyncratic historical attribute of the American rendition of the finance franchise: its having had, until late in the game, a multitude of ersatz-franchisee money-issuing institutions under the control of no single coherently acting franchisor money-modulating institution.¹⁴⁰ This is important in understanding both the nature of the present American financial system and the necessity of that modernization of this system, which Parts IV through VI propose below.¹⁴¹

B. Why Uniformity

Franchises, as noted above, are among other things uniformity-maintenance regimes.¹⁴² The reason for *monetary* uniformity is not unlike that for hotel room or foodstuff uniformity of the sort that franchise arrangements in those industries ensure.¹⁴³ But, it also is

¹³⁸ See *Rousseauvian Money*, *supra* note 66, at 45–46 (observing that franchisee lending of sovereign tender was “risky—both for the banker and for society—because the elastic currency could be ‘over-stretched,’ issued too far in excess of the metal that ‘backed’ it”); see also *Finance Franchise*, *supra* note 1, at 1149 (stating that “the public franchisor . . . retains primary responsibility for preventing both under- and over-generation of credit”).

¹³⁹ See *Rousseuivian Money*, *supra* note 66, at 45–46 (stating that “bank-licensing requirements and reserve-regulation” appeared at attempts at maintaining through the financial franchise the uniformity once afforded by sovereign coin issuance).

¹⁴⁰ *Money's Past*, *supra* note 3, at 4 (observing that, in the early days of the United States, “the U.S. Mint minted coins [and] the Treasury issued some paper . . . [b]ut paper money—‘notes’—were issued primarily by private banking institutions until late in the 19th century”).

¹⁴¹ *Id.* at 4–6 (providing an overview of United States currency issuance from the late 18th century through 20th century).

¹⁴² *Id.* at 3 (explaining that “banks are franchisees, while we the sovereign public are the franchisor and our national money—the dollar, the monetized full faith and credit of the United States—is the franchised good”).

¹⁴³ Fast food and hotel franchises emerged and spread through the American economy at the same time that the interstate highway system developed across

much more compelling. A well-functioning and fully integrated economy, in both its productive and its distributive functions, requires a common unit of account and a common payment medium whose value as measured in that unit is reasonably insensitive to variations among issuers, users, transaction locations, and time intervals.¹⁴⁴

These are the twin needs that necessitate “account uniformity” of the kind that I noted above as economies grow in both size and complexity—the kind that amounts to the keeping of a single ledger or the using of its functional equivalent, a uniform coin or currency.¹⁴⁵ We can think of these as forms of what I will call spatial and temporal uniformity. The story of the American republic’s gradual securing of those forms of uniformity for its money and, through that, its commercial and financial systems, is a story of long struggle.¹⁴⁶ And, this is because the story of America’s gradual attainment of coherent national *sovereignty itself* is a story of long—and at times tragically violent—struggle.¹⁴⁷

the country and newly affluent Americans began taking road trips and family vacations. However good or bad the accommodations or foodstuffs might be in the places one visited or re-provisioned at, one could at least rest assured they were no more undesirable than their counterparts back home. That is the sense in which franchises were ‘quality control’ compacts. *Id.* (“You can think of the uniform value and appearance of our currency as being a bit like those identical sandwiches and golden arches you see all around the country (and world) if you like: They serve to let everyone know that the item’s the same irrespective of just where you are in our nation —New York, California; Florida, Alaska They are always and everywhere the same: green notes, worth no more and no less that they purport to be worth.”).

¹⁴⁴ *Rousseuvian Money*, *supra* note 66, at 35, 37 (stating that money “can be thought of as a claim upon what it’s exchanged for” and by virtue of its stability is “ultimately meant to make possible more productive activity across time”).

¹⁴⁵ *Id.* at 25, 27–28 (asserting that as a financial system becomes widespread and complex, the sovereign must “‘formalize’ and ‘regularize’ . . . which obligations shall ‘count’ for purposes of ‘accounting’ and public ‘accountability,’ . . . [and] where to track and enforce such obligations and their discharge”).

¹⁴⁶ *See Money’s Past*, *supra* note 3, at 4–8 (explaining the history of United States currency issuance from the late 18th century through 20th century).

¹⁴⁷ Jane Kamensky, *The American Revolution: A History of Violence*, NY TIMES (May 19, 2017), <https://www.nytimes.com/2017/05/19/books/review/scars-of-independence-americas-violent-birth-holger-hoock.html> (discussing America’s violent beginning).

1. *Spatial Uniformity: Payments & “Universal Equivalents”*

Before federal passage of a sequence of mutually complementary legal tender, currency, and banking acts in the early 1860s, there was neither a single national payment ledger nor any national “dollar bill” worth the name in the United States.¹⁴⁸ The circulating medium—the token-form substitute for a centralized ledger—took the form primarily of privately issued bank notes.¹⁴⁹ These were effectively paper “claim checks” or currencies representing claims upon private sector banking institutions.¹⁵⁰ The claims they betokened were in theory redeemable in precious metal specie minted by many different sovereigns or, as time went on, various forms of primarily but not solely publicly-issued debt.¹⁵¹ Banks for their part were kept local by the only public authorities then legislatively authorized to license and regulate them: sub-sovereign U.S. state governments.¹⁵²

This arrangement, because it fell short both of a national ledger and of any uniform national currency that could serve as that ledger’s circulating functional equivalent, posed two challenges to efficient transcontinental market integration across the still young United

¹⁴⁸ *See id.* at 6 (“The banking and currency acts of the 1860s transformed our interlinked banking, financial, and monetary systems. In very short order there were federally chartered banks in most states and territories of the Union, all of them subject to uniform regulatory standards.”).

¹⁴⁹ *Id.* (explaining that before the reforms of the 1860s, “America’s paper money supply was primarily a plethora of privately issued ‘bank notes’”).

¹⁵⁰ *Id.* (stating that banks’ “notes were their own liabilities—hence liabilities of private issuers”).

¹⁵¹ *See id.* (explaining that “differing state willingness or readiness to regulate” privately issued bank notes “could bring differing values to currencies issued in different locales”); *see also* CHARLES A. CONANT, A HISTORY OF MODERN BANKS OF ISSUE, WITH AN ACCOUNT OF THE ECONOMIC CRISES OF THE PRESENT CENTURY 310–85 (1896); *Rousseauvian Money*, *supra* note 66, at 44 (stating that “just as the paper memorialized promises, so did the metal—it’s just that the paper memorialized private bank promises”).

¹⁵² *Money’s Past*, *supra* note 16, at 4 (stating that “banks then were chartered and regulated . . . by states rather than by our federal government”); *Rousseauvian Money*, *supra* note 66, at 46 (explaining that, until the establishment of the Fed and its uniform currency regulations, currency was backed by local institutions that varied in authority from jurisdiction to jurisdiction).

States.¹⁵³ First, payment in one state out of accounts held in another state was fraught with uncertainty.¹⁵⁴ Differing states regulated banks with differing degrees of strictness and effectiveness.¹⁵⁵ New York and New England, for example, appear to have been doing quite well by the mid-nineteenth century, while Nebraska and Michigan did notoriously poorly at that time.¹⁵⁶ This meant in turn that the practical redeemability, and hence ultimate reliability, of notes issued by, or of drafts drawn upon accounts maintained with, banks in one state could appear “iffy” to counterparties domiciled in other states.¹⁵⁷

In effect, every state had its own licensed private purveyors of private money variously backed, with purveyor reliability varying according to backer liability and of course charter address.¹⁵⁸ This in

¹⁵³ An integration, I might add, the need of which grew all the more poignant when the nation slipped into civil war over precisely the question of how much sovereignty the federal government was authorized to exercise and how much was “reserved to the states.” *Money’s Past*, *supra* note 3, at 4 (explaining that with no national ledger “[t]wo banks might both promise redeemability of their notes into the same quantum of something more solid—gold, for example, or U.S. Treasury certificates—but might well be differently able to live up to their promises.”).

¹⁵⁴ *Id.* (explaining that redeemability of bank notes issued by state-regulated banks were not reliably redeemable in other jurisdictions).

¹⁵⁵ *See id.* (explaining how the reliability of different banks depended on the individual state’s regulation).

¹⁵⁶ *See id.* (describing how Nebraska and Michigan banks were unreliable because of the state regulation); *Rousseauvian Money*, *supra* note 66, at 46 (observing that in the early 19th century, “New York and New England banks, for example, were often reliable. Nebraska or Michigan banks, by contrast, not so much”); CONANT, *supra* note 133, at 311–12, 328–29 (commenting on the varying reliability of early banks’ notes); RONALD E. SEAVOY, *THE ORIGINS OF THE AMERICAN BUSINESS CORPORATION, 1784–1855* 149–90 (1982) (providing an overview of early currency stability in the United States).

¹⁵⁷ *See Money’s Past*, *supra* note 3, at 3 (“Two banks might both promise redeemability of their notes into the same quantum of something solid—gold, for example, or U.S. Treasury certificates—but might well be differently able to live up to their promises. Some might be sound, other might be less so. Some might be sound this year but not so much next year.”).

¹⁵⁸ *Money’s Past*, *supra* note 16, at 3 (stating that banks’ reliability differed on states’ charters); *Rousseauvian Money*, *supra* note 66, at 40 (“In doing so, banks decide whose private promissory notes will be temporarily tradeable for public promissory notes. They thereby assist our Fed, and hence ‘us,’ in

turn meant that the dollar, though in theory a national unit of account, could not in practice serve either as such a unit—there *was* no centralized national account amalgamating all citizen accounts—or as a bona fide national currency *substituting* for credits and debits on a national account.¹⁵⁹ A nominal dollar note issued by, say, Wyatt Earp Bank in Kansas might circulate at par or near-par, while another nominal dollar note issued by Jesse James Bank in Texas might circulate at but 20% of par; that is not good for Kansas-to-Texas cross-border transacting.¹⁶⁰

The second challenge posed by spatial non-uniformity was the intrastate counterpart of the interstate challenge just noted. It was that, in states where bank chartering and regulation were lax, currencies could vary in value relative to one another even *within* states.¹⁶¹ Wildcat Bank's dollar might trade at twelve cents up in Omaha, while Eagle Bank's dollar might trade at par in the same general vicinity. This patchwork form of reliability found reflection in merchants' having to maintain periodically updated discount schedules for locally used currencies, advising for how many cents on the dollar to count various private bank currencies when these were offered in payment for goods or services.¹⁶² That too, of course, operated as an impediment to (intra-

temporarily transforming private money into public money—purely horizontal claims into vertical or vertically-enhanced horizontal claims.”).

¹⁵⁹ *Money's Past*, *supra* note 3, at 4 (discussing that bank notes fluctuated in value. “Needless to say, private banknote money did not make for an optimal payments system. It was good that the nation had a *unit of account*—the dollar—but unfortunately it still lacked a widely usable national *currency*.”); *Rousseauvian Money*, *supra* note 66, at 23–24 (using hypothetical to explain single, unified ledger necessary for creation of functioning unit).

¹⁶⁰ *Money's Past*, *supra* note 3, at 3–4 (“The upshot of this ‘Banking Babel’ was that the nation’s currency supply largely consisted of hundreds or thousands of distinct bank notes all trading at various discounts to stated par. A dollar note issued by Bill the Kid Bank or Sidewinder Bank might trade at 50% of par, for example, amount to no more than ‘four bits,’ not a dollar. A dollar note issued by Wyatt Erp Bank or Bald Eagle Bank might, by contrast, go for 90% of par, or even full par.”).

¹⁶¹ *Money's Past*, *supra* note 3, at 4 (explaining that notes fluctuated in value in every store); *Rousseauvian Money*, *supra* note 66, at 24 (explaining that regulations are needed for uniformity and stability).

¹⁶² *Money's Past*, *supra* note 16, at 4 (“Shopkeepers and tradesmen in consequence had to maintain regularly updated discount schedules behind their counters, instructing clerks how much to discount different banks’ notes in determining ‘how much’ (of what) to charge buyers for goods or for services.”).

state) transaction activity—an impediment more pervasive than that to what was then still only nascent interstate commerce.¹⁶³

In many ways, this “wildcat” era in banking—called “free banking” by its advocates during the rare intervals that it was not in crisis—confronted market participants with a bewildering array of wildly fluctuating payment media reminiscent of that which confronts those who use newly issued privately issued crypto-currencies today.¹⁶⁴ I will have more to say on that later when I propose, in Part IV, a publicly administered Democratic Digital Dollar associated with my proposed system of Citizen and Resident Wallets. For present purposes, what matters is what ultimately emerged as the nineteenth century’s imperfect paper currency substitute for my proposal, which latter simply brings the former into the twenty-first century.

I allude to the institution, through the Legal Tender Act of 1862,¹⁶⁵ the National Currency Act of 1863,¹⁶⁶ and the National Banking Act of 1864,¹⁶⁷ of a nationwide network of federally chartered National Banks, located all over the nation, all subject to the same regulatory standards and all issuing notes convertible into the very same Treasury-issued currency—tellingly called then “the Greenback.”¹⁶⁸ This was effectively the birth of the dollar as we now know it—a centrally issued and universally employed money that is not only a unit of account, but also a bona fide payment medium circulating throughout the entire republic.¹⁶⁹ It was a centralized ledger-substitute,¹⁷⁰ a uniform currency whose nationwide uniformity in effect substituted for the “centrality” of a centralized national ledger that at

¹⁶³ *Money’s Past*, *supra* note 3, at 4 (determining that transactions could take significantly long given the various calculations and valuations of notes).

¹⁶⁴ *Money’s Past*, *supra* note 3, at 7 (“We are amidst, that is to say, digital currency’s ‘wildcat’ era. For one thing, there are *many* such currencies—indeed, a bewildering and seemingly all-the-time growing array of them.”).

¹⁶⁵ Legal Tender Act of 1862, ch. 142, 12 Stat. 532 (1862).

¹⁶⁶ National Currency Act of 1863, ch. 85, 12 Stat. 665 (1863).

¹⁶⁷ National Banking Act of 1864, ch. 106, 13 Stat. 99 (1864).

¹⁶⁸ *Money’s Past*, *supra* note 3, at 4 (explaining that notes were converted into Treasury-issued currencies called Greenbacks after legislation); *Rousseauvian Money*, *supra* note 66, at 44 (stating that Greenbacks were seen as uniformed currency); CONANT, *supra* note 133, at 345–46 (stating that after Federal regulations notes were replaced with bills of credit).

¹⁶⁹ CONANT, *supra* note 133, at 344 (explaining need for every dollar to be in circulation on the credit of the Fed).

¹⁷⁰ *Rousseavian Money*, *supra* note 66, at 24 (using analogy to highlight usefulness of a shared ledger).

the time was not technologically feasible but now is in the way that Parts IV through VI below will elaborate.¹⁷¹

The new 1860s regime marked the commencement of the American republic's rendition of the full finance franchise described above.¹⁷² It delegated quality control duties to a newly established federal instrumentality whose name becomes comprehensible against the backdrop just narrated; I refer to the OCC.¹⁷³ It is instructive that this agency, contemporarily described simply as a bank regulator, was originally a *currency* regulator.¹⁷⁴ The Comptroller, whose name derives suggestively from an archaic English word for controller, was essentially the agent through whom our finance franchisor, the sovereign public, "controlled"—that is, maintained the quality of—that which it franchised, the dollar.¹⁷⁵

Of course, this involved maintaining what we have ever since called the "safety and soundness" (believe it or not, that is a term of art) of the franchisee institutions—the banks.¹⁷⁶ But the primary reason for federally maintaining that safety and soundness was precisely the fact that, as distributors of that public good which is the public's currency, these institutions were in effect privately owned public utilities.¹⁷⁷ They were accordingly locked into partnership with the designated agent of the public itself—its Currency Controller.¹⁷⁸

¹⁷¹ *Rousseavian Money*, *supra* note 66, at 30 (describing Federal notes as uniformed currency); CONANT, *supra* note 133, at 344 (describing necessity of uniformity on equal value).

¹⁷² *Money's Past*, *supra* note 16, at 4 (outlining various acts of 1860s and explaining how financial landscape changed).

¹⁷³ *Money's Past*, *supra* note 3, at 5 (describing OCC's job).

¹⁷⁴ *Money's Past*, *supra* note 3, at 5 (outlining history of OCC).

¹⁷⁵ See *Money's Past*, *supra* note 3, at 5 ("The name is telling because 'comptroller' is merely archaic English for 'controller.' The OCC, housed in Treasury, was effectively the 'controller'—the administrator—of our national currency system."). see also *Rousseavian Money*, *supra* note 66, at 45 ("One could, in other words, 'over-promise' by issuing too many promissory notes, which would undercut the value of promise and promissory note alike.").

¹⁷⁶ "Safety and soundness" is a ubiquitous banking law term of art, used by legislators and all U.S. bank regulators to designate a sort of regulatory touchstone by reference to which banks are to be supervised. See *Making Sense of the Federal Reserve: "Safety and Soundness,"* FEDERAL RESERVE BANK OF ST. LOUIS (Oct. 15, 2019, 5:45 PM), <https://www.stlouisfed.org/inplain-english/safety-and-soundness> [<https://perma.cc/DXN4-K2GF>].

¹⁷⁷ *Money's Past*, *supra* note 3, at 6 (describing current money system as "public-private franchise system."); *Rousseavian Money*, *supra* note 66, at

The banking and currency reforms of the 1860s comprehensively transformed the United States' interlinked banking, financial, and monetary systems.¹⁷⁹ In very short order there were federally chartered banks in most states and territories of the Union, all of them subject to uniform regulatory standards—including that every \$100 in notes be backed by \$111 in U.S. sovereign securities—and all of them issuing, accordingly, a de facto uniform national currency with a uniform value.¹⁸⁰ These banks also sold U.S. Treasury securities, effectively making them a system of outlets for the issuance of *both* of our federal government's principal circulating liabilities at the time—Greenbacks and T-Bills.¹⁸¹ In very little time, “wildcat” banknotes lost value and drained out of circulation.¹⁸²

39 (explaining that when one borrows money, they transform “private money into public money” and effectively exchange “your . . . promissory obligations” for “our promissory obligations.”); *Finance Franchise*, *supra* note 1, at 1151 (“Private parties essentially borrow from or invest in *one another*, and one can only invest or borrow what is “already there” in previously accumulated, privately-owned form.”).

¹⁷⁸ *Money's Past*, *supra* note 3, at 6 (describing our system as ‘outsourcing’ “credit-checking and public money-dispensary functions to private institutions.”); *Rousseauvian Money*, *supra* note 66, at 40 (“One way of thinking of ‘private’ (yet always publicly licensed) banking and other financial institutions against this backdrop, as noted earlier, is as ‘outsourced’ credit-checking offices of the Fed and, in consequence, of Us (our joint political ‘we,’ our ‘We, the People’)—all Americans in their capacities as citizens of one shared republic (one *res publica*, or public thing), whose central bank the Fed is.”).

¹⁷⁹ Richard Sylla, *The U.S. Banking System: Origin, Development, and Regulation*, THE GILDER LEHRMAN INSTITUTE OF AMERICAN HISTORY (last visited Nov. 1, 2019), <https://ap.gilderlehrman.org/history-by-era/economics/essays/us-banking-system-origin-development-and-regulation> (discussing the changes in American banking from 1781 to the present).

¹⁸⁰ See BENNETT MCCALLUM, *MONETARY ECONOMICS: THEORY AND POLICY* 318 (1989) (“The mechanism was simple: national banks were required to hold \$111.11 worth of government bonds for each \$100 of bank notes issued”); BORIS P. PESEK & THOMAS R. SAVING, *THE FOUNDATIONS OF MONEY AND BANKING* 397 (1968) (“For each \$100 of bank notes produced, the national bank had to deposit with the U.S. Treasurer “eligible” U.S. bonds promising repayment of \$111”).

¹⁸¹ See MCCALLUM, *supra* note 162, at 318–19 (discussing the issuance of greenbacks and T-Bills).

¹⁸² PESEK & SAVING, *supra* note 162, at 391–95 (illustrating the change from “Greenbacks” to the “Gold Standard”); *Money's Past*, *supra* note 16, at 6 (“In

2. *Temporal Uniformity: “Sound Money” & “Elastic Currency”*

The foregoing paragraphs implicate two of money’s oft-noted functions—its serving both as a “unit of account” and as a “medium of exchange.”¹⁸³ The other role typically observed to be played by money—its function as a “store of value”—is what lay behind our polity’s later replacement of the Comptroller as money-modulator by a new central bank, the Fed.¹⁸⁴

Key to maintaining a currency’s stable value over time—that is, to preventing inordinate inflation and deflation—is the capacity to fine-tune and regularly readjust the supply of that currency as transaction volume in the “real” economy grows, shrinks, or fluctuates.¹⁸⁵ The currency must, in the words I used earlier, be elastic and modulatable.¹⁸⁶ Its supply must be adjustable (a) to accommodate, while not over-accommodating, transaction and credit demand, and (b) to counteract sudden and destabilizing credit expansions or contractions.¹⁸⁷

very little time, ‘wildcat’ banknotes drained out of circulation”); *Rousseauvian Money*, *supra* note 66, at 19 (discussing liabilities and assets).

¹⁸³ *Rousseauvian Money*, *supra* note 66, at 23 (“Our ‘chore money’ now will be transparently functioning not only as a ‘medium of exchange’ usable in ‘settling [chore] accounts,’ and not only as a ‘unit of account’ used in keeping such accounts, but also . . .”).

¹⁸⁴ *Money’s Past*, *supra* note 16, at 7 (“The Federal Reserve Act (‘FRA’) of 1913 established the Fed that we all know today, and transferred de facto and de jure administration of the national money supply from the Comptroller to this new entity”); *Rousseauvian Money*, *supra* note 66, at 35 (“The ‘value’ component of money as ‘store of value’ stems from money’s status as a claim . . .”).

¹⁸⁵ *Money’s Past*, *supra* note 3, at 7 (summarizing what an elastic currency is intended to do); *Rousseauvian Money*, *supra* note 66, at 45–46 (discussing the danger of oversupplying currency into the market).

¹⁸⁶ *Money’s Past*, *supra* note 3, at 7 (“A money whose supply can be ‘modulated’ in this way, as I call it, is essential if we’re to avoid needlessly disrupting either transaction activity, investment activity, or currency value”); *Rousseauvian Money*, *supra* note 66, at 45 (expounding on the importance of an “elastic” currency).

¹⁸⁷ *Money’s Past*, *supra* note 3, at 7 (“An elastic currency is a currency whose supply can be adjusted (a) to accommodate, while not over-accommodating, transaction and credit demand, and (b) to counteract sudden credit expansions or contractions”).

The idea is to maintain just enough credit-money supply to accommodate desired transaction volumes and enable productive investment, so as not needlessly to squelch either, while at the same time preventing over-issuance of the sort that can spark inflation—the classic problem of ‘too much money’ chasing ‘too few goods.’ A money whose supply can be ‘modulated’ in this way . . . is essential if we’re to avoid needlessly disrupting either transaction activity, investment activity, or currency value. And that is to say it’s essential [if people would maintain smooth, steady growth of their national wealth and productive capacity].¹⁸⁸

This is why, as noted above, polities in the early modern era tolerated metal-smiths’ and then bankers’ issuances of what came to be widely spendable “claim checks” in excess of their sovereign-issued metal coin stores.¹⁸⁹ It is also why they regulated them carefully; regulation was as much about monetary control—what I call “money modulation”—as it was about consumer protection.¹⁹⁰ But, the American republic, founded partly by landed aristocrats who were suspicious of centralized political governance and centralized banking alike, had to rediscover for itself the dependence of money’s temporal uniformity upon public money modulation.¹⁹¹

The OCC in particular and Treasury more generally were not well equipped, operationally or transaction-technologically speaking, to engage in the daily money-modulatory task that maintaining a value-retentive elastic currency requires—particularly not so long as state-chartered banks now offering checkable

¹⁸⁸ *Id.*

¹⁸⁹ *Rousseauvian Money*, *supra* note 66, at 45 (explaining how bankers began issuing more notes than they had metal).

¹⁹⁰ *See id.* (discussing metal and regulation).

¹⁹¹ *See Public Actors*, *supra* note 17, at 117 (“This political side of the government, however, is also the perennial source of suspicion that accompanies state participation in economic activity”); *Pre-Liberal Autonomy*, *supra* note 10, at 113 (“Second is an attendant suspicion of large aggregations of financial capital . . .”). *See also Materializing Citizenship*, *supra* note 10, at 2075 (discussing suspicion of large aggregating entities).

deposits in lieu of private banknotes continued to operate alongside the new national banking system.¹⁹²

The Second Bank of the U.S. from 1816 to 1836 on the one hand, and the central banks familiar to the rest of the world since the late 17th century, on the other hand, had shown the means of performing that function.¹⁹³ In serving as “banks to other banks,” they had developed methods by which publicly to modulate private bank currency-issuance in ever more finely tuned and sophisticated ways, including a “public market-actor” role.¹⁹⁴ In a similar but unavoidably less complete manner, clearing house arrangements among U.S. private sector banks had developed means of at least partly buffering note-issuing private sector banks against periodic liquidity shocks.¹⁹⁵

The U.S. thus patterned its own version of a central bank partly on its own earlier Banks of the U.S., partly on European models, and partly on these clearinghouse arrangements. This it did with the Federal Reserve Act of 1913, which like the banking acts of the 1860s

¹⁹² *Money's Past*, *supra* note 16, at 7. See also *Rousseauvian Money*, *supra* note 66, at 45 (discussing elasticity of currency); CONANT, *supra* note 133, at 20 (explaining the need for elasticity); SEAVOY, *supra* note 138, at 150–67 (discussing the development of the free banking system).

¹⁹³ *Money's Past*, *supra* note 3, at 7 (“The Second Bank of the U.S. from 1816 to 1836, and especially central banks of the kind found all over the ‘developed’ world circa 1913, by contrast, had shown themselves well suited to the task.”); RICHARD TIMBERLAKE, *MONEY, BANKING, AND CENTRAL BANKING* 163–71 (1965) (discussing the development of the Second Bank of the US, which was chartered in 1816).

¹⁹⁴ *Money's Past*, *supra* note 3, at 7 (“By acting as ‘banks to the banks,’ these institutions were able to modulate private bank money-issuance in ever more ‘fine-tuned’ manners, using ‘carrots’ as effectively as ‘sticks’”); *Public Actors*, *supra* note 4, at 158 (characterizing a public market-actor); *Governments as Market Actors*, *supra* note 29, at 55 (“We call the underappreciated governmental role that we have in mind here the “market actor” role”).

¹⁹⁵ EUGENE N. WHITE, *THE REGULATION AND REFORM OF THE AMERICAN BANKING SYSTEM, 1900–1929*, 63–74 (1983) (discussing the development and impact of the Federal Reserve Act of 1913); *Money's Past*, *supra* note 3, at 4 (explaining how New York and New England banks were reliable); *Rousseauvian Money*, *supra* note 66, at 46 (highlighting how the United States Fed followed actions taken by the Bank of England).

was proximately occasioned by a crisis—this time the market panic of 1907.¹⁹⁶

The Federal Reserve Act, especially as supplemented by further legislation during the New Deal, established the Fed that we all know today, and transferred de facto and de jure administration of the national money supply from the Comptroller to the new instrumentality.¹⁹⁷ Yesterday’s “Greenback” Treasury notes became today’s green “Federal Reserve Notes” [(Fed Notes)].¹⁹⁸ That means that while we are still using “bank notes” of a sort as currency much as we did in the 19th century, the notes in question are now *public* bank notes—“central” bank notes—rather than *private* bank notes.¹⁹⁹ We might even call them *Citizen* Notes, or claim-check equivalents of dollar-denominated credits in incipient Citizen Wallets tracked on an implicit or incipient Fed-administered Citizens’ Ledger.²⁰⁰ They are issued and spent in the name of us all.²⁰¹ And so we now have a publicly franchised good—a sovereign currency—that is more or less uniform not only across space, but also across time, as the Fed engages in daily monetary operations aimed at preventing inflation and deflation alike.²⁰²

It bears repeating that what is true of Federal Reserve Notes in this connection is true of *credit* extended in Fed Note denominated increments too.²⁰³ The loan that a private sector bank or other Fed-accommodated financial institution makes in the form of a newly

¹⁹⁶ *Money’s Past*, *supra* note 3, at 7 (“Like the banking acts of the 1860s, this change too was proximately occasioned by a crisis—in this case, the panic of 1907”).

¹⁹⁷ *Id.* (“The Federal Reserve Act (“FRA”) of 1913 established the Fed that we all know today, and transferred de facto *and* de jure administration of the national money supply from the Comptroller to this new entity.”).

¹⁹⁸ *Id.* (“This is why the ‘Greenbacks’ you now find in your pocket call themselves, not ‘Treasury Notes’, but ‘Federal Reserve Notes’.”).

¹⁹⁹ *Id.* (“It is just that they are *public* bank notes—‘central’ bank notes—rather than *private* bank notes now.”).

²⁰⁰ *Id.* (“They are Citizen Notes, you might say.”).

²⁰¹ *Money’s Past*, *supra* note 3, at 7 (“They are issued and spent in the name of us all.”).

²⁰² *Rousseauvian Money*, *supra* note 66, at 37 (observing that financial institutions enable “more exchange to take place across space by enabling exchange across time”).

²⁰³ *Money’s Past*, *supra* note 3, at 8 (“And what is true of Federal Reserve Notes here is true of bank credit extended in Fed Note—that is, dollar—increments too.”).

opened or credited deposit is made in the form of dollar-denominated drawing or spending rights—credits, or “assets.” By accounting convention, these correspond to counterpart dollar-denominated bank debits, or “liabilities.”²⁰⁴ Since our Fed-administered payments system recognizes payments made out of these deposits as settling transactions, dollar increments of these bank liabilities are functional equivalents of dollar bills.²⁰⁵

Once we appreciate this, and once we remind ourselves both that those dollar bills are Fed Notes and that one gives the bank a signed *promissory* note for one’s *loan*, we are able to see something else in addition: a loan is simply a *temporary swap* of a *citizen’s* promissory note for *Fed* promissory notes—of one’s privately issued money for more widely spendable publicly issued money.²⁰⁶ This is the contemporary form taken by what I labeled above “vertical” tokens coming to function as “horizontal” tokens. Modern bank lending is in this sense just temporary private-public currency swapping.²⁰⁷ That is

²⁰⁴ *Id.* (“The loan the bank makes to you in the form of a newly opened or credited deposit it ‘makes’ in the form of dollar-denominated withdrawal or spending rights.”).

²⁰⁵ *Money’s Past*, *supra* note 3, at 8 (“The deposits, in other words, are functional equivalents of dollar bills.”). What makes this possible, again, is that a bank-issued card that you swipe in a machine at a retail outlet hooked up to the Fed-administered payments system “counts” as a payment and accordingly both debits your account and credits the retail outlet’s. Were I, who am not licensed as a bank, to issue you an identical card, nothing would happen other than that I would be arrested for fraud or counterfeiting.

²⁰⁶ *Id.* (“Once you realize this, and once you remind yourself both that those dollars are Fed ‘Notes’ and that you give the bank a signed *promissory* note for your *loan*, you are able to see something else too: This is that a loan is simply a *temporary swap* of your promissory note for Fed promissory notes—of your privately issued money for more widely spendable publicly issued money.”). This point is emphasized, and its significance more fully elaborated, in *Rousseauvian Money*, *supra* note 66, at 39–40 (“When you borrow money, then—which you often do in this country by handing a bank your own promissory note in exchange for Fed promissory notes (or their depository or cashier’s check equivalents)—you just temporarily trade your own notes for Fed notes. It’s just a temporary swap.”).

²⁰⁷ *Money’s Past*, *supra* note 3, at 8 (“Bank lending is just temporary private-public currency swapping.”).

how things have long been in Europe and, for less long, in the rest of the world as well.²⁰⁸ The reasons are found in the tale just told.²⁰⁹

But, why do we *still* operate in this way? Why do we still franchise finance and in effect outsource much of our payment infrastructure's provision to the private sector institutions whose managed accounts we use as its pillars? Must we continue to do so? Why not make publicly issued money elastic and modulatable, not by supplementing it with dollar-denominated *bank*-ledger credit-money, as we now do, but with *Fed*- or *Treasury*-ledger money—*Public Ledger* money, as we will be able very soon to do?²¹⁰

As it happens, there once were good functional reasons for incremental resort to public-private franchising where our republic's financial and commercial infrastructures were concerned—reasons rooted in the American polity's incomplete sovereignty during its first hundred years, give or take.²¹¹ But, those reasons have by and large long since receded, as I will now indicate. This means our civilization's long detour in the realm of ledger-substitute coin and currency can end. It means that a full publicly administered citizens' ledger and associated Digital Dollar are now possible and indeed easily instituted, as I shall demonstrate.

IV. Hybrid Finance: Why We Retain It—And Why We Need Not

I have now elaborated both why a geographically and temporally uniform, elastic currency was necessary when consolidated nationwide ledger-accounting was not yet feasible and why it was all but inevitable that our sovereign republic would ultimately issue it.²¹² In this sense my account embeds a teleology. It tells a tale of steady development and improvement through a course of alternating impro-

²⁰⁸ See e.g., CHRISTINE DESAN, *MAKING MONEY: COIN, CURRENCY, AND THE COMING OF CAPITALISM* 295–329 (2014) (discussing the history of currency in England and its origins in the 17th century).

²⁰⁹ See generally *id.* (tracing the history of currency and the reasons for its development).

²¹⁰ *Money's Past*, *supra* note 3, at 10 (discussing the potential adoption of a Fed-issued digital currency & the subsequent feasibility of a Fed-administered central banking lender).

²¹¹ CONANT, *supra* note 133, at 311 (“A new country, poor in specie and in loanable capital, is almost forced by the necessities of her situation to adopt monetary devices which would not be tolerated under better conditions.”).

²¹² *Rousseauvian Money*, *supra* note 66, at 26–27 (discussing the modern societal trend of centralizing and formalizing currency arrangement).

visation and consolidation—a tale that, I argue below, will almost certainly be replicated in the space of digital payments technology and associated digital currency. There should be, and will be, a Fed- or Treasury-administered Digital Dollar affording the same spatial and temporal uniformity that previously Treasury-administered and now Fed-administered “green paper” dollars afford at present.²¹³

Matters are different when we turn from monetary *uniformity* and *elasticity* to monetary and financial *hybridity*. While the first two seem to be ultimately necessary in all times and places, and in this sense essential to commercial and financial optimization themselves, the third is historically contingent, a product of political and technological under-development and associated ideological inertia.²¹⁴ And, *here* the best explanation of *what has been* recommends *change* in *what soon shall be*. The story is still teleological, to be sure, but now the story of *money’s* returning to being fully public figures as simply the penultimate chapter in the story of *finance’s* returning to being fully public—in the form of a consolidated public ledger. We can see why when we ask ourselves what accounts for hybridity in the first place, then ask whether that which accounts for it continues to necessitate it.

A. Why We Retain It: New Facts, Old Thoughts

Why did we first take to franchising money and finance? Why do we *still* do so now? Why does our sovereign republic still *outsource* the allocation of its *resource*—its monetized full faith and credit—and privatize the *seigniorage* rents earned on its rental?

In light of the foregoing discussion, it will not be surprising that I think the best explanation stems from popular assumptions that once were well founded in political and technological “facts on the ground,” but which have long since receded.²¹⁵ Since the receding of those facts, popular beliefs have not yet been updated, and it is part of the purpose of this article to instigate just that updating.

²¹³ *Money’s Past*, *supra* note 3, at 10–11 (concluding that a Fed-issued digital currency would be “more effective, saving-friendly and consumer-friendly” than the current system).

²¹⁴ *Id.* at 4 (discussing the historical necessity of U.S. bank franchising).

²¹⁵ *Id.* at 5 (“It is at best a holdover from earlier times: times when currencies were pegged to exogenously given stocks of precious metals, finance was indeed by and large privately supplied, and capital—at least liquid capital—was indeed scarce.”).

The two most foundational popular assumptions to which I allude are that investable capital—a.k.a. “finance capital”—is both inherently scarce and unavoidably privately supplied.²¹⁶ These two assumptions underwrite a third, which stems also from other assumptions—namely that capital allocation decisions are most justly and efficiently made in the private sector, with the public sector playing at most a supportive and modulatory role in respect of credit aggregates so as to smoothen “the business cycle.”²¹⁷ These assumptions all jointly underwrite the picture that I call the “intermediated scarce private capital myth.”²¹⁸

Investable capital, probably not accidentally, seems to figure almost like precious metal money in the intermediated scarce private capital picture. It is as if the publicly issued coins discussed above were both (a) not multiplied by paper currency, bank credits, or other tokens, and (b) not issued by republics or other sovereigns at all. There seems to be assumed, in other words, a finite and determinate quantity of metal money capital at any one time in the intermediated scarce private capital picture, and most if not all of it is viewed as rightfully owned and hence lent by domestic or foreign persons in the private sector.²¹⁹ When you think about money in this way, it is easy then also to think that “intermediaries” can only “lend out” what they antecede-

²¹⁶ *Finance Franchise*, *supra* note 14, at 1145–46 (“An unspoken assumption behind the orthodox picture of finance is that a certain defined quantum of unavoidably scarce finance capital first accumulates in private hands, after which financial intermediaries facilitate flows of the privately owned funds toward other private (and some public) actors.”); *Finance without Financiers*, *supra* note 14, at 4–5 (“The dominant intermediated scarce private capital view of finance is, then, a *myth*.”).

²¹⁷ *Finance Franchise*, *supra* note 14, at 1211 (“It is simply assumed that efficient “one-to-one” financial intermediation naturally results in the right quantities from capital flowing to the right economic actors.”).

²¹⁸ See *Finance without Financiers*, *supra* note 14, at 4–5 (arguing that financial institutions do indeed intermediate, capital is not actually “scarce”); *Finance Franchise*, *supra* note 14, at 1218 (claiming that the “the financial system operates essentially as a franchise arrangement in which the public is the franchisor, while the private institutions that dispense its full faith and credit are effectively its franchisees); see also *Rousseauvian Money*, *supra* note 66, at 33–34 (explaining misconceptions of the government’s role in managing markets).

²¹⁹ See *Rousseauvian Money*, *supra* note 66 (claiming that financial intermediation theories “conflate[-] an indefinitely extensible resource—finance capital—with a (momentarily) scarce resource—physical capital”).

dently “take in,” and that those who supply what is lent are thus both entitled and best suited to directing it.

The “sanctity of property” and “common sense about incentives” alike, the intermediated scarce private capital story accordingly continues, recommend leaving investment decisions to those who *own and provide* the putatively scarce money capital.²²⁰ These *rentiers* have every right to charge rents and every reason to do their homework and lend their money out cautiously only to those who will put it to productive use, using the temporary claims to productive resources that lent money affords them to add to the stock of society’s wealth over time, pay back their lenders, and pocket rich profits while at it.²²¹

Et voila, the miracle of “finance and development”—a tale told often in textbooks, journal articles, white papers, and speeches all valorizing the role of “financial liberalization” in fueling economic growth miracles.²²² The public sector typically is admitted into this picture at best as an afterthought, or as a necessary evil.²²³ The story begins with the need to standardize the monetary units into which precious metal capital, already used as a private money-form thanks to its putatively “intrinsic” value, is to be parceled.²²⁴ (Money as a unit of account, as noted above.) Standardization is an orthodox public good, the solution to a coordination problem. So is enforcement of standards. So the public can be permitted these roles, hence the role of a franchisor in the *standard-maintenance, quality-control* sense of the word.²²⁵

²²⁰ See *Finance without Financiers*, *supra* note 14, at 4–5 (debunking the intermediated scarce private capital myth).

²²¹ See *id.* at 5 (“[Intermediated scarce private capital view] is a myth whose widespread acceptance is no doubt convenient for certain rentier interests in contemporary ‘financialized’ societies, but is a myth nonetheless.”).

²²² See *id.* at 4 (explaining the intermediated scarce private capital “view is routinely stated in treatises, textbooks, learned journals, and the popular media.”).

²²³ See *Rousseauvian Money*, *supra* note 66, at 41–42 (explaining early development of standardized monetary systems and the need for currency uniformity in commerce); *Finance Franchise*, *supra* note 1, at 1170–73 (explaining the essential role of government in regulation in fostering a stable economic environment).

²²⁴ See *Rousseauvian Money*, *supra* note 66, at 44–45 (discussing the origins and history of metal capital as backing for paper currency).

²²⁵ See *Money’s Past*, *supra* note 3, at 3 (discussing the consistent standards across franchisors).

The story might then reach, if narrated by people cognizant of the need for a currency that is not only spatially uniform but also temporally uniform (again, “elastic”), the need also to standardize *paper representations* of precious metal coins once it is recognized that wealth expansion is outstripping metal money supply expansion.²²⁶ Such imbalances are addressed, the story will continue, with adoption of an elastic currency that can be issued in excess of the metals that “back” it, so long as the currency volume is not allowed to become too great a multiple of the metal reserve.²²⁷ (Money as an elastically expansible means of exchange and a reliable store of value, again as noted above.)

In both cases the public is grudgingly seen as provider of an orthodox public good that it is suited to providing—standard-setting and enforcement—while private sector agents are viewed as still acting as ultimate providers of the “monetary base,” hence the “real capital,” and thus as the proper deciders as to that capital’s disposition or allocation.²²⁸ Here is the kernel of the franchise arrangement to which I have referred, as it would be described by our still-ubiquitous purveyors of the intermediated scarce private capital myth.

What escapes notice in this picture, however, is that (a) what is monetary about the metal coin base is the stamp *of* the coin, not the metal *in* the coin;²²⁹ and (b) that once the money supply comes significantly to outstrip the coin supply, the putative “base money” does no real work any longer.²³⁰ It grows ever more vestigial as real wealth and its monetary representation—the full money supply—grow ever larger in relation to it. The real monetary work is thus done by the multiplier from putative “base” to full money supply, and that means that this work is done by the *decider of the multiplier*—that is, the *public*, which sets and enforces required reserve ratios in the first place.²³¹

²²⁶ *Rousseauvian Money*, *supra* note 66, at 47–48 (describing how inflation results from printing more money without having additional backing for it).

²²⁷ *Id.* at 45 (explaining the risk that “elastic currency could be ‘overstretched,’ issued too far in excess of the metal that ‘backed’ it”).

²²⁸ *Id.* at 45–46 (tracing the historical risks of unregulated private banks overstretching their currency leading to the development of national standards and bank regulations).

²²⁹ *Id.* at 44 and 51 (explaining that the stamp on the precious metal coin gave it recognition and value as currency; “currency and coin are not money, they represent money”).

²³⁰ *Id.* at 46 (discussing the move from the metallic constraints of issuing notes to “credit-money”).

²³¹ *Id.* at 45–47 (describing the loss of the metallic constraints).

In effect, then, the moment we move from putatively private moneys used among some people to public-private *franchise* money used among all people is the moment we move to the prospect of cutting out private moneys, and with them private payment platforms and private finance, altogether.²³² For it is the moment we recognize money's ineluctably public, and hence ineluctably "fiat," character.²³³ Now that we know it is *possible*, all that remains is to decide whether it is *desirable*. In other words, now that we know assumptions (a) and (b) above to be false and (c) therefore to be weakened, should we bring money and finance back "in house" and stop franchising it out to privately run institutions?

B. Why We Need Not: New Facts, New Prospects

I believe that the answer to that question is now largely, if not in fact wholly, "yes." My reasons stem partly from changes in those facts on the ground that I alluded to before in accounting for assumptions (a) through (c) of the intermediated scarce private capital myth. I will explain this first before turning to additional reasons that I believe militate in favor of bringing money, payment, and finance back in-house for the public that is our republic.

During the first century of the American republic, metal coin money was still, by tradition, the preferred form.²³⁴ And, specie was indeed scarce, especially in North America.²³⁵ In this sense, there was

²³² See *Rousseauvian Money*, *supra* note 66, at 40 ("For in effect private banking institutions are simply distributing that public resource which is the monetized full faith and credit of the United States, earning privatized seignorage for doing the credit checks while being publicly licensed to play this role only so long as they maintain the 'quality standards' we demand through our franchisor Fed and its co-regulators.").

²³³ *Id.* at 46–48 (discussing the history of gold currency and sovereign backing of the same).

²³⁴ *A History of American Currency*, AMERICAN NUMISMATIC SOCIETY (last visited Nov. 1, 2019) (discussing the evolution of currency in the United States).

²³⁵ See CONANT, *supra* note 133, at 311 ("A new country, poor in specie and in loanable capital, is almost forced by the necessities of her situation to adopt monetary devices which would not be tolerated under better conditions."); SEAVOY, *supra* note 138, at 154 (describing banking policy in the early 1830's as responsive in part to the scarcity of specie at several distinct financial crises).

indeed capital scarcity.²³⁶ This meant, ironically, both that non-metal expedients grew urgently necessary quite early on in our nation's history once economic growth had got underway, and that hastily adopted non-metal money expedients came often to grief in those early days, ironically reinforcing beliefs that metal moneys were somehow inherently more "sound" (another term of art)²³⁷

Just as its supply of reliable money had difficulty keeping up with its economic growth, moreover, so did our new republic's governance structures at first have difficulty keeping up with its geographic and populational growth.²³⁸ It proved as difficult to integrate the nation politically and administratively as it was to integrate the nation monetarily.²³⁹ Indeed, the latter difficulty, in large measure, both stemmed from and reinforced the former difficulty in ways noted above. Incom-

²³⁶ *Id.* (describing banking regulations regulating the denominations of paper bills to be circulated in response to the shortages of coins). Treasury Secretary Alexander Hamilton's fiscal and banking plans were all about simultaneously addressing this scarcity and the incomplete centralization and sovereignty that perpetuated it. *See, e.g., Public Actors, supra* note 17, at 109–11 (introducing Hamilton's banking policy ideas designed to introduce capital into American markets and centralize sovereign financial regulation); *Pre-Liberal Autonomy, supra* note 10; *Materializing Citizenship, supra* note 10, at 2077–79 (describing the decentralized early-American financial landscape preferred by the government at the time, to which Hamilton's banking plans responded); *Jeffersonian Republic, supra* note 29 (describing the "Hamiltonian spirit" of developments in American financial policy encouraging access to capital and diversified sources of wealth amidst a backdrop of a decentralized, agrarian early economy); *see also* Robert C. Hockett & Saule T. Omarova, *Special, Vestigial, or Visionary?: What Bank Regulation Tells Us About the Corporation—and Vice Versa*, 39 U. SEATTLE L. REV. 453, 472 n.97 (2016) (referencing the "free banking" period of American financial history that lasted from 1836–1863).

²³⁷ *See* CONANT, *supra* note 133, at 286, 291, 346, 356 (discussing the early money-printing policies of the banks of several early states and the abrupt and adverse regulatory reactions to the influx of new capital therein and the American public's general trust in a metallic currency standard); SEAVOY, *supra* note 138, at 154 (describing a collective national "panic" due to the shortage of metal currency and its replacement with paper currency).

²³⁸ *See Rousseauvian Money, supra* note 66, at 25 ("When populations grow larger and asset/liability relations grow more far-flung and complex, however, things must be 'formalized' and 'regularized.'").

²³⁹ *See* Sylla, *supra* note 161 (discussing the history of American banking).

plete sovereignty and incompletely sovereign money were mutually exacerbating.²⁴⁰

Partly this was a matter of antecedent political ideation and attitude—southern plantation owners’ suspicions of centralized federal government and centralized finance continued to hold sway in the years that culminated in the Civil War.²⁴¹ Partly it was also a matter of consequent incapacity’s—“imbecility’s,” as our Constitution’s co-drafter and first Treasury Secretary Hamilton called it—seeming to validate those suspicions in self-fulfillingly prophetic fashion.²⁴² And, partly it was a matter of communications infrastructure, fiscal infrastructure, and other technical determinants of governmental capacity’s still being underdeveloped in the early decades of the American republic.²⁴³ A federal government without deep reach or a widely used currency of its own could take but a minimal role in the allocation of finance capital throughout its own territorial jurisdiction.²⁴⁴

The upshot was a system of commerce and finance in which inherently imperfect private ordering was bound to play a key role until such time as the nation’s sovereignty and capacity both fiscally and physically to act as a sovereign, in respect of both money and beyond, had fully coalesced.²⁴⁵ The divided sovereignty of the pre-Civil War era, pursuant to which the states ironically were constitutionally barred from issuing currencies even as they retained sufficient

²⁴⁰ See generally CONANT, *supra* note 133 (arguing the decentralized political structure of the early United States served as an impediment to effective centralized banking and financial policy).

²⁴¹ *Id.* at 345 (comparing the state banks of northern, midwestern, and southern states).

²⁴² See *Public Actors*, *supra* note 4, at 109 (contrasting Hamilton’s notion of the “imbecilic” agrarian economy with his notion of the “energetic” economy, built on technical prowess and a “well-developed system of finance”).

²⁴³ *Id.* at 108–14 (detailing how the early policies of Alexander Hamilton addressed structural perceived weaknesses in the American economy to create the idea of centralized finance as we know it in America); see generally CONANT, *supra* note 133 (arguing that the agrarian, decentralized nature of early American society created myriad challenges to creating an effective, centralized financial system).

²⁴⁴ See CONANT, *supra* note 133, at 311 (positing that the United States government was severely restricted in its early years because of its lack of centralized currency and capital).

²⁴⁵ *Id.* at 310–35 (describing the proliferation of small banks in early decades of the American Republic, which had four systems of note, and the diversity of their charters and loaning practices).

powers to prevent the federal government from doing so and the sole power to charter banking institutions, was effectively incomplete sovereignty.²⁴⁶ And, incomplete sovereignty meant incomplete money and incomplete commerce and finance.²⁴⁷

Once both national and monetary sovereignty finally were settled by the non-accidentally concurrent Civil War and banking-cum-currency reforms of the 1860s, however, our republic's monetary and financial system moved into its present hybrid state.²⁴⁸ The public sector grew steadily better able, through practice and time, to handle the money-modulatory task.²⁴⁹ Establishment of the Fed—our present day public sector money-issuer and money-modulator—in 1913 marked our republic's monetary coming of age, and it took very little time from then on for the new institution to begin in effect calling the shots even in the putatively private sector money and financial markets.

As early as the 1920s, foreign central bankers were noting how Fed open market operations had become the primary determinants, not only of the American, but indeed also of the global money supply.²⁵⁰ Our republic also developed considerable facility with the *allocative* task *complementing* the modulatory task.²⁵¹ This began with the operations of the War Finance Corporation (WFC), established in 1918 to mobilize and channel investment capital toward war-related production following U.S. entry into the First World War—a cluster of

²⁴⁶ *A History of American Currency*, *supra* note 219 (“With the adoption of the Constitution, monetary production was redefined and restricted as a national prerogative. . . . Although the actual states were constitutionally forbidden to issue their own money, hundreds of private firms circumvented the law by producing what became generally known as “broken-bank notes.”).

²⁴⁷ *See Rousseauvian Money*, *supra* note 66, at 14–15 (arguing that money, in any form of ‘commercial exchange’ is necessary for any political or social entity to exist).

²⁴⁸ *See Finance Franchise*, *supra* note 14, at 1147 (characterizing the U.S. financial system in two forms where the first form “comprises directly-issued public liabilities,” and the second form comprises “publicly accommodated and monetized private liabilities”).

²⁴⁹ *See* FELIKS MLYNARSKI, *GOLD AND CENTRAL BANKS* 33–34 (1928) (demonstrating the steady increase of gold reserves and deposits during the 1920s in America).

²⁵⁰ *Id.* at 52–70 (discussing effects of open market operations).

²⁵¹ *See generally National Investment Authority*, *supra* note 4, at 458 (discussing the ways in which “dedicated public investment vehicles . . . played a pivotal role in rescuing the American economy”).

necessarily coordinated tasks that classic collective action challenges would have rendered privately ordered financial markets incapable of performing.²⁵² Federal involvement in finance allocation then grew even more impressively during the New Deal through the WFC's successor, the Reconstruction Finance Corporation (RFC)—a model on which I have partly drawn elsewhere and will draw on again, in a critically modified fashion, below.²⁵³

The RFC in effect made amends for earlier switch-sleeping by the public member of our finance franchise, which had effectively fueled financial explosion in the 1920s and meltdown in 1929 by not taking the tiller during the bubble-inflating “Roaring '20s.”²⁵⁴ During its twenty years of operation, the RFC was by far the world's largest financial institution, with a portfolio dwarfing those of all private financial institutions combined.²⁵⁵ That portfolio included assets as small as micro-loans to Watts barber shops and as large as multi-million dollar debt and equity holdings in banks, thrifts, railroads, power and light companies, and such still-operating entities as the Federal Housing Administration (FHA), the Federal National Mortgage Association (FNMA; Fannie Mae), the Small Business Administration (SBA), and the Export-Import Bank (Ex-Im Bank).²⁵⁶ And, in

²⁵² See FINANCING THE GREEN NEW DEAL, *supra* note 17; *National Investment Authority*, *supra* note 4, at 458 (“The WFC made direct loans, backed by the full faith and credit of the United States, both to banking institutions and to strategically and economically important industrial enterprises. . .”).

²⁵³ See *National Investment Authority*, *supra* note 4, at 458 (describing the RFC's creation during the Great Depression, and how it was modeled after the WFC).

²⁵⁴ See *id.* (stating that the Reconstruction Finance Corporation was significant in guiding the nation out of the Great Depression). On public switch-sleeping in the 1920s, see Robert Hockett & Richard Vague, *Debt, Deflation, and Debacle: Of Private Debt Writedown and Public Recovery* (white paper, Global Interdependence Center, Federal Reserve Bank of Philadelphia 2013), available at <https://www.interdependence.org/wp-content/uploads/2013/04/Debt-Deflation-and-Debacle-RV-and-RH1.pdf> (last visited Mar. 7, 2020).

²⁵⁵ *Id.* at 460 (“ . . . at its peak the RFC had a balance sheet that dwarfed the combined balance sheets of Wall Street banks.”).

²⁵⁶ *Id.* (“Once demand in previously depressed sectors of the economy began to pick up, the RFC commenced large-scale direct lending to municipalities, school districts, commercial businesses, railroads, farmers and farm co-ops, production credit associations, joint-stock land banks, livestock credit corporations, and local banks and other lending institutions.”).

all of these investments, the RFC made substantial profits, all of which were either plowed into further investments or remitted to the Treasury.²⁵⁷

The WFC and, especially, the RFC showed decisively that the public finance franchisor ultimately needs private finance franchisee institutions little more for the allocative task than it does for the modulatory task, not to mention that getting modulation right requires getting allocation right.²⁵⁸ They showed that public-private finance-franchising, however useful it might have been during the early years of the new national money regime in the final decades of the nineteenth century, was no longer necessary for the bulk of financing by the second decade of the twentieth century, and that it was downright dysfunctional in any economy beset by coordination needs and recursive collective action problems of the kind that afflict all decentralized markets—especially those in which credit is endogenously generated.²⁵⁹ Indeed, perhaps partly in recognition of this very fact, influential economist John Maynard Keynes began advocating a “National Board of Investments” for the United Kingdom in the same period, predicting that it would naturally come to account for some two-thirds of Great Britain’s total investments.²⁶⁰

And yet nevertheless, a resurgence of nineteenth century folk belief about finance as intermediated scarce private capital in the 1950s, perhaps partly brought on by Cold War fears of Soviet “socialism,” brought about a winding-down of the RFC and, with it, the late nineteenth century franchise arrangement in the U.S.²⁶¹ Popular

²⁵⁷ *Id.* at 459–61 (describing why the RFC was so successful in its time).

²⁵⁸ *National Investment Authority*, *supra* note 4, at 458–63 (developing the history and purpose of the WFC and its successor, the RFC, and how they helped pull the U.S. out of the Great Depression and post-War years).

²⁵⁹ *Id.* at 463 (discussing the winding down of the RFC from the end of the 19th century through World War II). On recursive collective action problems and their ubiquity in decentralized modern financial markets, see Robert Hockett, *Recursive Collective Action Problems: The Structure of Procyclicality in Financial Markets, Macroeconomies, and Formally Similar Contexts*, 3 J. FIN. PERSP. 1 (2015).

²⁶⁰ See JOHN MAYNARD KEYNES, *THE COLLECTED WRITINGS OF JOHN MAYNARD KEYNES* 384–95 (Donald Moggridge ed., Cambridge Univ. Press 1978) (developing Keynes’ economic theories); see also JOHN MAYNARD KEYNES, *THE GENERAL THEORY OF EMPLOYMENT, INTEREST, AND MONEY* 336 (Palgrave Macmillan 2018) (1936) (discussing the same).

²⁶¹ See *Finance without Financiers*, *supra* note 14, at 1–7 (explaining the intermediated scarce private capital myth and the finance franchise).

conceptions of money and finance formed during the pre-sovereign period had apparently continued to linger as a sort of “lagging indicator,” and thus preserved supposedly indispensable roles for both *rentiers* and what came to be called a “financial services” industry, in the minds of those ignorant about money, banking, and finance in some precincts of the academy, the professions, and the lay public alike.²⁶²

And so here we still linger both as a polity and as an economy over which that polity presides, as described above in introducing this article, oscillating continually between misallocation and consequent under-modulation and associated asset price inflation on the one hand, and bust and ensuing debt-deflation on the other hand—all because the job that we started in 1862, though haltingly improved and fine-tuned through the 1910s, 1930s, 1940s, early 1970s, and 2010s, has still to be finished, with even the good done quite often being *undone*. The job that remains to be done is that of finally more fully federalizing finance as we have federalized money and governance in the century-and-a-half since the 1860s, leaving private players to play with their own private money holdings but not ours—the public’s. To that task of completion I now turn.

V. *Citizen Finance: What We Now Can and Must Do*

The foregoing discussion culminates in three suggestive conclusions. The first is that the sovereign—in a republic that is the public—must issue and modulate the supply of the polity’s sovereign credit-money. The second is that the sovereign public both can and should actively *allocate* much of that vital resource, especially toward productive primary and away from speculative secondary and tertiary markets—partly in furtherance of the modulatory task itself, and partly for reasons quite independent of that task, including reasons of justice, macroeconomic stability, and the solving of ubiquitous recursive collective action problems that impede productive investment.²⁶³ And, the third is that sovereign coin and currency represent what I have here

²⁶² See generally John G. Gurley & Edward S. Shaw, *Financial Aspects of Economic Development*, 45 AM. ECON. REV. 515 (1955); John G. Gurley & Edward S. Shaw, *Financial Intermediaries and the Savings-Investment Process*, 11 J. FIN. 257 (1956); James Tobin, *Commercial Banks as Creators of “Money”*, COWLES FOUNDATION PAPER 205 (1963) (representing examples of 1950s and 1960s economic theory).

²⁶³ See again *Recursive Collective Action Problems*, *supra* note 259.

been calling an “intermediate stage” monetary technology, necessary for purposes of monetary uniformity and elasticity only (a) after populations outgrow mental or paper account book ledger-money practicality and (b) before those populations develop *digital* account book ledger-money capacity.

I have more fully elaborated and argued for the truth of these propositions, as a theoretical matter, both in the previous two Parts and in prior work.²⁶⁴ And, above I have also now provided a brief explanatory historical narrative showing both how and why we as a polity arrived at our present set of no-longer necessary or even desirable hybrid arrangements. What remains to do now is to show how to integrate the modulatory and allocative functions practically in the design of one fully federalized system of digital finance—what I shall call, since we are a republic, “Citizen Finance.” That is the task of this Part.

What I shall sketch here is a system of Fed “Citizen” and “Resident” Wallets maintained on a single digitized national account book—a consolidated public ledger—to which will correspond public assets that will be generated by public investment along the lines indicated above. These will fall into three classes. One will be public Discount Window loans to both public and private sector lending institutions, which will take the place of much in the way of deposit liabilities currently owed by contemporary private sector commercial banks to the borrowers whose accounts they credit. Second will come issuances of the National Investment Council (NIC) mentioned above, along with other public investment institutions such as the Small Business Administration (SBA), all as more fully described below. And third will come other assets that the Fed or Treasury will hold and deal in in the interest of socially just credit allocation and stability-maintaining credit modulation, as I shall also describe below.

The implications of these changes for private sector banking, capital markets, and “shadow banks,” not to mention traditional distinctions between Fed and Treasury monetary and fiscal policy instruments and operations, will be extensive, as I shall show.²⁶⁵ But, what they will all have in common is one simple feature: private sector finance in all subsectors of our financial sector now will indeed be *private*, and hence veritably “intermediated” as orthodoxy now falsely describes. *Public* credit-money, for its part, which is *generated* rather

²⁶⁴ See *supra* nn. 1, 4, and 66 (offering arguments in support of the preceding conclusion).

²⁶⁵ In particular, *infra* Part IV.C.

than “intermediated,”²⁶⁶ will flow only toward publicly approved projects, meaning that public allocation will be forthrightly embraced and Fed/Treasury operations accordingly by and large consolidated as described in Part IV.C. below.

A. Liability Side: Reserve Accounts, Citizen Wallets, and Resident Wallets

Let us begin on the liability side of the present-day public sector balance sheet. On the liability side of a digitized national account ledger, which can constitute either the Fed’s balance sheet, the Treasury’s balance sheet, or a consolidated balance sheet comprising both,²⁶⁷ my proposal is quite simple. Indeed, it is surprisingly so because, once one sees just how simple it is, the wonder is that we have not done something like it since 1913 or, at latest, 1918 or 1933. Indeed, for some institutions, we *have* been doing it since then, as I will indicate in due course.

1. *What We Do Now: Reserve Accounts*

Begin with what we do now. All nationally and most state-chartered banks, including U.S. affiliates of foreign banks, hold Reserve Accounts with the Fed.²⁶⁸ It is through these accounts that the Fed manages its day-to-day bank reserve requirement and liquidity management regime, to which all banks chartered or operating in the United States are subject.²⁶⁹

²⁶⁶ See again *supra* Part I, and my work cited there.

²⁶⁷ Again, for reasons discussed *infra*, Part IV.C. In brief, the reason is that ending the franchise means narrowing, if not indeed closing, the traditional gap between fiscal and monetary policy.

²⁶⁸ See 12 U.S.C. § 342 (2012) (authorizing Federal Reserve accounts for Federal Reserve member banks). A limited number of other categories of entities are authorized to hold Federal Reserve Accounts. See, e.g., 12 U.S.C. § 391 (2012) (authorizing federal reserve accounts for the Treasury); 12 U.S.C. §§ 1435, 1452(d), 1723a(g) (2012) (authorizing federal reserve accounts for mortgage GSEs); 12 U.S.C. §§ 347d, 358 (2012) (authorizing federal reserve accounts for foreign governments, banks, and central banks); 12 U.S.C. § 286d (authorizing federal reserve accounts for BIS, IBRD, IMF); 12 U.S.C. § 5465 (2012) (authorizing federal reserve accounts for designated financial market utilities).

²⁶⁹ See *Reserve Maintenance Manual*, BD. OF GOVERNORS OF THE FED. RESERVE SYS. (Nov. 19, 2018), <https://www.federalreserve.gov/monetary-policy/reserve-maintenance-manual-account-structure.htm> [<https://perma.>

Bank reserve accounts with the Fed are essentially deposits, hence assets of the banks and liabilities of the Fed.²⁷⁰ The private sector banks stand to the public sector Fed, in other words, as ordinary citizens with demand deposits stand to their private sector banks.²⁷¹ The Fed in this sense truly is a “bank to the banks”—a *central* bank—and has been since its inception.²⁷²

Since the crash of 2008, the Fed has paid interest on bank reserve accounts held with it—so-called interest on reserves, or IOR.²⁷³ This is another respect in which Fed reserve accounts are like bank deposit accounts, save that the Fed pays much more than our banks do.²⁷⁴ It also confers upon Fed reserves a characteristic once limited to Treasury securities—IOR is effectively the coupon on a bond.

cc/PCG4-NCD8] (explaining daily maintenance of account relationship between depository institution and Federal Reserve banks).

²⁷⁰ See *Credit and Liquidity Program and the Balance Sheet*, BD. OF GOVERNORS OF THE FED. RESERVE SYS. (Dec. 27, 2018), https://www.federalreserve.gov/monetarypolicy/bst_fliabilities.htm [<https://perma.cc/73BZ-NM7Z>] [hereinafter *Balance Sheet*] (explaining the system of Federal Reserve liabilities and institutional deposits).

²⁷¹ See *How is the Federal Reserve System structured?* BD. OF GOVERNORS OF THE FED. RESERVE SYS. (Aug. 17, 2016), https://www.federalreserve.gov/faqs/about_12593.htm [<https://perma.cc/S72Q-TGMS>] (explaining the structure of the Federal Reserve System).

²⁷² See *Why does the Federal Reserve lend money to banks?* BD. OF GOVERNORS OF THE FED. RESERVE SYS. (June 17, 2011), https://www.federalreserve.gov/faqs/banking_12841.htm [<https://perma.cc/8249-CWUL>] (explaining why the federal reserve lends money to banks).

²⁷³ Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, § 128, 122 Stat. 3765, 3796 (2008) (authorizing the Federal Reserve to pay interest to depository institutions on the reserves they are required to hold against their deposit liability). IOR had been planned since 2006, to commence in 2011. The crash led Congress to bring up the target date in the name of emergency stabilization. See Peter N. Ireland, *Interest on Reserves: History and Rationale, Complications and Risks*, 39 CATO J. 327, 328 (2019). The crash led Congress to bring up the target date in the name of emergency stabilization. *Id.*

²⁷⁴ This is a source of sheer rent-extraction by banks; they ‘earn’ a premium on their accounts with the Fed, only a fraction of which they pass on to those holding deposits with them. See, e.g., *Is the Federal Reserve Giving Banks a \$12 Billion Subsidy?* THE ECONOMIST, Mar. 18, 2017, at 70 (exploring income received by banks from interest on reserves).

Interest on reserves affords the Fed a liability-side monetary policy tool supplementing its ample kit of asset side tools, and renders Fed reserves rather like coupon-bearing Treasury securities to their holders—one reason I will keep saying “Fed or Treasury” in what I elaborate immediately below, and suggest Fed/Treasury consolidation a bit further below.²⁷⁵ Other such tools include the federal funds rate the Fed sets in the interbank lending market, open market operations in Treasury securities and some other instruments, repo and reverse repo transactions on various forms of collateral, and of course discount rates that the Fed applies when purchasing eligible instruments through its asset-monetizing Discount Window.²⁷⁶

All of these tools, some of long standing and others more recently developed in the face of financial exigency,²⁷⁷ are means by

²⁷⁵ The interest on reserves is equivalent to the coupon on a bill or bond. See *The Discount Rate*, BD. OF GOVERNORS OF THE FED. RESERVE SYS. (Oct. 15, 2019), <https://www.federalreserve.gov/monetarypolicy/discountrate.htm> [<https://perma.cc/FLC3-Z5EY>] (explaining how interest rates are applied by the Fed to depository institutions). More on this *infra*, Part IV.C.

²⁷⁶ The Discount Window is the primary facility through which the Fed affords liquidity by directly or indirectly monetizing assets deemed both (a) worthy of monetization in the interest of maintaining systemic liquidity or encouraging specific industries or sectors of the national economy in need of solicitude, and (b) sufficiently safe as not to raise moral hazard concerns. See Federal Reserve Act, 12 U.S.C. § 347b (authorizing the Federal Reserve to use discount rates); see generally *Discount Window Lending*, BD. OF GOVERNORS OF THE FED. RESERVE SYS. (Sep. 30, 2019), <https://www.federalreserve.gov/regreform/discount-window.htm> [<https://perma.cc/T3BD-L4MF>] [hereinafter *Discount Window Lending*]; FEDERAL RESERVE SYSTEM PUBLICATION, THE FEDERAL RESERVE SYSTEM PURPOSES AND FUNCTIONS 35, 50, 104, (2016), https://www.federalreserve.gov/aboutthefed/files/pf_complete.pdf [<https://perma.cc/YEH5-6NKY>] (explaining how the federal reserve engages in monetary policymaking and monitors financial institutions).

²⁷⁷ The Fed actually *invented* the repo transaction, for example, over one hundred years ago as an incident of First World War finance. See Stephen Mihm, *The Repo Market is More than Mere Plumbing*, BLOOMBERG (Oct. 9, 2019, 6:00 AM), <https://www.bloomberg.com/opinion/articles/2019-10-09/the-repo-market-has-a-history-of-intrigue> (exploring history of the repo market and repo transactions). ‘Private’ participants in financial markets began mimicking the arrangement decades later. *Id.* More recently, yield-curve-bending via quantitative easing, and swap line arrangements with counterpart central banks, have been pioneered to address the difficulties occasioned by the 2008 crash and its aftermath. See *Public Actors*, *supra* note

which the Fed engages both in liquidity-maintenance and in what I have been calling its money-modulatory task in the name of our republic.²⁷⁸ Some of these tools also have been used in more recent times in pursuit of what I have been calling the credit-allocative task.²⁷⁹ A conspicuous case of the latter in recent years has been the third round of quantitative easing—QE3—initiated in the autumn of 2012.²⁸⁰ Through QE3, the Fed committed to purchasing \$85 billion in mortgage-related assets in order to establish and then raise a floor under housing prices, until such time as residential real estate markets would stabilize.²⁸¹ I will have more to say about the importance of this as a precedent below.

Now as noted a moment ago, some of the Fed's monetary policy instruments operate on the asset side of the balance sheet, while correspondingly affecting the liability side of that sheet.²⁸² Other instruments work in the other direction.²⁸³ Fed open market operations in Treasury securities, or in mortgage instruments pursuant to QE3, commence with a purchase of instruments into or sale of instruments out of the Fed's asset portfolio, to which correspond creditings or debiting of "primary dealer bank" reserve accounts on the liability

4, at 130–33 (examining the ways in which public actors intervene in private economics).

²⁷⁸ FEDERAL RESERVE SYSTEM PUBLICATION, *THE FEDERAL RESERVE SYSTEM PURPOSES AND FUNCTIONS* 35, 50, 104 (2016), https://www.federalreserve.gov/aboutthefed/files/pf_complete.pdf [<https://perma.cc/YEH5-6NKY>] [hereinafter *THE FEDERAL RESERVE SYSTEM PURPOSES AND FUNCTIONS*] (explaining how the federal reserve engages in monetary policymaking and monitoring financial institutions).

²⁷⁹ *Id.* (explaining how the federal reserve engages in monetary policymaking and monitoring financial institutions).

²⁸⁰ John Kandrak and Bernd Schlusche, *Quantitative Easing and Bank Risk Taking: Evidence from Lending*, in *FINANCE AND ECONOMICS DISCUSSION SERIES: 2017-125*, at 16 (Oct. 27, 2017), <https://www.federalreserve.gov/econres/feds/files/2017125pap.pdf> [<https://perma.cc/S86W-WST6>] (discussing the QE3 program initiated in 2012).

²⁸¹ The plan commenced in September, with a commitment to purchase \$40 billion per month. See *Federal Reserve Issues FOMC Statement*, BD. OF GOVERNORS OF THE FED. RESERVE SYS. (Dec. 12, 2012), <https://www.federalreserve.gov/newsevents/pressreleases/monetary20121212a.htm> [<https://perma.cc/8NU5-WAFR>] (outlining economic recovery plan). The quantum was raised to \$85 billion in December. *Id.*

²⁸² See *Balance Sheet*, *supra* note 251 (explaining the system of federal reserve liabilities and institutional deposits).

²⁸³ *Id.* (explaining the other instruments).

side of the Fed's balance sheet.²⁸⁴ Interest paid on reserve accounts held with the Fed, conversely, are immediate creditings of banks' deposits on the liability side of the Fed's balance sheet, which will be balanced by additions the Fed makes to its asset portfolio.²⁸⁵

As a general matter, the liability side of the Fed's balance sheet consists of (a) its note issuance, (b) the sum of reserve account moneys, and (c) repo and swap line liabilities to dealer banks and other central banks.²⁸⁶ The asset side, for its part, consists primarily of financial instruments the Fed holds in the form of Treasury securities, mortgage instruments, reverse repo claims, Special Drawing Rights (SDRs) with the International Monetary Fund (IMF), and accounts with the Bank for International Settlements (BIS).²⁸⁷

Needless to say, the Fed's is a very large balance sheet—especially since the crash of 2008 and its aftermath, which required significant Fed intervention to prop up both failing franchisee institutions and plummeting financial assets.²⁸⁸ To track this balance sheet's changes over time is essentially to track the Fed's operations as our republic's primary money-modulator and, ever more both of late and

²⁸⁴ THE FEDERAL RESERVE SYSTEM PURPOSES AND FUNCTIONS, *supra* note 259, at 21–22 (explaining the function and method of open market operations).

²⁸⁵ See *Balance Sheet*, *supra* note 251 (explaining the system of federal reserve liabilities and institutional deposits).

²⁸⁶ *Id.* (discussing the Federal Reserve's liabilities).

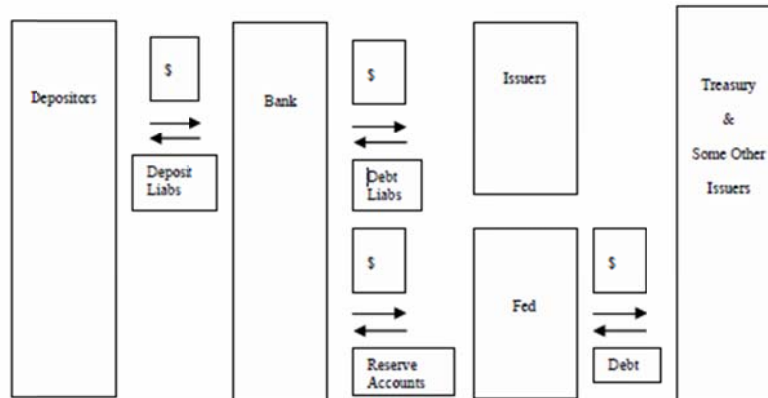
²⁸⁷ *International Summary Statistics: U.S. Reserve Assets (Table 3.12)*, BD. OF GOVERNORS OF THE FED. RESERVE SYS. (Oct. 25, 2019), <https://www.federalreserve.gov/data/intlsumm/current.htm> [<https://perma.cc/RHJ8-J23Z>] (showing U.S. reserve assets); *International Summary Statistics: Selected Foreign Official Assets Held at Federal Reserve Banks (Table 3.13)*, BD. OF GOVERNORS OF THE FED. RESERVE SYS. (Sep. 29, 2019), <https://www.federalreserve.gov/data/intlsumm/forassets20190930.htm> [<https://perma.cc/GL4M-VX68>] (showing selected foreign official assets held at federal reserve banks); *International Summary Statistics: Selected U.S. Liabilities to Foreign Official Institutions (Table 3.15)*, BD. OF GOVERNORS OF THE FED. RESERVE SYS. (Sep. 27, 2019), <https://www.federalreserve.gov/data/intlsumm/usliabforinst20190930.htm> [<https://perma.cc/HBL9-T5HS>] (showing selected U.S. liabilities to foreign official institutions).

²⁸⁸ See generally Robin Greenwood, Samuel G. Hanson & Jeremy C. Stein, *The Federal Reserve's Balance Sheet as a Financial-Stability Tool*, ECON. POL'Y SYMP. PROC. 335, 387 (2016) (indicating generally that the Fed has a large balance sheet: “[T]he Fed should keep a large balance sheet indefinitely going forward, even as rates rise well above the ZLB.”).

of necessity, credit-allocator.²⁸⁹ It is to track, in other words, an incipient form of a full citizens' account book or ledger.²⁹⁰

Diagrammatically, things presently look as depicted in *Figure 1*.

Figure 1: Regular Fed/Bank Arrangements & Financial Flows



One feature of the liability side of the Fed's balance sheet is of particular interest for present purposes. This is that apart from the note issuance, the liabilities in connection with which run to all holders of U.S. currency, the Fed's liabilities run solely to public instrumentalities and a privileged few private sector financial institutions—what I have been calling our finance franchisee institutions.²⁹¹ This fact, arresting once one thinks about it (why *Note* and *Treasury security* availability for all but not *Wallet* availability for all?), underwrites three lines of criticism easily directed at our present way of doing things, lines that converge with those I laid out in introducing this article. None of these criticisms would be warranted were the national or central bank ledger to be digitally opened to all citizens, qualified residents, and business firms in the way I shall momentarily be advocating, rather than merely a privileged few banking and other financial institutions of large size.

First, the present arrangement needlessly privileges large, systemically important financial institutions, affording them a form of

²⁸⁹ *Id.* at 339 (“When the Fed maintains a larger balance sheet, it effectively takes over a part of the traditional debt management role from the Treasury, along with the associated fiscal risk.”).

²⁹⁰ *See id.*

²⁹¹ *See Balance Sheet, supra* note 251 (explaining the system of Federal Reserve liabilities and institutional deposits).

“public banking option” not offered to other firms, local governments, citizens, or legal residents.²⁹² It also affords those institutions a gratuitous rent in the form of IOR, which they do not pass on to depositors in the form of equivalent IOD—interest on deposits.²⁹³ This is strikingly inequitable, particularly under circumstances in which “the government” often looks to be in bed with “Wall Street” or “high finance,” all while significant sectors of the American population are unbanked or underbanked, hence commercially and financially disenfranchised.²⁹⁴ Call these the financial-commercial inequity and exclusion problems.

Second, the present arrangement enables large franchisee institutions to spend or dispense public credit with abandon, particularly when Fed leadership, as it did during the Alan Greenspan era, loses understanding of its modulatory and associated allocative and quality control responsibilities as our primary franchise administrator.²⁹⁵ That fuels financial market volatility, asset price bubbles, and catastrophic busts, not to mention an associated egregious misalloca-

²⁹² 12 U.S.C. § 461(b)(1)(A) (2019) (allowing only “depository institutions” to hold accounts at the reserve: excluding individuals, governments, companies, etc.).

²⁹³ Note that what makes this rent possible is citizens’ need of transaction accounts irrespective of whether they be ‘paid’ by someone for the privilege of maintaining and using them. This need could readily be supplied by the public free of charge, as it is to large banking institutions not only free of charge, but with a ‘bonus’ in the form of IOR. See *Rousseauvian Money supra* note 66, at 33 (“Financial Institutions and markets now spring up as ‘middle men’ to enable these surplus and deficit units to find one another, overcoming ‘search,’ ‘monitoring’ and ‘maturity-matching’ costs in so doing. [Banks] broker (or contractually substitute for) contracts between parties for the use of ‘scarce capital’ at a price be that price ‘interest,’”); see also Ann Saphir, *Yellen Draws Fire for Fed Policy to Pay Banks*, REUTERS (Feb. 10, 2016), <https://www.reuters.com/article/usa-fed-yellen-politics/yellen-draws-fire-for-fed-policy-to-pay-banks-idUSL2N15P1Z7> [<https://perma.cc/ZJV4-B3WX>] (indicating that the Fed provides interest to banks).

²⁹⁴ See Catherine Martin Christopher, *Mobile Banking: The Answer for the Unbanked in America*, 65 CATH. U. L. REV. 221, 223 (2015) (stating that of the adult population of the United States, 10% are unbanked and 17% are underbanked).

²⁹⁵ This is one thrust of *Finance Franchise, supra* note 1, at 1214 (“The underlying cause of this failure is continuing public accommodation of private credit-generation . . . without effective public “quality control” over franchisees’ performance of their delegated responsibilities.”).

tion—a *counterproductive* allocation—of the nation’s credit supply.²⁹⁶ I call this the “rogue franchisee problem.” It is especially galling in juxtaposition with the financial-commercial inequity and exclusion problems just noted.²⁹⁷

Finally, third, conducting monetary policy—that is, money-modulation and credit-allocation—through intermediaries, as using the medium of dealer banks amounts to, is an inefficient and leak-prone mode of operation. Part of the idea behind both quantitative easing and other extraordinary measures taken by the Fed and Treasury alike in our name from 2008 to 2012, for example, was to pump liquidity into our financial system by enabling banks to keep lending even in the face and aftermath of the 2008 credit crunch.²⁹⁸ There were three glitches, however, that impeded the efficacy of money-modulation and -allocation via private intermediary during times of crisis.

The first glitch was that many banks preferred simply to hoard their additional liquidity while fearfully riding out the continuing storm.²⁹⁹ The second was that other banks found it more promisingly lucrative to speculate with their additional liquidity on secondary and tertiary financial, commodities, and derivative markets than to lend to would-be producers and consumers in primary markets, especially in the absence of any commitment to aggregate demand support or debt-cancellation by federal authorities.³⁰⁰ And the third was that many

²⁹⁶ *Id.* (indicating that bubbles are possible as a result of ineffective quality control).

²⁹⁷ See Christopher, *supra* note 275, at 224 (referring to the population of un- and underbanked Americans)

²⁹⁸ See, e.g., *Money’s Past*, *supra* note 3, at 11 (“In the midst of recession or liquidity trap, for example, our central bank will no longer need to supply cheap money to private banks and then hope they will lend it to ordinary citizens so as to prime the consumer spending pump.”).

²⁹⁹ See, e.g., Daniel Alpert, Robert C. Hockett, & Nouriel Roubini, *The Way Forward*, NEW AMERICA FOUNDATION (Oct. 10, 2011), <https://www.newamerica.org/economic-growth/policy-papers/the-way-forward/> [<https://perma.cc/279V-XLXT>] (stating that the private sector “hoard[s] liquidity in the face of uncertainty over future investment prospects”).

³⁰⁰ See e.g., Robert C. Hockett & Richard Vague, *Debt, Deflation, and Debacle*, FEDERAL RESERVE BANK OF PHILADELPHIA (Apr. 9, 2013), <https://www.interdependence.org/wp-content/uploads/2013/04/Debt-Deflation-and-Debacle-RV-and-RH1.pdf> [<https://perma.cc/9ZFH-V6VK>] (discussing how consumers are in debt and the need, and implied absence, of, debt forgiveness for private debt); see also *National Investment Authority*,

citizens, left owing more than they owned in the debt-deflationary aftermath of the national housing and financial market crashes, were not keen to borrow more during the protracted slump anyway.³⁰¹

These problems all added up to what came to be known as the “pushing on a string” problem, the insight essentially being that supply side solutions are not well adapted to addressing demand side disasters.³⁰² In response, many critics argued that monetary policy alone does not suffice to address crises, particularly in a liquidity trap.³⁰³ Fiscal measures also were needed.³⁰⁴ I agree with that criticism, but note also that the weaknesses of monetary policy observed during 2009–2012 are more rooted in *franchised* monetary policy than in monetary policy as such. This paper’s insourcing and digital national ledger proposal shows why—in effect, to take out the middleman institutions is to narrow the space between fiscal and monetary policy, potentially even to the point of consolidating them. But more of that in due course, specifically IV.C. below.

2. *What We Must Add: Citizen Wallets, Resident Wallets, and Their Common Ledger*

I find all three of the foregoing criticisms of our present Reserve Account arrangements compelling, and see no downside to cutting the ground out from under them with one single stroke. That is simply to offer *all* citizens, along with state and local governments, small businesses, and other nonbanking firms too, digital wallet accounts with the Fed or the Treasury much like the Reserve Accounts

supra note 4, at 490 (indicating that speculative, secondary markets have abundant capital compared to primary markets).

³⁰¹ Hockett & Vague, *supra* note 281 (indicating that student debt was the only type of debt to increase in the period after the Great Recession).

³⁰² *National Investment Authority*, *supra* note 4, at 438 (implying that solutions require changes to policy, indirectly indicating that supply/demand solutions do not work); *see also* Alpert, Hockett, & Roubini, *supra* note 280 (inferring that supply-side solutions are inadequate). You can lead a horse to water, we might say, but you can’t make him drink when he’s not thirsty and will have, in any case, to pay the water back with interest.

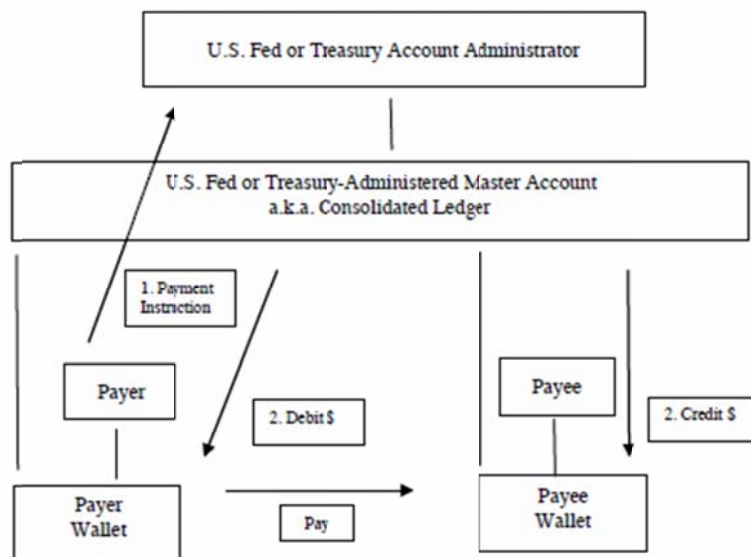
³⁰³ *Public Actors*, *supra* note 4, at 133–34 (describing the importance of liquidity).

³⁰⁴ *Private Wealth*, *supra* note 4, at 449 (“Traditional fiscal and monetary policy instruments—sometimes supplemented by other actions like wage-price freezes, minimum wage laws, or finance-regulatory measures—can be used to provide for at least some stability in connection with some SIPIs.”).

privileged banks have enjoyed with the Fed now for well over a century.³⁰⁵

In effect, parties depicted on the far left side of *Figure 1* would “bank,” instead of with the private sector institutions depicted immediately to their right, with the Fed or Treasury one step to the right of those institutions in the same diagram. Wallets would also enjoy peer-to-peer (“P2P”) interoperability just as do paper currency and bank-issued strip-cards and chip-cards, meaning that wallet-holders would transact with one another simply through simultaneous debiting of payor and crediting of payee wallets. In other words, ignoring for the moment Fed and Treasury assets and looking only to the liability sides of their balance sheets, the primary national money and payments system, instead of being built upon transaction accounts held at multiple banking institutions, payment cards associated with the same, and the plethora of now proliferating “Venmo”s, “PayPals,” “ApplePay”s and the like, would be instantly streamlined into looking as depicted in *Figure 2*.

Figure 2: U.S. Fed- or Treasury-Administered Digital Dollar Payments System



³⁰⁵ See 12 U.S.C. § 461(b)(1)(A) (2019) (allowing only “depository institutions” to hold accounts at the reserve: excluding individuals, governments, companies, etc.). On why “Fed or Treasury,” see *infra*, Part III.C.2.

In short, the “Master Account” depicted here would simply be one of the liability portfolios on the liability side of the Fed’s or Treasury’s balance sheet—the portfolio to which the Depositors at the left of *Figure 1* would now directly connect rather than only indirectly connecting via the medium of private sector banking institutions as depicted immediately to their right in that same diagram. Payments *inter se* would simply be simultaneous creditings and debitings within that portfolio, effectively replicating, in more direct and consolidated form, what we now do indirectly via the medium of private sector bank accounts (bank liabilities) balanced against reserve accounts (bank assets) held with the Fed. (I pay you by instructing my bank to debit my account held with it and simultaneously credit you via your account at your bank, with these changes to banks’ accounts then registering in their accounts on the liability side of the Fed balance sheet.)

In effect, then, this portfolio on the liability side of the Fed or Treasury’s balance sheet will constitute a single, uniform national payment ledger and associate system of digital wallets. In this sense, it will amount to a return to ledger money of the kind that Part II above indicated societies and smaller groups historically have maintained before growing too large and complex to maintain comprehensive account books on paper yet too technologically underdeveloped to digitize and thus avoid circulating uniformly valuable public IOUs as public ledger-entry substitutes. It will also amount to a form of digital sovereign-issued cash, as all digital wallet dollars will be direct issuances of the Fed or Treasury. There will be no more “bank money” here other than literal “Fed money” or “Treasury money.”

This in turn will offer not only the benefit of banking and commercial inclusion and a simplified, far more efficient payments architecture than our present one has become, but will also bring multiple advantages where transaction volume and thus economic growth, monetary policy, productive national investment, and financial stability are concerned. We will get to all of that, in addition to anticipated objections about privacy, “Big Brother,” and so on. But first we must fill-out a bit more in the way of mechanical and logistical detail.

Now I referred to “offering” digital wallets before. This can take either or both of two forms. One form would be to make wallets available to all and only those who might ask. The other form would be to open such wallets automatically, with beneficiaries free at any time to activate or not as they prefer. Probably the most sensible option will be to open the wallets automatically upon birth or naturalization for individuals born in or recently become citizens of the United States, and to offer such wallets upon request to states, local govern-

ments, businesses and other institutions, and resident aliens who do not pose security threats.

I call wallet accounts of the first kind Citizen Wallets, which can be credited automatically with federal benefits that citizens regularly receive such as Social Security payments, tax refunds, and the like.³⁰⁶ This will simplify the task of federal payments to—that is, crediting of—citizens. Citizen Wallets also can receive “baby bond” or sovereign wealth fund proceeds,³⁰⁷ if and when we at some point adopt such things, not to mention earnings on NIC investments, more on which presently. And, of course, Citizen Wallets can and should earn interest, just as bank reserve accounts held with the Fed and as U.S. Treasury securities do.³⁰⁸ These rates, along with direct “QE for the People” or “helicopter drop” measures in extremis, can then serve as Fed or Treasury monetary policy instruments far more direct and effective in their operation than can our current set of intermediary-dependent “string-pushing” tools.³⁰⁹ I’ll return to this too when I turn

³⁰⁶ See *Money’s Past*, *supra* note 3, at 10 (suggesting “[a]ll citizens will be able to maintain what I call ‘Citizen Wallets’ with the Fed”); see also Darylanda Bogle, *What Day of the Month Do I Get my Social Security Payment?*, SOCIAL SECURITY MATTERS (June 6, 2019), <https://blog.ssa.gov/what-day-of-the-month-do-i-get-my-social-security-payment/> [<https://perma.cc/RG6T-KS23>] (describing the systems through which Social Security benefits, based partially on birth dates but also including other considerations).

³⁰⁷ See *Alaska Permanent Fund*, INT’L FORUM OF SOVEREIGN WEALTH FUNDS, <https://www.ifswf.org/members/usa> [<https://perma.cc/W24U-E3EV>] (discussing the creation of Alaska Permanent Fund “as a way to save a portion of the state’s oil revenues for the needs of future generations”).

³⁰⁸ See *Reserve Maintenance Manual*, BD. OF GOVERNORS OF THE FED. RES., (Nov. 19, 2018) <https://www.federalreserve.gov/monetarypolicy/reserve-maintenance-manual-account-structure.htm> [<https://perma.cc/3R9F-FR44>] (stating inter alia that “[i]f an institution is not required to maintain balances to satisfy a reserve requirement, it may still establish a master account with a Reserve Bank and earn interest on reserve balances at the interest rate paid on excess balances, provided the institution is eligible to receive interest payments”).

³⁰⁹ For more on ‘QE for the People’ and ‘Helicopter Money’ proposals, see, e.g., Anatole Kaletsky, *How About Quantitative Easing for the People?*, REUTERS (Aug. 1, 2012), <http://blogs.reuters.com/anatole-kaletsky/2012/08/01/how-about-quantitative-easing-for-the-people/> [<https://perma.cc/3ERH-JPZ2>] (suggesting that “[g]iving away free money may sound too good to be true or wildly irresponsible, but it is exactly what the Fed[eral Reserve] and the BoE [Bank of England] have been doing for bond traders and bankers since 2009. Directing QE to the general public would not only be much fairer

to a systematic tracing of the systemic ramifications that will flow out of full implementation my full proposal.

I call accounts of the second kind Resident Wallets, which beneficiaries can use as ordinary deposit accounts and which the Fed or Treasury also can use, like Citizen Wallets, for monetary policy purposes. For most if not all intents and purposes, Resident Wallets will function identically to Citizen Wallets. The principal differences will be (a) that they are opened on request rather than automatically upon birth or attainment to citizenship; and (b) that they close out more frequently, at least in the case of some short-lived business enterprises and other institutions.

One additional difference might be (c) that “QE for the People” or “Citizen Helicopter Drop” measures, should they at any point be taken, probably ought to be either restricted to Citizen Wallets, or restricted to Citizen Wallets and the Resident Wallets only of (a) state and local governments and (b) such private sector entities as can verifiably commit to spending the proceeds of drops on real goods and services rather than speculative securities or derivative instruments.³¹⁰

Affording digital Fed or Treasury wallets to all in the way here proposed will visit several immediate effects on the liability sides of the Fed’s and other banks’ balance sheets.³¹¹ It will of course also bear corresponding implications for the asset sides of these balance sheets, and for the regulatory apparatus through which banks and other financial institutions and markets are regulated. And, of course, it will raise various systemic, logistical, technological, and related questions that will have to be addressed before or during the course of implementation. None of these, however, are especially thorny or difficult, as I shall now show.

but also much more effective”); Martin Wolf, *The Case for Helicopter Money*, FINANCIAL TIMES (Feb. 12, 2013), <https://www.ft.com/content/9bcf0eea-6f98-11e2-b906-00144feab49a> (“But the view that it is never right to respond to a financial crisis with monetary financing of a consciously expanded fiscal deficit—helicopter money, in brief—is wrong. It simply has to be in the tool kit.”). The ‘helicopter’ colloquialism originates with Milton Friedman. Milton Friedman, *The Role of Monetary Policy*, 58 AM. ECON. REV. 1 (1968). Keynes used the metaphor of burying money in bottles a bit over 30 years earlier. JOHN MAYNARD KEYNES, *THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY* (1936).

³¹⁰ See Kaletsky, *supra* note 290 (discussing “QE for the People”).

³¹¹ Cf. *Balance Sheet*, *supra* note 251 (describing the Federal Reserve’s Balance Sheets).

To begin with the liability side, the Fed or Treasury's balance sheet will quickly begin to expand, as some—probably many—citizens and other residents switch from holding barely remunerated funds with privately owned banking institutions, money market funds, and other bank deposit substitutes to holding interest-bearing wallets with the Fed or Treasury.³¹² This they will do in virtue both of the rates earned on Wallet savings and of the immediate free access to the economy-wide, universal payments platform that the system of Wallets will constitute. Banks, in turn, as their deposit bases shrink, will replace customer deposits with Discount Window loans from the Fed or counterpart loans from the Treasury, which will be the new and sole “choke point(s)” through which the public sector allows for any private sector role in “gate-keeping,” “credit-checking,” or “project-evaluating” assistance in the productive channeling of public credit, more on which immediately below.

These changes will convert many, probably most bank deposit and deposit-like liabilities now owed to depositors and other “near-depositors” into bank liabilities owed to the Fed through its Discount Window or to the Treasury through a similar facility, as depositors and near-depositors transfer funds, first gradually and then at a likely accelerating rate, from one set of accounts to the other.³¹³ It will of course correspondingly grow the Fed's or the Treasury's asset portfolio, for these new Discount Window loans will be Fed or Treasury assets.³¹⁴ I will have more to say about this new class of Fed- or Treasury-held asset—especially its money-modulatory and credit-allocative potential—below.

The asset sides of private bank balance sheets need not immediately change all that much in response to the opening of Fed Citizen and Resident Wallets—at least not if we do not wish for them to change either too much or too rapidly. Current portfolios can be left to

³¹² Cf. Jeff Cox, *Powell Says the Fed Will Start Expanding its Balance Sheet 'Soon' in Response to Funding Issues*, CNBC, (Oct. 8, 2019), <https://www.cnbc.com/2019/10/08/powell-says-the-fed-will-start-expanding-its-balance-sheet-soon.html> [<https://perma.cc/D6EA-YMMQ>].

³¹³ By “near-depositors,” I mean holders of “near-monies” pursuant to short-term lending arrangements of the kind constituting the so-called shadow-banking sector. This sector too is now part of our franchise arrangement. *Finance Franchise*, *supra* note 14, at 1175 (describing the shadow banking sector as necessary for credit-money proliferation and “with lending volumes rivaling those of the traditional banking sector”).

³¹⁴ See *Discount Window Lending*, *supra* note 257 (explaining the relationship between Discount Windows loans as credits to banks and as assets for the Fed).

wind-down in due course, per the maturities of the assets that are already held. All that will change quickly is the identity of the creditor on a newly large portion of the banks' liabilities that replaces a correspondingly diminishing portion of banks' liabilities. That new creditor will be the Fed or the Treasury, pursuant to the Discount Window or like lending just mentioned.³¹⁵ This affords a benefit to banking institutions: neither the Fed nor the Treasury is subject to the depositor collective action problem—nor, therefore, apt to “run” on the banks that will now owe it, meaning in turn that banks' required reserve and paid deposit insurance obligations will in aggregate be significantly lightened if not eliminated.³¹⁶

Indeed, deposit insurance will become a significantly less prominent, if not indeed unnecessary, part of our bank-regulatory toolkit, meaning in turn that the Federal Deposit Insurance Corporation (FDIC) will diminish in importance relative to the Fed and/or Treasury if we retain it at all.³¹⁷ This in turn will mean that the task of capital regulation, which historically has fallen primarily to the FDIC on the theory that it must protect the public insurance fund, continues and completes its already ongoing migration to Fed administration in the name of enhanced macroprudential regulation under Title I of the Dodd-Frank Act.³¹⁸ In effect, as more fully described below in Part IV.C, all private sector lending not funded by Fed or Treasury Discount Window lending will be subject to a 100% capital requirement—that is, it will be bona fide credit-intermediation rather than credit-multiplication or -generation.³¹⁹ It will be, that's to say, “narrow banking” of various kinds.³²⁰ As this transition proceeds, no administrative difficulties of any great significance need be posed; capital-regulatory staff now at the FDIC will simply become *de facto* or *de jure* staff at the Fed or Treasury, and will transition from imposing

³¹⁵ *Id.* (emphasizing the Fed acting as a creditor when it issues loans through the Discount Window).

³¹⁶ See again *Recursive Collective Action Problems*, *supra* note 259; and *Finance Franchise*, *supra* note 14, at 1195 (detailing increasing deposit insurance as a by-product of the U.S. government's full faith and credit behind banks' deposit liabilities for *individual* investors).

³¹⁷ *Id.* at 1157 (listing the Fed and the Department of Treasury as the two more prominent regulators in the banking industry).

³¹⁸ See *Macroprudential Turn*, *supra* note 4, at 246 (highlighting the historical and current position of the FDIC as the primary regulator).

³¹⁹ See again *supra* Part I, and *infra* Part IV.C for more on these distinctions and their significance.

³²⁰ *Id.* Also *infra* Part VII, on narrow banking.

traditional “capital buffers” to developing and administering Discount Window lending conditionality, as I shall describe next.

If and insofar as we permit private sector banks to continue to lend in ways that find expression in the form of newly opened deposits, the latter will have to be deposits into Citizen and Resident Wallets, meaning in turn that the banks will have to borrow through the Fed Discount Window or a Treasury equivalent—for example, the Federal Financing Bank—going forward.³²¹ This presents a welcome opportunity to the public for purposes of money-modulation and credit-allocation—an opportunity that lies at the core, and is indeed part of the object, of Citizen Finance. For the Fed already conditions Discount Window lending upon the possession of socially desirable attributes on the part of that which it lends against, such that converting all levered private sector lending to Discount Window lending will be to convert all such lending to explicitly publicly evaluated and approved lending.³²²

The Fed or the Treasury will in other words now *add* conditions that *further* their evolving credit-modulatory and -allocative mission—much as the Federal Housing Administration (FHA) and associated GSEs have historically limited their insurance provision and secondary market making activities, respectively, to so-called “conforming” loans whose criteria evolve over time.³²³ Among such investment attributes that seem incontestably desirable will be those associated with the financing of small and start-up businesses, bona fide small family farms, employee-owned firms, non-outsourcing firms, renewable energy and other eco-friendly firms, and the like—all of the things that collective action challenges and other market failures of the kind discussed earlier in Part III prevent our adequately financing now.

³²¹ See Richard A. Werner, *Can Banks Individually Create Money Out of Nothing?—The Theories and the Empirical Evidence*, 36 INT’L REV. FIN. ANALYSIS 1, 3 (2014) (explaining one-way banks lend credit is “in the form of what bankers call ‘deposits’ and this credit is money”).

³²² See *Discount Window Lending*, *supra* note 257 (“Primary credit is a lending program available to depository institutions in generally sound financial condition.”).

³²³ See *Republican Home-Owning*, *supra* note 29, at 15 (“FHA still operates today, guaranteeing and, in many cases, originating or refinancing mortgage loans that conform to the prudent standards that it maintains (so-called ‘conforming’ mortgage loans).”); *Jeffersonian Republic*, *supra* note 29, at 148–152 (comparing the similarities between the FHA and the GSE, Sallie Mae, in terms of loan requirements and limitations).

As noted above and further discussed below, classic collective action challenges now prevent adequate capital flows from reaching such enterprises and enabling them to scale-up. Citizen Finance is all about changing that, and the Fed's or Treasury's asset portfolio will be the site of that action. This form of financial democratization will be the asset side counterpart to that liability side democratization which is the system of Citizen and Resident Wallets. In effect, then, the Fed Discount Window or a Treasury equivalent will become the forthrightly public sector "gatekeeper's"—that is, credit-allocator's—"gate," and thus the focal point at which limiting private sector lending activity solely to healthy forms of primary market, not speculative secondary and tertiary market, credit-extension takes place.

It will, in other words, become the site of a new Glass-Steagall regime far more fine-tuned and effective than the first, to say nothing of weaker Glass-Steagall successors like the Volcker Rule or Liikanen style "ring-fencing."³²⁴ For now, instead of simply imposing one vaguely contoured categorical proscription ("no investment banking," or "no proprietary trading") and saying "have at it" for all else, we shall be laying down specific affirmative criteria and saying "nothing apart from this." Changing the presumption in this way, and thus in effect conditioning public credit extension on "conformity" of the "conforming loan" type that we require for FHA mortgage insurance, will convert the entirety of the public portion of our financial system into an engine of simultaneous primary market growth and secondary/tertiary market reduction, as I shall systematically indicate below.³²⁵ And that is to say it will reverse and undo the past 50 years' course of "financialization."³²⁶

In sum, then, most FDIC personnel now employed administering our present-day capital-regulatory regime, and many OCC personnel or their state bank equivalents now employed administering our portfolio-regulatory regime, will accordingly be transitioned to administering a newly enhanced Discount Window conditionality regime. By conditioning their own asset purchases in this way, crucially, the Fed or Treasury will be governing bank *asset*-creation as well. And in so doing they will be publicly assuming the task of credit allocation upon which both credit modulation and sustainable econo-

³²⁴ For more on these regulatory segregation strategies and their significance, see *Macprudential Turn*, *supra* note 17.

³²⁵ See again *infra*, Part IV.C.

³²⁶ *Id.*

mic growth depend. This takes us to a more careful look at the Fed's or Treasury's asset portfolio changes under my proposal.

B. Asset Side: NIC, SBA, PSF, and Other Public Issuances

The asset side of the public sector balance sheet, in some contrast to those of private bank balance sheets, will undergo significant changes over time with the offering of Citizen and Resident Wallets. Once again, I will first say a bit about what we do now, then turn to what should and will change in a regime of full Citizen Finance.

1. What We Do Now: Treasury Debt, Agency Debt, & (Sometimes) Other

Prior to the troubles of 2008, the Federal Reserve System's principal asset holdings consisted of Treasury securities of varying maturities, agency securities also of varying maturities, and miscellaneous other assets with dollar values that paled in comparison to those of the first two categories.³²⁷ Among the latter were gold certificates, SDRs with the IMF, and various small loans and similar assets acquired in the course of affording liquidity to financial institutions in need of it.³²⁸ Matters are similar post-2008, save that the two prior categories have grown much in magnitude, while several new categories also have been added.³²⁹

The prior categories that have expanded since 2008 include (a) longer-term Treasury instruments, taken on both to accommodate fiscal stimulus spending and, pursuant to QE1 and QE2, to afford

³²⁷ FED. RES. SYS., 94TH ANNUAL REPORT (2007), <https://www.federalreserve.gov/boarddocs/rptcongress/annual07/sec6/c3.htm> [<https://perma.cc/23GB-QAC5>] (listing U.S. government securities as \$745,629 million out of the Federal Reserve Bank's total asset value of \$915,129 million in 2007).

³²⁸ *See Id.* (reporting the Federal Reserve Banks' gold certificates and Special Drawing Rights making up 1.2% and 0.2% of total assets in 2007).

³²⁹ *See* FED. RES. SYS., FEDERAL RESERVE BANK'S COMBINED FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017 AND INDEPENDENT AUDITORS' REPORT 1, 3 (2019), <https://www.federalreserve.gov/aboutthefed/files/combinedfinstmt2018.pdf> [<https://perma.cc/SR49-ZFLZ>] [hereinafter FED. RES. FINANCIAL STATEMENTS] (reporting the Federal Reserve Banks' gold certificates and Special Drawing Rights being valued at \$11,037 million and \$5,200 million out of a total of \$4,057,880 million assets in 2018).

“forward guidance” on future interest rates; and (b) mortgage-related agency and non-agency securities, purchased pursuant to QE3 as noted earlier.³³⁰ These categories continue to represent by far the greater part of Fed asset holdings, with the only changes from pre-2008 being first, the absolute quantities held, which are much larger than before, and second, the greater portion of mortgage instruments now represented by private issuances.³³¹

A more qualitative than quantitative change to the Fed’s asset portfolio since 2008 has come with the addition of new classes of asset corresponding to emergency measures the Fed took from 2008 onward to address domestic and foreign liquidity and solvency dangers associated with the crash and its aftermath.³³² These include, among other things, (a) swap lines provided to other central banks worldwide, and (b) a number of Discount Window lending programs and other ad hoc facilities to prop up banking, insurance, money market funds, and other financial institutions, including “shadow banks,” imperiled after 2008.³³³

The quantitative growth of and qualitative changes to the Fed’s asset portfolio were not worthy of the term “radical,” at least in any pejorative sense, even if they were admittedly important and, if what I propose is adopted, precedent-setting.³³⁴ They were straightforward extensions of familiar Fed operations into new magnitudes or domains, undertaken to prevent a complete collapse of the nation’s and

³³⁰ *Id.* (valuing the 2018 mortgage-backed securities at \$1,683,532 million, and the amount of long-term treasury securities lent before 2017 at \$2,249,307 million, out of a total of \$4,057,880 million assets).

³³¹ *Id.* at 3 (reporting Fed’s 2018 total assets as \$4,057,880, including \$2,302,462 in Treasury Securities and \$1,683,532 in mortgage-backed securities).

³³² See Michael J. Fleming & Nicholas Klagge, *The Federal Reserve’s Foreign Exchange Swap Lines*, 16 CURRENT ISSUES IN ECON. AND FIN. 4, at 1 (Apr. 2010), https://www.newyorkfed.org/medialibrary/media/research/current_issues/ci16-4.pdf [<https://perma.cc/U522-CK8J>] (“[T]he Fed[] . . . established the Term Auction Facility (TAF) to provide funding to U.S. banks . . . [and] swap lines . . . [to] reduc[e] funding pressures on [central banks] . . .”).

³³³ FED. RES. FINANCIAL STATEMENTS, *supra* note 305, at 10, 12, 18 (describing Fed’s “liquidity swap lines,” “Discount Window borrowing privileges,” and “reverse repurchase agreements”).

³³⁴ See Stephen D. Williamson, *The Balance Sheet and the Future of Fed Policy*, 25 OPEN ECON. REV. 163, 163–64 (2014) (“The Fed’s balance sheet has changed in important ways—both in size and composition—from what existed before the financial crisis.”).

world's financial systems.³³⁵ Though controversial in some cases, they came over time to be accepted as necessary, even if only as necessary evils by some, tolerated on the understanding that they would be temporary.³³⁶ This is why we continue, at regular intervals, to hear talk of winding-down the Fed's balance sheet.³³⁷ Thus far, however, the winding-down has yet to occur in any serious sense, with each move in that direction quickly met by "taper tantrums" in the financial markets and obliging Fed postponement of the offload.³³⁸

In my view, the Fed's inability to shrink its portfolio since 2008, like the federal government's now decade-long receivership of Fannie Mae,³³⁹ signals a "new normal" where public maintenance of financial and, with it, macroeconomic stability are concerned.³⁴⁰ The fact of the matter is that, at least unless and until certain underlying structural conditions of our decentralized exchange economy can

³³⁵ See Allen N. Berger et al., *Bank Loan Supply Responses to Federal Reserve Emergency Liquidity Facilities*, J. FIN. INTERMEDIATION, Oct. 2017, at 2-3 ("[T]o address the stigma associated with the Discount Window, the Fed[] . . . began the Term Auction Facility . . . [and] [c]ollateral eligibility and valuation procedures for the TAF were the same as for the Discount Window."). See also Fleming & Klagge, *supra* note 308, at 3 ("The Fed's establishment of swap lines with other central banks was not unprecedented.").

³³⁶ See James McBride & Andrew Chatzky, *The Role of the U.S. Federal Reserve*, COUNCIL ON FOREIGN REL. (June 20, 2019), <https://www.cfr.org/backgrounder/role-us-federal-reserve> [https://perma.cc/N39R-8G7L] ("Though many economists argued that additional monetary easing doesn't help . . . many also considered QE to have been largely successful in staving off the worst effect of financial turmoil.").

³³⁷ See Trevor Hunnicutt, *Fed Announces Plan to End Balance Sheet Runoff in September*, REUTERS (Mar. 20, 2019, 5:21 PM), <https://www.reuters.com/article/us-usa-fed-balancesheet-idUSKCN1R12QA> [https://perma.cc/2LPK-H3ZZ] ("[The Fed's] current practice . . . allow[s] up to \$50 billion of Treasuries and mortgage-backed securities . . . to roll of its balance sheet each month . . .").

³³⁸ See *id.* ("The Fed[] . . . unveiled a long-awaited plan to stop scaling back the vast portfolio of bonds it built up."); McBride & Chatzky, *supra* note 312 ("While markets have remained strong, some analysts worry that the reversal of the Fed's expansionary policy could cause a repeat of the 2013 'taper tantrum' . . .").

³³⁹ See *Republican Home-Owning*, *supra* note 29 ("Ten years after failing and being rescued by our federal government . . . Fannie Mae . . . remain[s] in federal receivership.").

³⁴⁰ See Williamson, *supra* note 310, at 166 ("There's a sense now in which, at the margin, the size of the balance sheet does not matter.").

change—in particular, any such economy’s subjection to recursive collective action challenges and cognate market failures of the kind discussed above in Part III—the public’s asset portfolio will have not only to remain as large as it has become since 2008, but indeed even to grow *further* in proportion to GDP.³⁴¹ It might indeed ultimately have to constitute at least two-thirds of the full national portfolio, as I noted Keynes to have predicted above. What will change first in the coming years, then, is the portfolio’s composition, as we transition from *ad hoc* emergency measures to longer-term public investment and price stability maintenance measures.³⁴² And what will change subsequently is the portfolio’s size. To the rough details of these changes I now turn.

2. *What We Must Add: NIC Issuances, SBA Issuances, PSF Holdings, & Other*

Changes to the asset side of the Fed’s or Treasury’s balance sheet under my proposal will emanate from two sources. The first source will be some of the liability side changes described above. The second will be certain structural changes that we as a polity must make to our infrastructural and other productive finance arrangements in order to address the concerns I have laid out above and in prior work.³⁴³

There are two liability-side sources of likely change to the Fed’s or Treasury’s asset portfolio. Both will stem from the addition of Citizen and Resident Wallets to that side of the balance sheet.

First, the assets corresponding to many present-day *shadow* bank liabilities—in effect, short term loans—that the Fed or Treasury

³⁴¹ See Andrew Foerster & Sylvain Leduc, *Why is the Fed’s Balance Sheet Still So Big?*, FED. RES. BANK OF S.F.: ECONOMIC LETTERS (June 3, 2019) (“The amount of currency in circulation has grown so much that it is not possible to shrink the balance sheet to its earlier size.”).

³⁴² See Loretta J. Mester, President & Chief Exec. Officer, Fed. Res. Bank of Cleveland, *The Economic Outlook, Monetary Policy, and Normal Policymaking Now and in the Future*, Address Before Money Marketeters of New York University, Inc. (Oct. 25, 2018), <https://www.clevelandfed.org/newsroom-and-events/speeches/sp-20181025-economic-outlook-monetary-policy-and-normal-policymaking-now-and-in-the-future> [<https://perma.cc/4NQW-WJ8P>] (“[A] relatively large balance sheet . . . might . . . generate requests for the Fed to aid other industries or use the balance sheet to fund government initiatives.”).

³⁴³ See *supra* Part II (discussing circumstances causing public/private hybridity); *supra* nn. 1, 6, 60, 75 (suggesting structural changes now that functional reasons for private-public franchising have receded).

will effectively take over in paying IOR are at present substantially, if not indeed almost exclusively, speculative in character.³⁴⁴ The institutions that now issue short-term shadow bank-like liabilities do so specifically to secure cheap funding to gamble on price movements among favored longer-term assets, and succeed in so doing by offering low returns to “cash managers” that at least exceed rates on bank deposits.³⁴⁵ The Fed and Treasury have no interest—pun ratified if not quite intended—in gambling on price changes among these assets with the short-term borrowings that their offering Citizen and Resident Wallets will equate to.³⁴⁶ Indeed, they have every reason to edge-out and end such gambling much as Treasury Greenbacks edged out private sector bank monies in the late 19th century as described above, by affording interest-bearing Wallet-deposits of the kind sought by the cash-management departments of shadow-bank lenders without using the proceeds of that short-term borrowing to gamble.³⁴⁷

The Fed or Treasury is accordingly apt, as in fact we should require, to pair new deposit liabilities that it takes over from the shadow-banking sector with safer assets associated with productive primary market activity and the infrastructures on which such activity depends rather than speculative secondary and tertiary market assets of the kind shadow bank borrowing funds now.³⁴⁸ Prominent among these will be NIC, SBA, and public bank issuances, as well as what I call “systemically significant” issuances, of the kinds I reprise briefly below and describe in detail elsewhere.³⁴⁹

³⁴⁴ See Laura E. Kodres, *What is Shadow Banking?*, FIN. & DEV., June 2013, at 42–43 (“Shadow banks . . . raise . . . short-term funds in the money markets and use those funds to buy assets with longer-term maturities.”).

³⁴⁵ See *Finance Franchise*, *supra* note 14, at 1175–93 (“[S]ecuritization . . . functions to lever up the bank-generated credit-money supply.”).

³⁴⁶ See 12 U.S.C. § 225a (2012) (commanding the Fed to promote stable prices).

³⁴⁷ See *Finance Franchise*, *supra* note 14, at 1175–93 (discussing “[t]he Fed’s post-crisis efforts to limit risk-taking by tri-party repo clearing banks”).

³⁴⁸ See *Lending to Depository Institutions*, FED. RES. BD. (Aug. 13, 2019), https://www.federalreserve.gov/monetarypolicy/bst_lendingdepository.htm [<http://perma.cc/4P2S-VTGK>] (“The Federal Reserve generally accepts as collateral for Discount Window loans any assets that meet regulatory standards for sound asset quality . . . includ[ing] most performing loans and most investment-grade securities.”).

³⁴⁹ *National Investment Authority*, *supra* note 4, at 439–43 (proposing a National Investment Authority which would offer a “new ‘safe’ asset class”).

In this sense, the Fed's or Treasury's replacement of the banking and shadow banking sectors where deposit-taking and account-managing are concerned—their bringing these currently outsourced franchisee functions back “in-house”—will be a critical component of that reassertion of the public franchisor's role in our republic's money-modulation and credit-allocation tasks which I have been describing and prescribing both in the present paper and in earlier work.³⁵⁰ And it will essentially complement that Discount Window conditionality I mentioned above.

The second liability-side reason that the Fed's or Treasury's asset portfolio will change over time dovetails with the first. It is that, over a yet longer period of time, a growing portion of Fed or Treasury deposit liabilities will not simply be transferred from current private sector bank and shadow bank balance sheets, but will be Fed or Treasury liabilities from the get-go as citizens, residents and firms (a) borrow from institutions that credit their Citizen or Resident Wallets with loan proceeds, and (b) move to directly depositing, or directing the direct depositing of, funds from other persons and entities that transfer money to them, be those transfers payments or benefits, into their Citizen and Resident Wallets.

The Fed or Treasury will presumably retain some discretion to determine what new assets to set off against some of these growing deposit liabilities—the ones to which no Discount Window loans to private lending institutions correspond.³⁵¹ But this discretion must be legislatively guided in significant part toward investment in assets associated with the enhanced modulatory and allocative tasks that I have elsewhere advocated and in Parts III and IV have reprised. This means that many of the new assets will be issuances of the NIC or SBA, more on which below, while others will be acquired pursuant to

³⁵⁰ *Finance Franchise*, *supra* note 14; *National Investment Authority*, *supra* note 4, at 488 (“Keeping the investment management function in-house along the lines of the RFC model, on the other hand, would enhance the NIC's legitimacy as a capable market actor acting solely in the public interest. Once the NIC's internal asset-management and credit-allocation capabilities increase and mature, however, it might be less problematic to hire specialized private financial firms to manage some specialized asset portfolios.”); *Public Actors*, *supra* note 4.

³⁵¹ *National Investment Authority*, *supra* note 4, at 747.

Fed engagement in what I call “SIPI Stabilization,” again both in prior work and below.³⁵²

It will be helpful here briefly to recount these NIC, SBA, and PSF proposals, which I have developed at greater length elsewhere, since they will afford ideal assets to add to the Fed’s or Treasury’s asset portfolios as liabilities associated with Citizen and Resident Wallets grow.

Starting with the NIC, the idea here is quite simple. On the one hand, much needed public infrastructure and even industrial investment is in the nature of an orthodox public good—it offers returns that are not capturable by individual investors thanks to their comparatively brief lifespans and lack of taxing authority. This in turn renders it individually rational to over-invest in speculative bets on short term price movements in secondary and tertiary markets, and correspondingly to under-invest in long-term improvements in infrastructure and primary market productivity improvements.³⁵³

Since this is in turn collectively irrational inasmuch as it depresses long-term productivity improvement and associated benefits that everyone would choose could they control the macro environment and capture benefits commensurate to desired investment, we are faced with a classic collective action problem much like those that prompted the nation to establish the WFC in 1917 and the RFC in 1932 as noted above.³⁵⁴ Constituted by the heads of federal departments with jurisdiction over national infrastructures—e.g., the Department of Energy,

³⁵² See, e.g., *Open Labor*, *supra* note 29, at 1 (“The public agents in question work at the Federal Reserve Bank of New York in lower Manhattan. There they conduct familiar Fed open market operations—what I shall also call ‘OMO.’”); Robert C. Hockett, *How to Make QE More Helpful—By Fed Shorting of Commodities*, BENZINGA (Oct. 14, 2011, 8:41 PM), <https://www.benzinga.com/news/11/10/1988109/how-to-make-qe-more-helpful-by-fed-shorting-of-commodities> [<https://perma.cc/HC7G-XZGP>] [hereinafter *How to Make QE More Helpful*] (“Monetary policy conducted by open market operations in Treasuries is meant to stabilize prices—usually consumer prices.”); see also *Public Actors*, *supra* note 4, at 130 (“Perhaps the most familiar example of such routine market-moving in modern financial markets is that of the so-called open market operations (OMO) in which central banks or monetary authorities purchase or sell government debt securities.”).

³⁵³ See FINANCING THE GREEN NEW DEAL, *supra* note 17; Robert Hockett, *Finance without Financiers*, *supra* note 14; *National Investment Authority*, *supra* note 17.

³⁵⁴ See sources cited *id.* See also *Recursive Collective Action Problems*, *supra* note 259.

the Federal Communications Commission, the Department of Transportation, etc.—the NIC will coordinate in developing coherent national infrastructure and industrial policy across sectors, regions, and the public and private sectors much as the Financial Stability Oversight Council (“FSOC”) does in developing and implementing finance-regulatory policy across subsectors of our complex and hybrid financial sector.³⁵⁵

Most importantly for present purposes, the NIC will, in collaboration with the Fed and Treasury or their consolidated successor, issue multiple classes of financial instrument in connection with specific infrastructure projects.³⁵⁶ It will thereby offer investment outlets to “patient capital” now unable to find yields in productive as distinguished from speculative investments, counteract inflationary pressures otherwise generated by public infrastructure spending, and capitalize on markets’ “price discovery” functions in determining the likely successes and public benefits thrown off by sundry prospective investments.³⁵⁷

A complementary role that the NIC will play is to coordinated with, and provide support for, certain other instrumentalities at all levels of government that themselves work to assist in capitalizing small businesses, small family farms, start-up firms, and the like. Prominent among these are the SBA and certain state and local development institutions. The SBA is particularly important in the present context because it both (a) has specialized in aiding small businesses for decades, and (b) was in fact a subsidiary of the RFC itself until the latter was wound down in the late 1940s.³⁵⁸ Depending on what form the NIC ultimately takes, it will likely make sense to bring the SBA “back” into its “family,” along with such other still-functioning former RFC-subidiaries as aforementioned Fannie Mae and the Export-Import Bank.³⁵⁹

Similarly, if and as state and local governments develop infrastructure plans and local business support institutions, including public

³⁵⁵ See FINANCING THE GREEN NEW DEAL, *supra* note 17; *Finance without Financiers*, *supra* note 14; *How to Make QE More Helpful*, *supra* note 352. On a possible “consolidated successor” to the Fed and Treasury, see *infra* Part IV.C.

³⁵⁶ See sources cited *id.*

³⁵⁷ *Id.*

³⁵⁸ See sources cited *supra* note 2. See also FINANCING THE GREEN NEW DEAL, *supra* note 17; *Finance without Financiers*, *supra* note 14

³⁵⁹ *Id.*

banks patterned after the Bank of North Dakota model,³⁶⁰ the NIC will serve in both a coordinating and a supporting role. Importantly for present purposes, that can mean either or both (a) direct investment in such efforts themselves through the purchase of state government, local government, public bank and small business issuances, and (b) “screening” of the latter on behalf of the Fed or Treasury, which than can purchase such issuances directly for the asset side of the balance sheet.³⁶¹

The U.S. has a much richer past and even present with these forms of public sector capital allocation in support of socially desirable sectors of the economy than most people seem to realize, perhaps because large, dominant firms draw most of our attention but require no aid in attracting capital, while smaller firms, start-up firms, and other firms with desirable attributes—e.g., employee-owned firms, “green” eco-friendly firms, urban and rural “enterprise zone” firms, non-“outsourcing” firms, and the like—that escape our attention do often require, and receive, such assistance.³⁶² The NIC will significantly expand, systematize, and publicly report on such operations in the cause of making a grand, democratically determined *national project* of inclusive republican investment and capital allocation. It will, in short, serve as a primary agent of our republic’s meaningful democratization of the financing of genuinely productive and socially desirable enterprise and infrastructure.³⁶³

The Price Stabilization Fund (“PSF”), or what I also call the “People’s Portfolio,” will complement the efforts just rehearsed as a secondary market complement to the NIC, SBA, and public investment institutions’ primary market roles—rather as Fannie Mae was originally founded in 1938 as a secondary market complement to the 1934 FHA’s primary market role in democratizing home-ownership.³⁶⁴ But it will also have a significance all its own.³⁶⁵

The idea here, too, is once again simple and straightforward. It is that more than just interest rates and housing prices are systemically important and thus in need of public “open market operations” con-

³⁶⁰ See FINANCING THE GREEN NEW DEAL, *supra* note 17; *Finance without Financiers*, *supra* note 14.

³⁶¹ *Id.*

³⁶² *Id.* See also REPUBLIC OF OWNERS, *supra* note 1.

³⁶³ See sources cited *supra* note 355.

³⁶⁴ Cf. *Republican Home-Owning*, *supra* note 43.

³⁶⁵ See FINANCING THE GREEN NEW DEAL, *supra* note 17; *Finance without Financiers*, *supra* note 14.

ducted with a view to keeping them within reasonably narrow bands over time to assure overall macroeconomic stability and predictable investment horizons.³⁶⁶ Many food, fuel, and other commodity prices are similarly influential on economic activity across the board.³⁶⁷ Indeed, so are prevailing wages and salaries.³⁶⁸ That is why our public instrumentalities have frequently made use not only of New York Fed Treasury purchases and sales, but also of the Strategic Petroleum Reserve, the Department of Agriculture, and other agencies to stabilize critical prices in the past.³⁶⁹

A PSF, administered by the Fed, Treasury, or NIC, will accordingly conduct open market operations in the markets in question with a view to “collaring” their swings just as we collar borrowing (“interest”) and mortgage rate swings now and have collared other swings in the past.³⁷⁰ In effect, it will amount to a public fund counterpart to the market portfolio, through which the public will modulate price-swings within certain systemically important markets that are every bit as significant as are the “systemically important financial institutions,” or “SIFIs,” that we have recognized to be in need of “enhanced prudential regulation” since the passage of Dodd-Frank.³⁷¹

The key point for present purposes is that NIC and PSF issuances will be ideal candidates for new assets that the Fed or Treasury will have to hold on the asset side of the balance sheet to associate with some of the new liabilities, in the form of new Citizen and Resident Wallet deposits, that will be tracked on the liability side of the balance sheet.³⁷² In effect, the Fed or Treasury will then stand as the intermediating link between the nation’s savers and investors (liability side) on the one hand, and its stable and steady wealth and productivity growth (asset side) on the other hand, all while the liability side of the balance sheet serves also as a single public payments

³⁶⁶ *Id.*

³⁶⁷ See FINANCING THE GREEN NEW DEAL, *supra* note 17; *Finance without Financiers*, *supra* note 14; *How to Make QE More Helpful*, *supra* note 352.

³⁶⁸ *Id.* See also *Open Labor Market Operations*, *supra* note 352.

³⁶⁹ *Id.*

³⁷⁰ *Id.*

³⁷¹ *Id.*

³⁷² FINANCING THE GREEN NEW DEAL, *supra* note 17, at 35–37 (elaborating NIC issuances in greater detail); *National Investment Authority*, *supra* note 4, at 471–72 (discussing similar new asset classes).

ledger on which all payment transactions, commercial and financial, take place.³⁷³

This will be fully digitally integrated, fully public, and purely productive and stable, as distinguished from speculative and volatile (secondary and tertiary price-gambling) finance.³⁷⁴ It will amount to full public recognition, and counterpart action on the basis of that recognition, that (a) in a “commercial society” or “exchange economy” such as our own, a payments platform and associated system of digital wallets and digital currency is an essential public infrastructure, and (b) that finance being rooted in money in any such society, with money in turn being no more and no less than “that which pays” and “that which counts” in a system of payments and value-accounting, any such *platform* will be the core of the nation’s *financial* system as well—as indeed today’s banking and payments system constitutes the core of *its* financial system.³⁷⁵

As noted earlier, private finance will continue under the Citizen Finance reform I here advocate, but it will no longer be readily fueled by or supplied with our republic’s public full faith and credit.³⁷⁶ The public credit prerequisite for endogenous private sector “money creation” will no longer be liberally “outsourced” to private sector gate-keepers, credit-checkers, and project-evaluators, but instead limited to strict public sector Discount Window conditionality.³⁷⁷ Private sector finance will, for its part, in effect be made to conform to its own oft-repeated false claims of itself—namely, that it is all a matter of

³⁷³ *Finance Franchise*, *supra* note 1, at 1143–44 (stating that an intermediating link “stands between the lender and the borrower” and matches “checking account deposits” with “commercial loans”).

³⁷⁴ FINANCING THE GREEN NEW DEAL, *supra* note 17, at 34–35 (elaborating NIC’s capital-absorption functions in greater detail); *National Investment Authority*, *supra* note 4, at 441 (“[T]he NIA will diffuse potentially destabilizing demand for privately-issued substitutes and channel it into non-speculative, longer-term productive investments.”).

³⁷⁵ FINANCING THE GREEN NEW DEAL, *supra* note 17, at 37–39 (elaborating NIC’s relations to Fed and Treasury in greater detail); *National Investment Authority*, *supra* note 4, at 456 (“Functionally situated between the Treasury and the Fed, the NIA will serve as a separate institutional base from which to conduct a more cohesive and targeted allocation of patient public and private capital toward specific economic activities likely to facilitate and enhance inclusive and sustainable long-term growth on the part of the national economy.”).

³⁷⁶ *Finance Franchise*, *supra* note 1, at 1167 (“[P]ublic full faith and credit serves to underwrite putatively private finance in the capital markets.”).

³⁷⁷ See *Finance without Financiers*, *supra* note 14 (discussing the public credit).

intermediating between private suppliers and end-users of “scarce capital.”³⁷⁸ Private lending and other forms of finance will, in other words, be made to conform to the intermediated scarce private capital story, channeling antecedently accumulated finance capital from accumulators to users in “one-to-one,” rather than “one-to-many” or “none-to-many” fashion as described in Part I.

Private sector banking will thus become much more like narrow banking, funded by actual private sector deposits that are not themselves bank loans.³⁷⁹ Credit-generative banking—dependent as it is upon the monetized full faith and credit of us, the sovereign public that constitutes our republic—will for its part be reserved to (a) our public instrumentalities, and (b) private banks able to secure Fed or Treasury Discount Window lending, through strict conformity with the earlier mentioned conditionality, in connection with any loans they originate.³⁸⁰

The less proximate, more distant ramifications of these changes will be much more far-reaching than might at first meet the eye. For one thing, the entirety of the nominally private sector side of our financial system will change as the public sector by and large withdraws from it, converting it to being *truly private* sector rather than *mixed* public-private—that is, franchised—finance. For another thing, the public sector side of our financial system will change as well, as many commonly drawn distinctions to which we have grown accustomed over the past 160 years but have not recognized to be outgrowths of franchising itself—distinctions, e.g., between Fed functions and Treasury functions, between monetary policy and fiscal policy, and even between dollar bills (Fed notes), sovereign securities (Treasury paper), and metallic coins (Mint tokens), diminish to near the vanishing point. To those I now turn.

C. Systemic Ramifications: Private Sector Transformation, Public Sector Consolidation

As just noted, the transition to full Citizens’ Finance will bear farther reaching consequences that might not be immediately appreciated. It will accordingly be helpful briefly to catalogue the more

³⁷⁸ *Id.* at 9 (“[O]ur *entire* financial system is a site of monetized public credit dissemination.”).

³⁷⁹ *Id.* See also *infra* Part VI.

³⁸⁰ *Id.*

important among them, starting with the nominally private sector side of things, then turning to the forthrightly public sector side.

*I. Private Money: From Credit-Generation & -
Multiplication to Honest Intermediation*

In earlier work I have traced the flow of monetized public full faith and credit throughout the financial system—from the Fed, the Treasury, and the commercial banking core to the farthest reaches of our capital, money, and shadow banking markets.³⁸¹ That is what mapping the franchise consists in. Since what I propose here is meant to replace that hybrid financial system with a system in which public credit-money originates from and flows primarily if not exclusively through public institutions while only genuinely pre-accumulated, “private money” flows through private sector institutions, the best way to trace the impact of Citizens’ Finance on “private” sector finance might be to proceed in the same order that I follow in that earlier franchise-expository work. I shall do that now, systematically indicating what private sector finance will come to look like as the finance franchisor—that is, our republic—withdraws from the franchise and brings our republic’s own public credit-money operations back “in house.”

Beginning with the banking core, then, the Fed or Treasury—whichever administers the digital Wallets saving and payments architecture and holds assets offsetting those liabilities—will now channel monetized public full faith and credit primarily through the public sector NIC and PSF as described above. It will channel any such “public money” through private sector banking institutions only insofar as the latter originate productive (primary market), not speculative (secondary or tertiary market) loans that conform to strict Discount Window lending criteria. Earnings—privatized seignorage—on such lending will thus essentially be simply the spreads between interest charged on private sector bank-originated loans and interest paid on Discount Window loans.

Because demonstrably productive planned projects will be eligible for NIC and other forms of direct public financing, private rates on bank-originated loans meeting the Discount Window criteria are unlikely to become usurious—there will, in effect, be “public options” with which private sector lenders will be competing. But it is also always possible to regulate spreads, and of course to lower both discount rates and the rates paid on Wallet savings, in the event that

³⁸¹ See *supra* Part I, and sources cited *supra* note 14.

private sector rates do come to seem to be discouraging productive investment.

Private sector bank lending that *doesn't conform* to Discount Window conditionality, for its part, will have to be fully funded by private sector loans stemming from pre-accumulated private sector money—be these loans short-term “deposits,” medium-term certificates of deposit (CDs), or the like—that the banks are able to attract. They will be, in other words, “narrow bank” loans of the kind advocated by “100% money” and, to a lesser extent, “40% money” advocates of the stripe that I noted in introducing this article and discuss more fully below in Part VII. The banks that extend credit on this (pre-accumulated) basis—that is, on the basis of so-called “base money”—will in that sense at long last conform to the one-to-one intermediation tale that they tell of themselves, and hence effectively function as today’s lending companies or money market funds function.³⁸²

Turning from the banking core to the capital market near-periphery as Part I above and my earlier work does,³⁸³ commercial bank lending for the purpose of purchasing firm-issued equities or other securities, and investment bank margin lending for the same, will no longer be possible.³⁸⁴ For these loans, used as they are to fund secondary or tertiary market purchases, will not be eligible for Discount Window lending and, therefore, public sector credit allocation outsourced to private sector franchisee institutions.³⁸⁵ Rather, they will have to be funded, “one-to-one,” again as any narrow bank, mutual fund, or lending company’s investments are funded.³⁸⁶ That is, again, with antecedently accumulated private sector “loanable funds.”³⁸⁷

The same now will hold true of securitization and repo markets as well, at least in their capacities as recipients of monetized

³⁸² See *Finance without Financiers*, *supra* note 14, at 3–4, 5–6 (elaborating what the author calls the “(one-to-one) credit-intermediation” and “(one-to-many) credit-multiplication” models of financial flows, and the role played by “base money” in the latter).

³⁸³ See, e.g., *id.* at 12–17.

³⁸⁴ *Id.* (elaborating how bank-extended credit fuels purchases of firm-issued securities on the capital markets).

³⁸⁵ *Id.*

³⁸⁶ See again *Finance without Financiers*, *supra* note 14, at 3–4, 5–6 (elaborating what the author calls the “(one-to-one) credit-intermediation” and “(one-to-many) credit-multiplication” models of financial flows).

³⁸⁷ *Id.* at 9–10 (explaining the “loanable funds” misconception and its connection to the “(one-to-one) credit-intermediation” picture of financial flows).

public full faith and credit.³⁸⁸ Banks will not be able to offload loans “originated to distribute” onto securitization trusts in order to amplify lending and thereby disseminate ever more public credit.³⁸⁹ For again, all lending now will be either fully privately funded lending or Discount Window-conforming lending. And, the latter will be almost exclusively “buy and hold” lending since the usual justifications for “originate to distribute” lending—viz., liquidity needs and associated “cost of capital” minimization—will, as I now will explain, no longer be applicable.³⁹⁰

On the latter justification for origination to distribute, it cannot be emphasized enough that the usual benign-sounding justifications given for allowing loan sales on secondary markets and the “origination to distribute” into which that always degenerates—the need for liquidity and the capacity thereby to “lower the cost of credit”—simply will no longer be applicable. For liquidity-availability and the “cost of capital” are, crucially, *public policy variables*, variables that must be democratically determined in any democratic commercial republic such as our own. And they are variables that, under the reforms mapped above, now will be directly and transparently—hence again, democratically—controlled by the public’s own Fed or Treasury, rather than merely indirectly, opaquely, and ineffectively “influenced” through (seemingly always lax) liquidity and capital regulation of private sector financial institutions.³⁹¹

This is just one, albeit very important, sense in which arguments commonly made in order to justify either tightening or loosening regulatory requirements will simply no longer be pertinent under the republican Citizens’ Finance arrangements I am proposing. For all such justifications stem from our current system of Hybrid Finance. That is, they stem from the fact that credit-money availability is on the one hand a republican policy variable, while the means of *varying* that variable presently make use of private sector institutions—that is, are “franchised out.”³⁹²

³⁸⁸ *Id.* at 15–19 (describing the functions and operations of the securitization and repo markets, as well as the “originate to distribute” model of credit-extension that securitization encourages); *Finance Franchise*, *supra* note 14, at 1175–83 (same).

³⁸⁹ *Id.*

³⁹⁰ *Id.*

³⁹¹ See *supra* Part I, rehearsing the nature of our public/private system of finance and the role of regulations as “franchise contract terms” therein.

³⁹² *Id.*

End the franchise and bring public credit-money modulation and allocation fully back “in house,” and you remove the indispensable factual predicate of literally all such discussions. “Financial regulation” then divides and reduces to public finance policy on the one hand, corresponding to public sector credit-money generation, modulation, and allocation; and anti-fraud/consumer protection law on the other hand, corresponding to regulated private sector intermediation.³⁹³

Turning now to private sector repo, this will become smaller-scale and reduce to “one-to-one” intermediation as well.³⁹⁴ For returns on Citizen and Resident Wallets will eliminate most if not all incentive for cash-managers to lend in the repo markets.³⁹⁵ And the practice of rehypothecating repo collateral, which presently renders repo market practice something akin to credit-multiplying fractional reserve banking, will be prohibited per the “one-to-one” credit-intermediation principle to which all private sector financial institutions now will be required to conform.³⁹⁶

Once again the usual justifications given for what we do now—putative liquidity and short term funding needs, the satisfaction of which “lowers the cost of capital”—simply will not be applicable. For again, liquidity and the cost of capital are policy variables that now will be handled directly by the public, not indirectly through “incentives” offered by the public sector franchisor to private sector franchisees. Repo will accordingly return to being what it was when the Fed invented it in 1917—a convenient form of bona fide short-term credit-intermediation, instead of indefinitely extended private sector credit-amplification.³⁹⁷

Turning next to derivatives markets and clearing houses, the primary source of public credit here has in the past been the *ex post* rescue of failing such markets when they have grown “systemically important,” and now includes additional *ex ante* assurances (and some

³⁹³ *Id.* See also *Finance without Financiers*, *supra* note 14, at 2–9 (laying out and comparing the credit-intermediation, -multiplication, and -generation models of financial flows).

³⁹⁴ *Finance without Financiers*, *supra* note 14, at 17–19 (laying out the mechanics of repo transactions); and 2–9 (laying out and comparing the credit-intermediation, -multiplication, and -generation models of financial flows).

³⁹⁵ *Id.*

³⁹⁶ *Id.*

³⁹⁷ *Id.* See also *infra* Part VII, for more on the history of the Fed-invented repo markets.

accompanying regulation) pursuant to the Dodd-Frank reforms.³⁹⁸ There are two reasons that this outlet of public support will largely if not fully close under the Citizen Finance proposals outlined above. First, public credit use is the primary enabler of private sector financial institutions' and markets' growing systemically important in the first place. Cutting off that public credit channel as my proposals do in the ways just described—viz., prohibiting bank lending with public credit-money to secondary and tertiary market speculators—accordingly cuts off the source of systemic importance itself.

The only “SIFIs” left under my reforms, in other words, are our republic’s public sector FIs that preside over the “[financial] system” itself—our republic’s *franchisor* institutions. Second, should this somehow not suffice to derivatives markets from becoming systemically important, simply reinstating the “insurable interest doctrine” in derivatives markets will eliminate any remaining vestige of pure gambling in derivatives just as ending the rehypothecation of repo collateral as described above does in repo.³⁹⁹ For these are the modes by which “one-to-one” credit intermediation balloons into “one-to-many” credit multiplication in these two spheres.⁴⁰⁰

Finally, coming full circle back to commercial paper (CP) and money market funds (MMFs) as my “franchise”-tracing work elsewhere does,⁴⁰¹ eliminating the practice of margin lending to funds that *purchase* paper in the commercial paper markets, along the lines described just above in connection with the *capital* markets, will immediately leave public credit only one channel into CP markets. Again, that will be Discount Window lending, which as noted above amounts simply to the public’s directly determining the conditions of its own credit-extending and associated monetization, i.e., swapping of public IOUs for private IOUs.

³⁹⁸ *Finance without Financiers*, *supra* note 14, at 19–21 (describing the operations of the derivatives markets and clearing houses); *Finance Franchise*, *supra* note 14, at 1183–88 (same).

³⁹⁹ *Id.*

⁴⁰⁰ *Id.*

⁴⁰¹ *Finance without Financiers*, *supra* note 14, at 21–24 (describing the operations of the commercial paper markets and money market funds); *Finance Franchise*, *supra* note 14, at 1188–93 (same).

2. *Public Money: From Fed & Treasury, Fiscal & Monetary, and T-Bill, Fed Note & Mint Coin Separation to Digital Consolidation*

Perhaps most surprising of all to those who do not often think of these matters will be the implications of Citizen Finance for traditional distinctions familiar to public finance. We are accustomed to most modern polities' having both treasuries or fiscal authorities on the one hand, and central banks or monetary authorities on the other hand. We are also accustomed to characterizing instrumentalities of the first kind as being engaged in forthrightly allocative "fiscal" policy on the one hand, and instrumentalities of the second kind as being engaged in putatively separable "monetary" policy on the other hand. And finally, some also are used to thinking of fiscal policy's making use of interest-bearing treasury or exchequer paper (sovereign bonds, bills, etc.) on the one hand, and of monetary policy's being concerned more with non-interest-bearing central bank notes (currency) on the other hand.

What we do not tend to think about, I suspect, is how all of these distinctions are rooted in finance-franchising itself, such that to back away from the franchise is to diminish the distinctions. The reason for, and nature of, the link are quite clear when one thinks on the matter: the whole *point* of the franchise arrangement is to delegate credit allocation primarily to private sector financial institutions, while consigning whatever public allocation we wish to engage in to our democratically accountable fiscal authorities. We then confer what we mistakenly think to be separable modulatory functions on monetary authorities, and expressly insulate them from democratic decision-making precisely in order to preserve what Part II called a "temporal uniformity" on the part of the value of public currencies.

But this means that once we grow skeptical of (a) modulation's practical separability from allocation, (b) private sector institutions' superiority as allocators to public sector institutions, and thus (c) the utility of attempting to distinguish between "neutral" monetary policy and forthrightly "winner-" and "loser-picking" fiscal policy at all, we effectively grow skeptical of the ultimate rationale for franchising itself, as well as for separating central banking from treasury operations and currency from sovereign debt. Something we might have begun to suspect once, say, Fed Reserve accounts began paying IOR and thus became functional equivalents of Treasury securities⁴⁰²—namely, that Fed and Treasury might not be necessarily different at all—then begins

⁴⁰² See again *supra* Part IV.A.

looking to be possibly confirmed. Likewise suspicions that grow when we notice the Fed is prohibited from *directly* purchasing Treasurys from Treasury on the one hand, while *routinely* purchasing Treasurys from “dealer banks” that are effectively required to purchase whatever the Treasury issues on the other hand.⁴⁰³

The whole business of allocation/modulation, fiscal/monetary, Treasury/Fed separation then begins to look like an odd sort of sham—a “Noble Lie,” perhaps, that we all tell ourselves so as to dodge the responsibility of deciding, together and democratically, how we shall spend our own money. *This “Noble Lie” is the foundation of finance-franchising.* It’s why we do it. Yet the litany of dysfunctions with which I introduced this article indicates that this lie might not be so noble. It might be no more than a destructive and opportunity-squandering self-deception.

As the foregoing Parts of this paper and other work indicates, there is no reason to think fragmented private sector institutions, unable to capture the benefits of public goods provision, unable to control macro-economies, and unable even to plan, let alone coordinate across, vast stretches of national geographical space or of time, are the best allocators of capital to productive primary market or infrastructural uses.⁴⁰⁴ To the contrary, agents who act in the name of our spatially and temporally extended republic as a whole are the only ones suited to that task, while spatially fragmented and temporally ephemeral private sector actors will nearly always find there is more to be gained by gambling on short-term price-swings in bubble-inflating secondary and tertiary financial and derivative markets than by investing “patiently” in productive primary and infrastructural markets.⁴⁰⁵

⁴⁰³ By law, the Fed may not purchase Treasury paper directly from the Treasury, but only on “the open market.” See 12 U.S.C.A. § 14. The Fed accordingly simply purchases Treasurys from “primary dealer” banks that maintain “an established trading relationship” with the Federal Reserve Bank of New York on the one hand, the U.S. Treasury on the other hand. See Federal Reserve Board, “FAQ: Why Doesn’t the Federal Reserve Just Buy Treasury Securities Directly from the U.S. Treasury,” available at https://www.federalreserve.gov/faqs/money_12851.htm. The “established relationship” in each case is such that primary dealers step-in as counterparties when either Fed or Treasury wish to purchase or sell newly issued or previously issued Treasurys. In effect, the primary dealer banks serve as permanent funnels between Fed and Treasury.

⁴⁰⁴ See, e.g., *Finance without Financiers*, *supra* note 14; FINANCING THE GREEN NEW DEAL, *supra* note 17; *National Investment Authority*, *supra* note 17.

⁴⁰⁵ *Id.*

That is precisely the secret of, and the reason behind, the malady known as “financialization,” which I define as the growth of secondary and tertiary market transaction volume, or “churn,” relative to primary market capitalization.⁴⁰⁶ Hence it is also the key to the steady erosion of the industrial and infrastructural base of our productive economy, of our middle class, and hence of our commercial republic itself.⁴⁰⁷ It is time, then, to work a separation—private money for private uses, public money for public uses. And this *separation* is in effect the *consolidation* of traditional fiscal and monetary policy, of traditional fiscal and monetary instruments, and of traditional Treasury and Fed operations. This is one of the reasons that I have repeatedly used the locution “Fed or Treasury” above, and continue to use it below. It is because I do not believe that our franchise arrangement either can or will endure for much longer, or that any meaningful Fed/Treasury distinction can long outlast it.

The consolidated digital ledger I laid out above, then, and the associated Democratic Digital Dollar that I discuss in more detail below, amount in a way to the natural monetary outgrowth of this form of fiscal and monetary, Fed and Treasury, T-Bill and Fed Note consolidation. Indeed, they are its transparent accounting and institutional expression. They elide both the Fed Note and Treasury Paper distinction as discussed above, and the present-day “token”/“account” distinction that I treat of below. They similarly elide the distinction between Fed-issued “currency” and Mint- (hence Treasury-) issued “coin.”

What is going to matter in future is our productive commercial republic’s digital value-storage, -transfer, and -accounting platform—our republic’s full digital ledger—along with the Democratic Digital Dollar that will be its unit of account. That Digital Dollar and the interest-bearing Citizen and Resident Wallets that will be credited and debited “in” Digital Dollars will be simultaneously currency and coin, token and account, monetary and fiscal policy instrument, . . . in short, Fed *or* Treasury liability.

Against that digital backdrop, in which “all that [was once monetarily or fiscally] solid melts into air,”⁴⁰⁸ what difference does it make whether we call our commercial and financial platform the

⁴⁰⁶ *Finance without Financiers*, *supra* note 14.

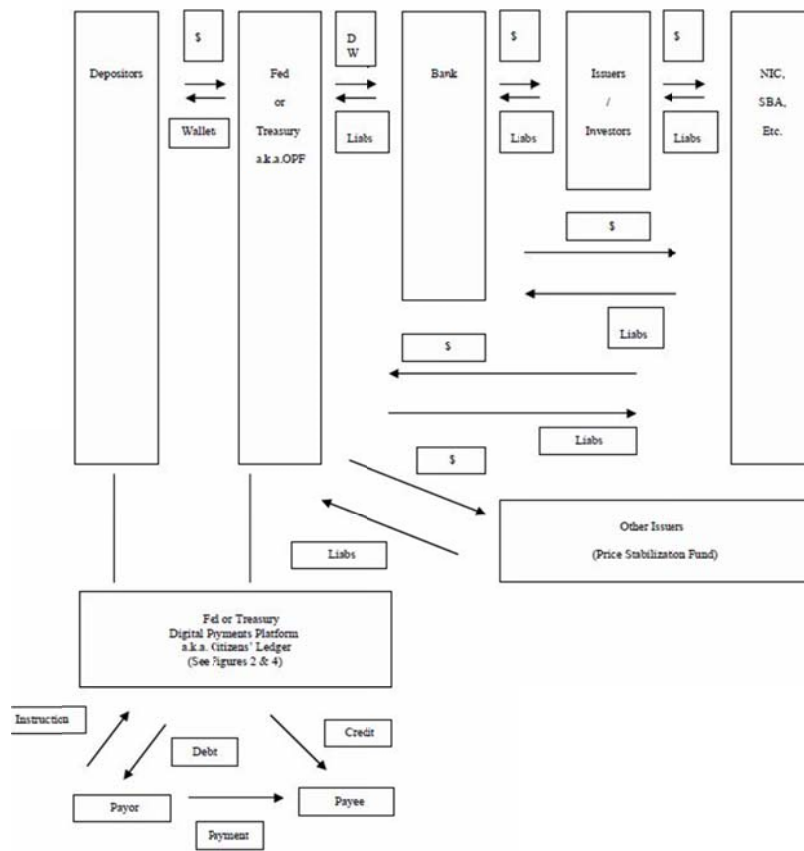
⁴⁰⁷ *Id.*

⁴⁰⁸ The allusion is the Marx & Engels’ celebrated observation concerning capital’s capacity to break down all previous legal, social, and cultural distinctions, in *THE COMMUNIST MANIFESTO* (1848).

Treasury or the Fed? Let us just call it the Consolidated Ledger, and its authority the Office of Public Finance (OPF).

And that's it. Public and private finance separate, Fed and Treasury consolidate, and public money flows only to bona fide publicly chosen, productive investments. To sum up diagrammatically, public money and our public money-modulator's and -allocator's financial relations to private sector persons and other entities under Citizen Finance will then come to look as depicted in *Figure 3*.

Figure 3: Reformed Bank/ Fed/ Treasury/ NIC w/ Stabilization Fund



VI. Citizen Finance: Logistics & Technics

Parts II through IV worked to motivate, and Part V worked to schematize, the proposal of full Citizen Finance in broad outline,

organizing discussion under the familiar balance sheet categories of assets and liabilities. I now turn to more detailed matters of implementation and logistics, by reference both to familiar and to now newly emergent finance and payment technologies.

**A. From Abstract Accounting to Concrete Logistics:
Making It Happen**

I begin with some very basic questions that the Citizen Finance proposal will implicate. For example, will there be Fed or Treasury bank branches, teller windows, and ATMs? Will there be Fed or Treasury online banking and mobile banking? Will the Fed or Treasury lend to individuals, small businesses, and large firms as banks do? And what will credit-modulatory monetary policy look like?

Some of these queries are readily answered quite quickly, while others present optionalities that we should discuss. To begin with, because digital wallet and P2P payments technology, discussed briefly above and in detail below, are by definition device-associated and in that sense “online,” public banking will indeed be online banking. The question accordingly is what role, if any, we wish to retain for cash, perhaps for reasons sounding in privacy or familiarity, and how to accommodate this role in the event we decide to retain it for some time to come. That takes us to branches, tellers, ATMs and the like.

Assuming we wish to allow for some cash continuance and ready convertibility of Citizen or Resident Wallet dollars to paper dollars, one possibility is that private sector banking institutions, as they lose their traditional deposit-taking business to the Fed or the Treasury, will want to downsize their workforces and physical plant.⁴⁰⁹ These trained personnel and facilities then can be simply taken on by the Fed or Treasury and continue, respectively, as public sector personnel and facilities.

Another possibility here would be simply to require, as a condition of bank licensure, that private sector bank branches offer necessary man hours and teller window face time to the conduct of Citizen and Resident Account deposit-taking, withdrawing, money-transferring, money-exchanging, check-ordering, cashiers’ check

⁴⁰⁹ See Thomas Heath, *Bank Tellers are the Next Blacksmiths*, WASHINGTON POST (Feb. 8, 2017), https://www.washingtonpost.com/business/economy/bank-tellers-are-the-next-blacksmiths/2017/02/08/fdf78618-ee1c-11e6-9662-6eedf1627882_story.html (explaining Bank of America’s reduction in bank tellers and expansion of robo-banking services).

franking, and so forth.⁴¹⁰ Banks can similarly be required to forgo charging fees on ATM and debit card transactions for Citizen and Resident Account users.⁴¹¹ The appropriate regional Federal Reserve Banks can then monitor compliance with these requirements.⁴¹²

With respect to online banking and similar services, there is no reason the system of Citizen and Resident Wallets and associated P2P payments system cannot offer everything that private banking institutions do to their depositors with online access—save without exploitative rent-seeking fees and collateral services.⁴¹³ Indeed, the very large boost to its seigniorage revenues that the Fed or Treasury will realize on a new system of Citizen and Resident Wallets should enable it to cover any new personnel and administrative costs occasioned by the new regime and then some.⁴¹⁴

⁴¹⁰ See generally *What We Do*, OFFICE OF THE COMPTROLLER OF THE CURRENCY (last visited Oct. 6, 2019), <https://occ.treas.gov/about/what-we-do/index-what-we-do.html> [<https://perma.cc/RTN9-F4FA>] (explaining the power of the OCC to issue rules and regulations over the banks it supervises).

⁴¹¹ *Id.* (explaining the power of the OCC to issue rules and regulations over the banks it supervises).

⁴¹² See *Consumer Compliance*, FED. RES. BOARD (last visited Oct. 9, 2019), <https://www.federalreserve.gov/supervisionreg/consumer-compliance.htm> [<https://perma.cc/NS2D-K5JM>] (“A primary Federal Reserve responsibility is to ensure that the financial institutions under its jurisdiction comply with applicable laws and regulations established by Congress and the federal regulatory agencies.”).

⁴¹³ For more on these, see, e.g., Robert C. Hockett, *Wells Fargo, Glass-Steagall, and “Do You Want Fries with That?” Banking*, THE HILL (Sep. 22, 2016), <https://thehill.com/blogs/pundits-blog/finance/297256-wells-fargo-glass-steagall-and-do-you-want-fries-with-that-banking> [<https://perma.cc/JF8Q-VAR8>] [hereinafter *Do You Want Fries With That?*] (discussing how Glass-Steagall would have prohibited banks from selling collateral services such as life insurance annuities, investment advisory services, and other financial products).

⁴¹⁴ The Fed, for example, regularly earns a wide spread between the returns on its asset portfolio and the interest payments it makes. In recent years Fed seigniorage has approached \$100 billion annually. I anticipate that these revenues will rise substantially when the Fed or Treasury grows its portfolio in tandem with new Citizen and Resident Account liabilities. For more on recent Fed seigniorage revenues, see *Press Release: Federal Reserve Board Announces Reserve Bank Income and Expense Data and Transfers to the Treasury for 2017*, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, (Jan. 10, 2018, 11:00 AM), <https://www.federalreserve.gov/news-events/pressreleases/other20180110a.htm> [<https://perma.cc/ZL3K-TULM>]

In time, most deposit, payment, online, and other services currently handled in person or via the web will likely migrate to mobile phones and other devices, as is of course already happening quickly in the United States and, even more quickly, in other jurisdictions today.⁴¹⁵ Indeed, if developments throughout Asia, Africa, and Northern Europe are any indication, we will achieve 100% financial inclusion through device-accessible digital banking long before we could build out any system of renewed postal or brick and mortar public banking.⁴¹⁶ The Fed or Treasury will be well equipped both to benefit by and to shape this new revolution, as I detail below in Part VI on the “Democratic Digital Dollar.” And I believe it a matter of urgent public interest that it do so now with all deliberate speed, for neither other jurisdictions nor the fintech industry is tarrying, as discussed below.

For purposes of the present discussion, however, the point to be noted is that logistical questions concerning bank facilities, spaces, and traditional services already are being addressed in new ways by private sector banking institutions themselves as new financial technology develops.⁴¹⁷ This means the Citizen and Resident Wallet regime will not so much “disrupt” today’s retail banking and fintech development as take charge of, in the name of the citizenry, our

(announcing Federal Reserve net income of \$80.2B after payment of its interest expense).

⁴¹⁵ In Kenya, for example, 90% of adults use the M-Pesa e-money phone app to transact, while in China the AliPay phone-based payment app accounts for nearly \$19 trillion in transactions per annum. *See, e.g.*, Gillian Tett, *Facebook’s “Stablecoin” Libra Raises Questions for Regulators*, FINANCIAL TIMES (June 13, 2019), <https://www.ft.com/content/d4c1e00c-8dd6-11e9-a24d-b42f641eca37> (on central banks serious reaction to Facebook’s introduction of Libra through nations’ reaction to other nation’s stablecoins). I will have much more to say about all of this *infra* Part VI.B.

⁴¹⁶ Douglas W. Arner, Janos Barberis & Ross P. Buckley, *The Evolution of FinTech: A New Post-Crisis Paradigm*, 47 GEO. J. INT’L L. 1271, 1273–74, 1298 (2016). (discussing the rise in Asia and Africa of “recent FinTech developments” in the “pursuit of economic development.”).

⁴¹⁷ World Economic Forum, *Beyond Fintech: A Pragmatic Assessment Of Disruptive Potential In Financial Services*, at 90-94 (Aug. 2017) (documenting traditional banks’ methods of partnering with and developing fintech options to gain market share).

republic, and our financial and payment systems, a disruption that is already well underway.⁴¹⁸

How about lending, and other “asset-side” activities in which private sector banks presently engage? Will banks no longer be lenders?⁴¹⁹ Well, this is in effect already answered at least partly above. Primary investment will be the primary function of the NIC referenced already, as well as of commercial banks whose loans will now have to conform to strict Discount Window conditionality as also described above.⁴²⁰ In addition, commercial banks and other financial institutions—e.g., loan companies, money market funds, and even many shadow banking institutions—will continue to lend, but will simply have to do so with funds they are able to acquire from others, in one-to-one “narrow bank” fashion. They will no longer be able to lend public credit-money save through the Fed Discount Window or some comparable facility established at Treasury.

In sum, then, I envisage private banks continuing to engage in safer renditions of their customary lending and retail investment functions, simply owing their liabilities now to the Fed or Treasury rather than to borrower-depositors and thus required to conform to Discount Window conditionality. This will continue as the NIC and perhaps public banks of the Bank of North Dakota variety fill the plethora of small, large, and medium-sized gaps that relying solely on private sector franchisee institutions for credit-allocation now leaves unfilled.⁴²¹

⁴¹⁸ *Id.* at 84–88 (chronicling the changes among banks methods of payments and applications available to customers).

⁴¹⁹ See Andrew F. Tuch, *The Remaking of Wall Street*, 7 HARV. BUS. L. REV. 315, 336–37 (2017) (arguing that banks’ role as traditional lenders to consumers and businesses began to change after the financial crisis of 2007–2009).

⁴²⁰ David Schmidde, *Responding to the Subprime Mess: The New Regulatory Landscape*, 14 FORDHAM J. CORP. & FIN. L. 709, 715 (2009) (indicating “conforming loans” as loans meeting an amount limit and certain funding criteria established by government bodies); *National Investment Authority*, *supra* note 4, at 439 (suggesting the role of the NIC as a public partnership with greater influence with investors and lenders as an investment vehicle).

⁴²¹ *Finance Franchise*, *supra* note 1, at 1149 (“[R]edefining the financial system’s core dynamics along the proposed lines allows for more accurate, less superficial diagnoses of that system’s present dysfunctions, which fundamentally constitute manifestations of an underlying failure on the part of the franchisor to modulate and oversee the allocation of credit. It also opens the policy agenda to bolder and more comprehensive reform options for restoring a healthy relation between the financial and ‘real’ economies.”).

It bears noting also that what I propose here is fully compatible and interoperable with other public option in lending proposals, including my own. The NIC itself, as described above, can lever the full faith and credit and superior risk-bearing capacities of the United States to assist public banks, local development banks, co-op banks, land banks, and all manner of other local development institution with their tasks.⁴²² Indeed, doing so can be interpreted as a form of fiscal-cum-monetary subsidiarity.⁴²³

What is true of the NIC here can be true of the Fed or Treasury too as it develops its asset portfolio in tandem with its growing Wallet liability ledger.⁴²⁴ It will do so both in the form of NIC investments and perhaps in the form of portfolio-management under a PSF regime as mentioned above and elaborated in other work.⁴²⁵ It can coordinate with the NIC in so doing, or act on its own, depending on public comfort at any given time with the central bank's or public

⁴²² More on these matters, *see infra* Part V (discussing the implementation and logistics in finance and payment technologies for the Citizen Finance program). *See also National Investment Authority, supra* note 4, at 439 (discussing the role of the National Investment Authority in supporting banking institutions and the abilities of collective banks). *See also FINANCING THE GREEN NEW DEAL, supra* note 17, which discusses these options at length.

⁴²³ Cf. Elizabeth J. Upton, *Chartering Fintech: The OCC's Newest Nonbank Proposal*, 86 GEO. WASH. L. REV. 1392, 1396 (2018) (arguing state level banks may act as a better "subsidiarity" in regulation as opposed to the federal government in light of their ability to govern "at the most local level").

⁴²⁴ *Assets of the Federal Reserve*, Classification under *Recent Balance Sheet Trends*, FED. RESERVE (Oct. 2, 2019 7:35 PM), https://www.federalreserve.gov/monetarypolicy/bst_recenttrends.htm [<https://perma.cc/9BWZ-GC8H>] ("Total assets of the Federal Reserve have increased significantly from \$870 billion on August 8, 2007, to \$4.5 trillion on January 14, 2015"); *see also id.* at *Selected Liabilities of the Federal Reserve* ("On the liabilities side of the Federal Reserve's balance sheet, the amount of currency outstanding has continued to rise gradually, but reserve balances (deposits of depository institutions) have increased dramatically relative to prior to the financial crisis.").

⁴²⁵ *See generally*, Part IV.B.2. (arguing that certain changes to the balance of assets will stem from liability side sources, including from asset issuances from NIC, and addition of the Citizen and Resident Wallets); *Open Labor, supra* note 29, at 462 (documenting the Reconstruction Finance Corporation as a form of "OMO Plus" and its effects on the Federal Reserve's balance). Also, again, *FINANCING THE GREEN NEW DEAL, supra* note 17.

fisc's being as forthrightly allocative in its asset-acquisition decisions as the NIC for its part is explicitly designed to be.⁴²⁶

The advantages offered by Citizen Finance as I propose it here are many. The first are perhaps best grasped by reference to the three problems noted above to afflict present arrangements. The problems of financial exclusion, the unbanked and underbanked, will be eliminated in a single stroke, as will the exploitative practices often engaged in by retail banks vis-à-vis less sophisticated depositors.⁴²⁷ Additionally, the problem of rogue franchisee banks will be all but eliminated, as (1) their source of their cheapest funding—depositors—will significantly recede, while (2) the primary creditor to whom their liabilities are owed—the Fed or Treasury—will now be better situated, and motivated, to monitor them and their compliance with Discount Window conditionality than are their scattered depositors.⁴²⁸

And finally, the pushing-on-a-string problem—and monetary policy leakage more generally—will be fully eliminated as well.⁴²⁹ The Fed or Treasury will be able to act directly to rein-in spending

⁴²⁶ See again, FINANCING THE GREEN NEW DEAL, *supra* note 17. See also *National Investment Authority*, *supra* note 4, at 472 (advocating for the NIC's structure similar to the Federal Reserve System).

⁴²⁷ For more on these, see *Do You Want Fries with That?*, *supra* note 351 (utilizing the need to insulate depository institutions from large financial firms as reason to update the Glass-Steagall Act).

⁴²⁸ Another collective action problem—that faced by depositors—will hereby be solved. *Id.* (“Another of Glass-Steagall's concerns was to limit the cheap funds that bank affiliates would make available to speculative non-bank investors whose activities in late asset price bubbles like those which burst in 1929 and 2008.”).

⁴²⁹ *National Investment Authority*, *supra* note 4, at 459 n.91 (2018) (citing Daniel Alpert, Robert C. Hockett & Nouriel Roubini, *The Way Forward*, NEW AM. (Oct. 2011), <https://www.newamerica.org/economic-growth/policy-papers/the-way-forward/> [<https://perma.cc/WWJ5-72LG>]) (exemplifying the pushing on a string problem through the actions of the government in to affect supply and demand in 1932 and comparing it to actions to effectuate consumer demand in 2009 to 2013); Ashton S. Phillips, *Bank-Created Money, Monetary Sovereignty, and the Federal Deficit: Toward a New Paradigm in the Government-Spending Debate*, 36 W. NEW ENG. L. REV. 221, 243 n.68 (2014) (citing *Aggregate Reserves of Depository Institutions and the Monetary Base-H.3*, BD. GOV. FED. RES. (Feb. 20, 2014), <http://www.federalreserve.gov/releases/h3/current/> [<https://perma.cc/8JYT-Q8XU>]) (“[B]anks, especially in the wake of the financial crisis. . . often retain ‘excess reserves’ . . . Economists refer to [this and] the reality that individuals sometimes prefer to hold their money in cash as ‘leakages.’”).

activity during booms and encourage or directly finance spending during busts, thereby affording us much more rapid and reliable macroeconomic growth. It can do this via changes in interest offered on Citizen and Resident Wallets, and via direct “helicopter drops”⁴³⁰ in the unlikely event of any deep slump like that of 2008–12—unlikely because solving the rogue franchisee problem as mentioned above will eliminate a primary source of the bubble inflation that culminates in busts in the first place. Similarly, it could temporarily impound funds to slow “runaway inflation,” after the manner suggested by Keynes in his *How to Pay for the War*.⁴³¹ But again this is virtually inconceivable during peacetime, for the source of inflation—public money disseminated by rogue private sector franchisees—will simply be closed.

There are additional upshots to recommend what I propose here, but these are best handled under the heading of new financial technology, to which I turn next.

B. From Macro Logistics to Micro Technics: Why to Digitize Now

I have noted that the new financial and payments technologies now sparking hype and, sometimes, more sober attention are not strictly necessary to institute or implement Citizen Finance.⁴³² We could probably have offered some lower tech rendition of what I propose just as early as we began doing it for private banking institutions with Fed Reserve Accounts over a century ago, and certainly by the time of Fedwire’s and the WFC’s introduction in 1918 or of the banking reforms of the New Deal era—by which time we even had a full-on proto-NIC in the form of the RFC.⁴³³

⁴³⁰ See *supra* note 290 and accompanying text (discussing the term ‘Helicopter Drop’ and its proposals).

⁴³¹ J.M. KEYNES, *HOW TO PAY FOR THE WAR* (1940) (proposing the preemption of inflation occasioned by war spending through a system of national savings accounts which will be drawable on only in extremis during wartime, then opened up to fuel stimulus once demobilization begins and war spending ramps down).

⁴³² See *New Tech versus New Deal*, *supra* note 4, at 736–37 (stating that fintech is “by far the hottest topic in today’s finance”); *Betting on Betacoin*, *supra* note 17 (discussing the concerns related to “buyers flocking to Bitcoin specifically”).

⁴³³ On the history of Fedwire, see, e.g., Adam Gilbert, Dara Hunt & Kenneth C. Winch, *Creating an Integrated Payment System: The Evolution of Fedwire*, 3 *FED. RES. BANK N.Y. ECON. POL’Y REV.* 1, 1–4 (1997) (describing the

But the rapid spread and development of the new fintech modalities now underway present a particularly opportune time to move forward with alacrity. There are a number of reasons for saying this, some of which can be catalogued under what might be called the brighter, or more positive side of the ledger, and others of which belong under a darker, or more negative side of the same.⁴³⁴ I will accordingly first say a bit about these two sides of the ledger. Then, I will discuss, in Part VI, more detailed options for what I shall call the “Democratic Digital Dollar,” or “3D”—the currency counterpart of both the consolidated public ledger and the public payment platform that the system of Citizen and Resident Wallets will effectively constitute.

I. The Bright Side of the Ledger

As just noted, there are reasons that sound in affirmative benefit for going digital where Citizen Finance is concerned, and there are reasons that sound more in risk-preemption.⁴³⁵ On the positive side, twenty or more central banks and monetary authorities worldwide, including the Bank of England (BOE), the European Central Bank (ECB), the People’s Bank of China (PBOC), the Reserve Bank of India (RBI), the Bank of Japan (BOJ), and our Fed, are looking to upgrade their payments systems.⁴³⁶ Indeed some are already doing so—or have already done so—as I recount more fully below in Part VI.⁴³⁷ Most seem to be considering some form of blockchain

origins of the Fedwire system and its challenges). On the RFC, see *National Investment Authority*, *supra* note 4, at 458–463 (summarizing the development of the RFC).

⁴³⁴ See discussion *infra* Parts VI.B.1, VI.B.2 (discussing positive and negative aspects of the implementation of the Citizen and Resident Wallets regime).

⁴³⁵ *Id.* (observing benefits and risks associated with the Citizen and Resident Wallets regime).

⁴³⁶ See Agustin Carstens, *Guest View: Innovation Transforms Central Banking*, REUTERS (June 3, 2019, 6:20 AM), <https://www.reuters.com/article/us-cenbank-technology-breakingviews/breakingviews-guest-view-innovation-transforms-central-banking-idUSKCN1T41AB> [<https://perma.cc/WVK6-3FEA>] (discussing how central banks are upgrading payment systems to work with fintech, mobile payments, and more).

⁴³⁷ When I began this project during late 2014, only a few digital currency enthusiasts seemed to be devoting substantial time and attention to this prospect. Since then the number of studies and proposals has burgeoned to seemingly no longer comprehensively citable proportions. A few early and

technology, partly for the replicability and associated indelibility properties these platforms offer where recording and tracking transactions is concerned, partly for the privacy and security optionality they offer, and partly for the simultaneity of clearing and settlement they afford as real prospects.⁴³⁸ An added benefit is the ease of system interoperability they offer when it comes to linking up multiple national, subnational, and transnational payments infrastructures.⁴³⁹

There are at least three ways that these developments render the present an opportune time to move forward with implementing the new Citizen and Resident Wallets regime that I am here calling for, along with its associated Democratic Digital Dollar—the monetary form that is counterpart to the payments system this regime will effectively constitute—which I sketch out below.

First, if the Fed or Treasury decides to upgrade our payments infrastructure in any event, as it is likely to do, it will be comparatively easy to include an expansion to Citizen and Resident Wallets and an

notable examples are those cited *supra* note 21 (enumerating the proposals to offer central bank accounts to the public by different authors). Among the 20 or more central banks now issuing, or actively researching the prospect of issuing, digital fiat currencies on new fintech platforms are those of Brazil, Canada, China, Ecuador, the European Union, India, Indonesia, Japan, Malaysia, Norway, Singapore, Sweden, Turkey, Uruguay, the U.K., and the U.S., among others. A helpful recent survey of the now rapidly flowering terrain is COMM. ON PAYMENTS AND MKT. INFRASTRUCTURES & MKTS. COMM., BANK FOR INT’L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES (2018), <https://www.bis.org/cpmi/publ/d174.pdf> [<https://perma.cc/4ZW5-KPV5>] (explaining the concept of central bank digital currencies and their benefits and risks).

⁴³⁸ *Id.* See also *Money’s Past*, *supra* note 3, at 9–11 (heralding “digital currency development” in the United States); *Betting on Betacoin*, *supra* note 17 (propounding that Bitcoin may be outcompeted by other cryptocurrencies); Robert C. Hockett, *Facebook’s Proposed Crypto-Currency: More Pisces Than Libra For Now*, FORBES (June 20, 2019, 2:03 PM), <https://www.forbes.com/sites/rhockett/2019/06/20/facebooks-proposed-crypto-currency-more-pisces-than-libra-for-now/#1d6ca7992be2> [<https://perma.cc/4L8G-HWGD>] [hereinafter *More Pisces Than Libra*] (asserting problems and vulnerabilities of Libra).

⁴³⁹ See Thomas Lammer, Jose Antonio Garcia & Sacha Polverini, *Establishing Payments Interoperability: Coordination is Key*, WORLD BANK BLOGS (Sep. 26, 2016), <https://blogs.worldbank.org/psd/establishing-payments-interoperability-coordination-key> [<https://perma.cc/B24P-EGDK>] (discussing the benefits of worldwide interoperable payment systems).

associated Digital Dollar as part of that upgrade.⁴⁴⁰ The change then can be characterized as simply an added benefit of that upgrade, much as new optionality accompanying phone, laptop, and other device operating system (OS) upgrades typically are characterized.⁴⁴¹ And, crucially, this need not be marketing hype. It can be made true, inasmuch as the Fed or Treasury, with the overwhelming bargaining power it will have in whatever partnership it might enter into in developing the new payment system architecture, can effectively bake optimal Citizen and Resident Account functionality in to whatever emerges.⁴⁴² I will say more about this below in Part VI, where I lay out the new payments system and Democratic Digital Dollar that Fed Citizen and Resident Wallets will effectively constitute.

Second, current fascination with crypto-currencies and other forms of fintech offers both Congress and the Fed or Treasury a rare public relations opportunity to “lean in” to what clearly is appealing to many people as an important new technological and associated social development, in making the transition to a system of Citizen and Resident Wallets and an associated new payments infrastructure with a Digital Dollar.⁴⁴³ While the legislative change required to make such a transition is surprisingly simple—it can involve, if we wish, literally no more than the addition of one category to the eight or so categories of entity currently authorized to bank with the Fed⁴⁴⁴—popular buy-in could be more difficult until the benefits and absence of costs

⁴⁴⁰ See *Money's Past*, *supra* note 3, at 9–10 (predicting that the U.S. payment system “will be built upon something a lot like distributed ledgers” which will “render . . . ‘Citizen Central Banking’” and that the “dollar will go digital”).

⁴⁴¹ See *id.* at 10 (“A Fed-issued and -administered digital dollar will be every bit as uniform and elastic as the Fed-issued and administered pre-digital dollar has been. Indeed it will likely be even more easily managed. . .”).

⁴⁴² See *id.* (asserting that “[a] Fed-issued and-administered digital dollar will be every bit as uniform and elastic as the Fed-issued and administered pre-digital dollar has been”).

⁴⁴³ See *More Pisces Than Libra*, *supra* note 376 (discussing the popularity of cryptocurrencies and central banks’ plans to develop digital currencies based on cryptocurrencies and related financial technologies).

⁴⁴⁴ See *supra* note 146 and accompanying text (citing to 12 U.S.C. §§ 342, 391, 1435, 1452(d) & 1723a(g), 347d & 358, 286d, and 5465, which provide that, respectively, banks, the U.S. Treasury, government-sponsored enterprises providing mortgages, foreign governments, foreign banks, foreign central banks, and designated financial market utilities may hold accounts with the Federal Reserve).

occasioned by the plan come to be more widely appreciated.⁴⁴⁵ Riding the current wave of enthusiasm for all things fintech would help the Fed or Treasury sidestep that source of friction.⁴⁴⁶ So would riding the new wave of revulsion inspired by Facebook’s latest Libra proposal—a proposal that enjoys the rare distinction of having alienated Congressional Democrats and Republicans alike.⁴⁴⁷

Finally, the new technologies do seem to offer many of the benefits noted above in connection with central banks’ proffered reasons for taking interest in digital fiat currency and its associated platforms in the first place.⁴⁴⁸ It is certainly true that the dollar, and most other sovereign currencies, already are digital in one sense of the word, and have been for as long as our banking and payments systems have been accommodating and employing electronic payments infrastructures—including Fedwire, which has been with us since

⁴⁴⁵ See BANK FOR INT’L SETTLEMENTS, COMM. ON PAYMENTS & MKT. INFRASTRUCTURES, CENTRAL BANK DIGITAL CURRENCIES 1 (2018), <https://www.bis.org/cpmi/publ/d174.pdf> [<https://perma.cc/LP2G-8Y55>] [hereinafter BIS CENTRAL BANK DIGITAL CURRENCIES REPORT] (suggesting that the provision of a digital currency by central banks “could bring substantial benefits” but the “benefits of a widely accessible [central bank digital currency] may be limited if fast (even instant) and efficient private retail payment products are already in place or in development”).

⁴⁴⁶ See generally *New Tech versus New Deal*, *supra* note 4, at 735 (arguing that fintech “may present a unique opportunity to correct the increasingly problematic imbalance between private misallocation of credit and the public’s ability to modulate credit aggregates,” but that, so far, private actors have taken the lead in fintech development, and that “unless the public side proactively counters new technologies’ potentially destabilizing systemic effects, it may soon find itself in an impossible position of having to back up an uncontrollable and unsustainably self-referential financial system”).

⁴⁴⁷ See *More Pisces Than Libra*, *supra* note 376 (commenting that lawmakers have been very concerned about technology companies’ use of consumers’ personal data, and that “[a]dding money and payments to the mix only heightens the worry—as our already extensive regime of bank depositor privacy regulation, and as recent bipartisan Congressional hearings on fintech, abundantly attest”).

⁴⁴⁸ See BIS CENTRAL BANK DIGITAL CURRENCIES REPORT, *supra* note 383, at 1 (commenting that some central banks are “analysing a [central bank digital currency] that could be made widely available to the general public and serve as an alternative safe, robust and convenient payment instrument” and that in places where cash is disappearing, “the provision of [central bank digital currencies] could bring substantial benefits”).

1918.⁴⁴⁹ It is also true, however, that some of the better-known crypto platforms warrant considerable skepticism where their putative speed and “frictionlessness” benefits are concerned.⁴⁵⁰ But some of the new platforms now being developed and experimented with do seem to offer the prospect, in the not-too-distant future, of faster (even real time), safer, more private, and even user-friendly payment, clearing, and settlement than can presently be had, particularly among institutions not using Fedwire.⁴⁵¹

One need not be a breathless fadster or deluded “cypherpunk” to believe that our payments system is changing—and doing so, as I

⁴⁴⁹ FEDWIRE FUNDS SERVICE, ASSESSMENT OF COMPLIANCE WITH THE CORE PRINCIPLES FOR SYSTEMICALLY IMPORTANT PAYMENT SYSTEMS 7 (2014) (“In the early 1900s, settlement of interbank payment obligations often involved the physical delivery of cash or gold to counterparties, which was both risky and costly. To mitigate these risks, in 1918, the Reserve Banks introduced a dedicated funds transfer network featuring a Morse code system that connected the 12 Reserve Banks, the Board, and the United States Department of the Treasury.”). Retail payment networks in the United States are quite slow by global standards, as are wire transfers and credit card payments. Ironically, only interbank transfers, for which the Fed uses “real time gross settlement” (RTGS), are instantaneous. *See* FASTER PAYMENTS TASK FORCE, THE U.S. PATH TO FASTER PAYMENTS FINAL REPORT PART I: THE FASTER PAYMENTS TASK FORCE APPROACH 52–54 (2017) (showing in a table how various types of payments in the United States are currently handled). While the Fed could presumably offer RTGS for all payments between Citizen Wallets and Resident Wallets using present technology, in particular Fedwire, currently developing payments platforms appear to be designed with precisely this optionality in mind. *See* Gilbert, Hunt, & Winch, *supra* note 196. For more on the history of RTGS, which dates to the 1970s, *see* Morton L. Bech & Bart Hobijn, *Technology Diffusion within Central Banking: The Case of Real-Time Gross Settlement* 1–3 (Fed. Reserve Bank of N.Y. Staff Reports, Staff Report No. 260, 2006) (discussing the history and development of real-time gross settlement systems and their use by banks).

⁴⁵⁰ *See, e.g.*, Alexander Kroeger & Asani Sarkar, *Is Bitcoin Really Frictionless?* FED. RESERVE BANK OF N.Y.: LIBERTY ST. ECON. (Mar. 23, 2016), <https://libertystreeteconomics.newyorkfed.org/2016/03/is-bitcoin-really-frictionless.html> [<https://perma.cc/4L7Y-QN54>] (discussing the transactional friction that arises when Bitcoin is traded on exchanges).

⁴⁵¹ *See* FEDWIRE FUNDS SERVICE *supra* note 387; Morton L. Bech & Bart Hobijn, *Technology Diffusion within Central Banking: The Case of Real-Time Gross Settlement* 1–3 (Fed. Reserve Bank of N.Y. Staff Reports, Staff Report No. 260, 2006) for a discussion about the development of real-time settlement and payment systems).

will elaborate in Part VI, in ways that we now both can and should capitalize on. One need only look to the roughly forty-four jurisdictions that I will report on below, where central bank digital currency (CBDC) development is already well underway.⁴⁵² Or one can look, as I also will in Part VI, toward Europe, China, or Africa, where a large portion of transaction volume is now carried on via mobile phones and similar devices. Or one can look to the many largely rural countries in which citizens now do all banking by phone,⁴⁵³ then remind oneself that digital wallets” can link just as readily to Fed or Treasury Master Accounts as they can to anything else—another fact I highlight below in Part VI.

⁴⁵² See Christian Barontini & Henry Holden, *Proceeding with Caution—A Survey on Central Bank Digital Currency 7* (Bank for Int’l Settlements, BIS Paper No. 101, 2019) (presenting the results of a survey showing that 70 percent of sixty-three jurisdictions surveyed now have development of various central bank digital currencies underway). With regard to the ubiquity of mobile payments in African countries, see generally Mutsa Chironga, Hillary De Grandis, & Yassir Zouaoui, *Mobile Financial Services in Africa: Winning the Battle for the Customer*, MCKINSEY & CO. (Sept. 2017), <https://www.mckinsey.com/industries/financial-services/our-insights/mobile-financial-services-in-africa-winning-the-battle-for-the-customer#> [<https://perma.cc/HS4Y-RQAU>] (concluding that “Africa is the global leader in mobile money” and showing that the M-Pesa mobile payment platform is used by 90 percent of Kenyan adults). On the growth of mobile payments in Europe, see generally Sukriti Bansal et al., *Global Payments 2018: A Dynamic Industry Continues to Break New Ground*, MCKENZIE & CO. GLOBAL BANKING PRACTICE, Oct. 2018, at 5 (presenting data showing that “individual European countries such as Sweden and Norway are executing no more than 20 percent of their transactions in cash”). On the growth of mobile payments in China, see generally Aaron Klein, *Is China’s New Payment System the Future?*, ECON. STUD. BROOKINGS (Brookings Inst., Washington, D.C.), June 2019, at 8, https://www.brookings.edu/wp-content/uploads/2019/06/ES_20190620_Klein_ChinaPayments.pdf [<https://perma.cc/VV9B-5JW7>] (“Over 90 percent of people in China’s largest cities use WeChat and Alipay as their primary payment method, with cash second, and card-based debit/credit a distant third.”).

⁴⁵³ A few examples. China, Africa, South Asia. See Moses Mozart Dzawu, *Mobile Phones Are Replacing Bank Accounts in Africa*, BLOOMBERG (Aug. 13, 2019, 12:00 AM), <https://www.bloomberg.com/news/articles/2019-08-13/mobile-phones-are-replacing-bank-accounts-in-africa> (discussing the rapid growth of digital mobile payments platforms in Africa, and concluding that “once people have phones there’s no need for a bank account”).

One can also, of course, look to China in connection with the darker side reasons for our central bank to get ahead of, rather than trailing or falling behind, the fintech revolution.⁴⁵⁴ I turn to those reasons now.

2. *The Dark Side of the Ledger*

There are also risk-avoidance reasons for the Fed or Treasury to associate Citizen and Resident Wallets with fintech developments. These reasons all complement the more opportunity-levering reasons just catalogued. The main one is the speed with which large private financial conglomerates and social media firms are now storming into this space, hoping to employ new financial technologies as means both to circumvent present-day finance-regulatory regimes and to exploit clientele.⁴⁵⁵ Getting out front of fintech development will enable the Fed or Treasury both to redirect wind from these sails and affirmatively to shape, indeed to determine, the course of fintech development itself.⁴⁵⁶

⁴⁵⁴ See Robert Hockett, *When is “Social Credit” Orwellian?*, FORBES (Jan. 3, 2019), <https://www.forbes.com/sites/rhockett/2019/01/03/when-is-social-credit-orwellian/> [<https://perma.cc/NAL2-YUHA>] [hereinafter, *When Is “Social Credit” Orwellian?*] (discussing moral and policy concerns with China’s electronically managed “social credit” system, which extensively surveys and assigns scores to citizens).

⁴⁵⁵ See, e.g., *More Pisces than Libra*, *supra* note 376; *New Tech versus New Deal*, *supra* note 4, at 742 (“What is commonly seen as the key micro-level advantage of fintech its ability to eliminate transactional ‘frictions’ and to circumvent traditional market boundaries-also operates to amplify the system’s capacity to fuel financial speculation on an unprecedented scale. On a macro-level, therefore, the key risk posed by fintech lies in its (still not fully known) potential to exacerbate the financial system’s dysfunctional tendency toward unsustainably self-referential growth.”). For more background information on how regulators are looking to cope with the challenges posed by new fintech platforms, see *Fintech: Examining Digitization, Data, and Technology: Hearing Before the S. Comm. on Banking, Hous., & Urban Affairs*, 115th Cong. 45–58 (2018) (prepared statement of Saule T. Omarova, Professor of Law, Cornell University), <https://www.govinfo.gov/content/pkg/CHRG-115shrg32753/pdf/CHRG-115shrg32753.pdf> [<https://perma.cc/FSL7-8RWZ>] [hereinafter Omarova Testimony].

⁴⁵⁶ See generally Jeff Galvin et al., *Synergy and Disruption: Ten Trends Shaping Fintech*, MCKENZIE & CO. GLOBAL BANKING PRACTICE, Dec. 2018, at 3–4 (explaining that “[t]o successfully enter new markets, [fintech developers] must adapt to new sets of market dynamics and government

The wind in the sails to which I refer takes two forms, one of which amounts to hot air but operates insidiously nonetheless. First, profit-seeking private sector institutions appear to be beginning to use new fintech technologies to replicate, in not yet declaredly illegal ways, transactions that would themselves be illegal.⁴⁵⁷ The most salient cases at the moment probably are (a) Facebook's ill-begotten new Libra proposal, which amounts to a combined money market fund and forex platform that Facebook either naively or disingenuously proclaims will be no more carefully regulated than PayPal;⁴⁵⁸ and (b) various initial coin offerings, and exchange traded coin funds, all of which appear to be aimed at exploiting ambiguities both in the definitions of "securities" and "commodities" under the nation's securities-

regulations and select new markets based on a clear understanding of regional variations").

⁴⁵⁷ See *New Tech versus New Deal*, *supra* note 4, at 753–55 (describing the ways in which the growth of fintech has led to the creation of a "shadow banking" sector and an erosion of the post-New Deal "settlement" in the American financial sector that helped constrain systemic risk); see also Amy Castor, *Judge Applies Long-Established Securities Law to ICOs*, Bitcoin Magazine (Sept. 12, 2018), <https://bitcoinmagazine.com/articles/federal-judge-applies-long-established-securities-law-icos/> [<https://perma.cc/L5LA-AA42>] (quoting former CFTC Chairman Gary Gensler as saying that many cryptocurrency exchanges "re basically operating outside of U.S. law"); Frank Chaparro, *It Was True for Tulips*, BUS. INSIDER, (June 23, 2018), <https://www.businessinsider.com/ico-community-should-be-worried-about-a-coming-wave-2018-6> (highlighting the SEC's legal concerns about initial coin offerings); Aislinn Keely, *Facebook's Libra Could Meet Prying Regulatory Eyes from the U.S. and Beyond, Experts Say*, THE BLOCK (June 27, 2019, 7:52 PM), <https://www.theblockcrypto.com/2019/06/27/facebooks-libra-could-meet-prying-regulatory-eyes-from-the-u-s-and-beyond-experts-say/> (explaining that regulatory bodies in the United States and Europe have voiced grave concerns about Facebook's proposed cryptocurrency project); Celia Wan, *Kik's Troubles Mount SEC Files Suit Claiming Securities Law Violations, Lawyers Say*, THE BLOCK (June 5, 2019, 12:00 PM), <https://www.theblockcrypto.com/2019/06/05/kiks-troubles-mount-as-sec-files-suit-claiming-securities-law-violation-lawyers-say/> (highlighting attorneys' view and predictions about the SEC's allegations that Kik broke U.S. securities law with its initial coin offering).

⁴⁵⁸ See *More Pisces Than Libra*, *supra* note 376 (suggesting that it is not clear what value Facebook's Libra will add to the current financial ecosystem, "particularly in light of the regulatory burdens that they will inevitably and indeed necessarily face in connection with any such offering that isn't a mere glorified PayPal or Venmo").

and derivatives-regulatory regimes, and relatedly to exploit unclarity as to the boundary between the Securities and Exchange Commission and the Commodity Futures Trading Commission's jurisdictions.⁴⁵⁹ But, there are many more cases of this sort now in gestation, and we can expect to see more of them proliferate at an accelerating rate in the near future.

Second, financial services industry personnel already are enjoying considerable success, as they have in the past, in convincing gullible or contribution-dependent White House officials and legislators into believing that fintech is an exciting new field of only "upside" innovation, which Congress must protect from innovation-stifling regulation with preemptive legislation.⁴⁶⁰ The arguments offered on behalf of such urgings are in some cases difficult to articulate with a straight face, as they are literally the very same arguments offered in earlier times for insulating junk bonds, then financial conglomerates, then generic derivatives, then subprime mortgage loans and associated products, then credit default swaps, and then payday and auto loans against regulation.⁴⁶¹ It is always about consumer choice, synergies, and efficiency-producing innovation, we are told, when in fact it is about rule-evasion and rents.⁴⁶²

⁴⁵⁹ *Id.* (explaining that Facebook's Libra will "likely have to register as and submit to exacting regulation both as a de facto money market fund and as a systemically important financial institution (SIFI) by the Securities and Exchange Commission (SEC) and the Financial Stability Oversight Council (FSOC), respectively"); Allen Kogan, Note, *Not All Virtual Currencies are Created Equal: Regulatory Guidance in the Aftermath of CFTC v. McDonnell*, 8 AM. U. BUS. L. REV. 199, 209–17 (2019) (explaining that currently, cryptocurrencies are regulated in part by the SEC and in part by the CFTC, and concluding that this regulatory regime is not satisfactory).

⁴⁶⁰ See, e.g., Robert C. Hockett, *Let's Get Real About "Financial CHOICE,"* FORBES (June 11, 2017), <https://www.forbes.com/sites/rhockett/2017/06/11/lets-get-real-about-financial-choice/#55c3fe6e4c86> [<https://perma.cc/TFT4-FCUG>] (discussing dangers of the "F-CHOICE Act").

⁴⁶¹ *Id.* ("It is that weaker or non-existent financial regulation somehow promotes—or even equates to—"innovation, growth, and jobs" in the broader economy.").

⁴⁶² *Id.* ("What is the sophisticated argument to which I refer? It is that weaker or non-existent financial regulation somehow promotes—or even equates to—"innovation, growth, and jobs" in the broader economy. Republicans and finance industry lobbyists are now routinely trafficking in this false equation, apparently hoping that we too will eventually come to associate the two things, Pavlov-style, if only we hear the words often enough. Take a look at what House Speaker Paul Ryan said on behalf of the F-CHOICE Act last

This is all inadvertent false advertising or advertent propaganda, as the litany of innovations just cited should make plain.⁴⁶³ But it is evidently persuasive propaganda in some quarters.⁴⁶⁴ And one way to preempt its persuasive force at least among people who think and act in good faith is for citizen-owned instrumentalities like the Fed or Treasury to embrace and commandeer the new technologies themselves, ensuring that they develop in salutary and public-benefitting rather than corrupt and public-exploiting directions.

This is not as fanciful as it might sound to those whose stereotyped impressions of public sector and private sector action have been conditioned by well-financed corporate and financial sector, not to mention privately financed think tank, public relations campaigns. As noted before, the Fed itself invented the repo transaction, which grew publicly salient only during the shadow-banking boom of the late 1990s and early 2000s, over a century ago.⁴⁶⁵ And the federal home finance GSEs—Fannie Mae, Ginnie Mae, and Freddie Mac—invented securitization at least three and arguably six decades before securitization became publicly salient as yet another modality of shadow-banking in connection with private label subprime mortgage lend-

week, for example (“a jobs bill for Main Street”). Or have a gander at what House Financial Services Chair Jeb Hensarling had to say (“economic growth for all”). . .”).

⁴⁶³ *Id.* (“Notwithstanding its Pravda-redolent repetition by partisan politicians and bank lobbying outfits, however, the putative ‘growth’ argument for gutting financial regulation is complete and intentional nonsense. It is not merely “flawed” or misleading. It literally lacks any basis in truth at all, and in fact stands the truth on its head.”).

⁴⁶⁴ *Id.* (“Notwithstanding the Act’s impending death on arrival in the Senate, however, it is urgent that we attend nonetheless to the would-be real-world effects of the F-CHOICE Act, along with what has emerged as the favored sophisticated ‘argument’ that House Republicans and their clients now make on the F-CHOICE Act’s behalf. For this phony pseudo-argument will be made in the Senate this week as it was in the House last week. And, as importantly, it will be made on behalf of much additional legislative mischief soon to be proffered by White House and Congressional Republicans in coming weeks.”).

⁴⁶⁵ See *Finance without Financiers*, *supra* note 14, at 28 (“Turning from bank-replication to public accommodation and monetization, it is first worth noting, if only in passing, that the *Fed* actually *invented* repo, as a means of financing First World War expenditures, while the Federal Reserve Bank of New York (“FRBNY”) now acts as the largest counterparty in repo markets.”).

ing.⁴⁶⁶ And in both cases, everything worked smoothly until, ironically, profit-seeking private sector entities were allowed into the act (not unlike what subsequently happened to formerly public entities in Eastern Europe after their handovers to private sector oligarchs).⁴⁶⁷

What distinguishes public sector franchisor from private sector franchisee finance, then, is not innovation. It is what the innovation is developed for, and how it is then deployed. Public sector franchisor innovation, which remarkably (given private sector public relations campaigns) often seems to precede private sector franchisee innovation, is always developed and deployed for public purposes, and actually benefits the public in whose name it is developed.⁴⁶⁸ Private sector franchisee innovation, by contrast, is seldom either innovative—copied as it is from public prototypes—or publicly beneficial. Unlike the internet, then, which the public sector invented and then relinquished to highly concentrated private platform companies, fintech, which looks poised to prove nearly as transformative as the internet promised to become two or three decades ago, should from the get-go be kept principally public.⁴⁶⁹ The Fed's or Treasury's taking charge of it in the cause of central banking and public payments infrastructure for all citizens and citizen-owned enterprises would be a most fitting way to ensure such a status.

It is worth noting in this connection, even if in closing this Part, that once the we do this the messy array of coins, “stable coins,”

⁴⁶⁶ See *Jeffersonian Republic*, *supra* note 25, at 91 n.114. (“Securitization’ has grown rapidly in the last decade and has given rise to some of the largest and fastest growing securities markets. . . . It is often overlooked that all of this began with, and continues to be largely driven by, the activities of erstwhile ‘government sponsored enterprises’ (‘GSEs’) like Fannie Mae.”).

⁴⁶⁷ *Republican Home-Owning*, *supra* note 29, at 19 (“What changed after sixty odd years of republican home-spreading and price-maintaining success? In essence, the story is one of creeping privatization, deregulation, and attendant speculative profit-seeking, accompanied by classic asset price bubble dynamics that our principal money-modulator—the Fed—didn’t see fit to tamp down till too late.”).

⁴⁶⁸ Per Koch & Johan Hauknes, *INNOVATION IN THE PUBLIC SECTOR* 18 (2d ed. 2005) (“In the Public case studies we have found that idealism and the urge to develop a better society is an important driving force for public innovation.”).

⁴⁶⁹ *PUBLIC BANKS SOLUTION*, *supra* note 10, at 3 (2013) (“Banking, money and credit are not market goods but are economic infrastructure, just as roads and bridges are physical infrastructure. Banking and credit need to be public utilities for a capitalist market economy to run properly.”).

“coin funds” and cryptocurrencies on which too many ordinary Americans are now wasting their real money and attention will likely disappear.⁴⁷⁰ These things are little more than crypto renditions of the nineteenth century “wildcat” currencies discussed above, which died out when the Treasury, then the Fed, began issuing the Greenback that became today’s dollar.⁴⁷¹ They will go the way of those currencies virtually the minute the Fed begins issuing Democratic Digital Dollars into new Citizen and Resident Wallets via a new digital payments platform made possible by these Accounts themselves.⁴⁷² They will have no use but small in-group uses and criminal uses.⁴⁷³

VII. *From Citizen Finance to Citizen Fintech: The Democratic Digital Dollar & Its Possible Forms*

As noted above, contemporary fintech is not strictly necessary for a set of proposals of the sort I make here, but it does make things simultaneously easier and more urgently necessary.⁴⁷⁴ This Part accordingly situates the Citizen Finance proposal within the contemporary fintech landscape and describes in greater detail a modern Democratic Digital Dollar design that can be thought of as the technical, payments system face of the broader Citizen Finance proposal. It also takes stock

⁴⁷⁰ *Money’s Past*, *supra* note 3, at 10 (“When we get there, what do you suppose happens? This too seems easy: The dollar will go digital. The Fed will issue ‘Federal Reserve Coins’ and their keystroke equivalents much as it issues ‘Federal Reserve ‘Notes’ and their keystroke equivalents now. In this new world, there will be little more use for what I will call ‘Wildcat Crypto’ than there was for ‘Wildcat Currency’ after the Legal Tender, National Currency, and National Banking Acts of the 1860s. These ‘assets’ will simply fade out, retained only as curiosities on a par with Colonial Scrip and ‘Confederate money’ or as means of illicitly transacting in criminal activities until caught.”); *Rousseauvian Money*, *supra* note 66.

⁴⁷¹ *Id.*

⁴⁷² *See Money’s Past*, *supra* note 3, at 6 (concluding that the demise of bank-issued “wildcat” banknotes was inevitable when the Fed began issuing a centralized currency).

⁴⁷³ *See id.* at 10 (alluding to the fate of Colonial Scrip and Confederate dollars when these currencies were replaced and thus lost their value as cash).

⁴⁷⁴ *Id.* (concluding that “the speed, reliability, and tractability of distributed-ledger-tracked credits and debits” will help enable banking services directly between citizens and the Fed).

of what other central banks and monetary authorities—the Fed’s and Treasury’s counterparts—worldwide are now doing in this space.⁴⁷⁵

A. Moneys and Payment Systems

In view of the intimate linkages among finance, moneys, and payment systems on the one hand,⁴⁷⁶ and the way the Fed or Treasury balance sheet under my plan will immediately constitute a potential payment platform on the other hand, it will be both crucial and straightforward for the Fed or Treasury to pair up my proposed system of Citizen and Resident Wallets with what I am calling a Democratic Digital Dollar and associated savings and payments platform. While there are various forms that a Fed-administered digital dollar could take,⁴⁷⁷ I think that one form in particular is both natural and clearly preferable in light both of the nature of Citizen and Resident Wallets and of the values that prompt my push for more fully republican, Citizen Finance in the first place. I will accordingly first briefly note options that now figure in the literature, then describe the best option for present purposes, then report briefly on what other central banks and monetary authorities are already doing.

To begin with options, it might at first glance look as though there is a bewildering array of candidates to offer. Adequately assessing alternatives for digitizing Citizen and Resident Account money might accordingly look to require that one write a distinct essay

⁴⁷⁵ See TOMMASO MANCINI-GRIFFOLI ET AL., INT’L MONETARY FUND, CASTING LIGHT ON CENTRAL BANK DIGITAL CURRENCY 27 (2018) (providing examples of nations “actively exploring” the use of centralized or decentralized digital currencies).

⁴⁷⁶ Conference Report, Eur. Cent. Bank-Bank of Eng., *Payments and Monetary and Fin. Stability* (Nov. 12–13, 2007), <https://www.ecb.europa.eu/pub/pdf/other/paymentsmonetaryfinancialstability200801en.pdf>

[<https://perma.cc/M65N-27GK>] (“In the most basic terms, the central bank seeks to ensure the ongoing ability of payment systems to support the monetary economy and, by extension, the desired path of economic growth.”).

⁴⁷⁷ Chris Matthews, *Why the Coming Recession Could Force the Federal Reserve to Swap Greenbacks for Digital Dollars*, MarketWatch (Sep. 21, 2019), <https://www.marketwatch.com/story/why-the-coming-recession-could-force-the-federal-reserve-to-swap-greenbacks-for-digital-dollars-2019-09-06/print> [<https://perma.cc/GY33-JHJ8>] (“‘The debate isn’t about whether we need [a digital currency],’ Michael Bordo, an economist at Rutgers University and a fellow at the Hoover Institution, the public-policy think tank at Stanford University, told MarketWatch. ‘It’s about how you do it.’”).

devoted to that task alone. The existing literature is replete, for example, with centralized electronic “bank money” options like card, wire, and check-image services that build upon sovereign money claims.⁴⁷⁸ It also features much on both centralized and decentralized electronic money, or “e-money,” services like AliPay, Paxos, and M-Pesa.⁴⁷⁹ And then there are variously centralized and decentralized currency substitutes that include CBDC; privately issued cryptocurrencies like Bitcoin, Ethereum; and so-called “stable coins” with comforting names such as “Havven,” “TrueCoin,” or “TrueUSD,” vaguely worrisome names such as “Tether,” or groovy lyrical names such as Facebook’s Libra.⁴⁸⁰

What, figuratively and literally, are we to make of all this? How should we choose among options in digitizing a Fed or Treasury Citizen and Resident Account-associated e-Dollar?

As it happens, things are not nearly as complicated as at first they might seem. The system of Citizen Finance I am advocating largely determines the form that a Democratic Digital Dollar should take. It will be easiest to see why by proceeding sequentially through three contextualizing observations that bring policy-relevant order to the present-day chaos that is the digital currency literature—including the CBDC literature—now on offer. These observations make clear that we can bracket and sidestep, with confidence, all the confusion and unnecessary complication that vitiates most of the still-burgeoning literature on digital monies and payment platforms now on offer. Indeed we can render that thicket all but otiose.

The first contextualizing observation is that there is always a danger of internal tension, if not incoherence, within any discussion of money and payments, especially when conducted against the backdrop of our current, hybrid public-private franchise-finance system.⁴⁸¹ We

⁴⁷⁸ See TOBIAS ADRIAN & TOMMASO MANCINI-GRIFFOLI, INT’L MONETARY FUND, *THE RISE OF DIGITAL MONEY* 4 (2019) (commenting that “The key distinguishing feature of [bank] money is that its redemption guarantee is backstopped by the government.”).

⁴⁷⁹ See *id.* (distinguishing electronic money from bank money in that the former’s “redemption guarantees are not backstopped by governments. They merely rest on prudent management and legal protection of assets available for redemption.”).

⁴⁸⁰ See *id.* at 3 (providing a diagram of various types of digital currency).

⁴⁸¹ See *Finance Franchise*, *supra* note 1, at 1147–49 (observing that “[p]ursuant to [their franchise] arrangement, the sovereign public, as franchisor, effectively licenses private financial institutions, as franchisees, to

must take special care both to recognize and to avoid falling into these confusions.

There are two underlying sources of the confusion-potential to which I allude, which interact in a manner that gums-up much current “money-talk.” One is that money is partly distinguishable from payment systems and thus independently addressable, up to a point, as a conceptual matter,⁴⁸² even while also in all cases being deeply embedded in and indeed constituted by payment systems as a practical matter.⁴⁸³ The other source of confusion-potential is the fact that hybrid public-private financial systems like ours tend to produce multiple layers of money and near-money within single hierarchies, each built on one publicly issued monetary base.⁴⁸⁴ These two facts tend to combine in a manner that breeds much confusion about money and payment systems that we must avoid—and that a Democratic Digital Dollar and associated payment platform will render entirely superfluous.⁴⁸⁵

On the first point, money is always “that which pays” within a given practice of paying or payments regime.⁴⁸⁶ Payment is like a

dispense a vital and indefinitely extensible public resource: the sovereign’s full faith and credit”).

⁴⁸² We can talk for some purposes, for example, about money’s functions as a ‘unit of account,’ ‘medium of exchange,’ and ‘store of value,’ as economists do, in abstraction from the mechanical details of any particular payments system, leaving ‘exchange’ as it figures into the second of those features unelaborated. This can then lead us to assume, mistakenly, that the mechanics of particular payments systems do not matter for purposes of theoretical discussions of money, even though such systems are always essential backdrops to and even constitutive of moneys. See *Rousseauvian Money*, *supra* note 66, at 44–46 (stating that while it has been argued that coins once held value outside of debt and obligations, they were in fact always intertwined); Robert C. Hockett, *Money’s Constitutive Contexts* (2018) (working paper, on file with the authors) [hereinafter, *Money’s Constitutive Contexts*].

⁴⁸³ See *Rousseauvian Money*, *supra* note 66, at 39 (“You temporarily transform narrowly accepted notes into widely accepted note, horizontal money into vertical money, private money into public money.”).

⁴⁸⁴ See *Finance Franchise*, *supra* note 1, at 1149 (“Our re-conceptualization of modern finance as a hybrid public-private franchise system. . . .”)

⁴⁸⁵ See *Rousseauvian Money*, *supra* note 66, at 37–38 (stating that there has been much confusion about private and public capital).

⁴⁸⁶ See *Rousseauvian Money*, *supra* note 66, at 14 (“[O]ur money is just the general form of our shared mode of organizing distributive and hence productive activity in any ‘decentralized exchange economy’ such as our own.”).

move in a game, we might say, and money is the score-keeping modality within any such game.⁴⁸⁷ It is “that which counts” for purposes of accounting in any system involving reciprocal exchange, credits, debits and associated “accountability.”⁴⁸⁸ On the second point, moneys that operate within different layers of a money hierarchy tend to count as payment-settling devices within different transactional settings, hence within different payment subsystems of the overall payments system, in confusion-causing ways I shall presently show and clear up.⁴⁸⁹

Against this backdrop, it can be tempting to think of distinct layers of a single monetary hierarchy as distinct moneys or forms of money, and then to explain the distinctions among them by reference to putatively distinct natural kinds such as, for example, tokens, claims, accounts, “b-moneys,” or e-moneys, all treated as radically different phenomena.⁴⁹⁰ How this gives rise to incoherence and confusion in the digital currency literature will become clear as I move through the next two contextualizing observations.

My second contextualizing observation is that the aforementioned danger of tension or incoherence *rises* as payment system complexity rises, with “complexity” here understood as the number of discrete nodes or steps, and associated institutions interposed between payors and payees, in any payment process.⁴⁹¹ Indeed, in many cases these distinct steps and associated institutions actually *constitute* the

⁴⁸⁷ See *id.* at 17 (“[M]oney’s rootedness in normativity, obligation, accountability and associated accounting, but also its elaboration into the notions of credit, asset, and liability that populate the familiar legal and financial ‘universe’—or, if you prefer, ‘environment’ or ‘game reserve.’”).

⁴⁸⁸ See *id.* (explaining that the system of accounting-credits and debits, depends on reciprocal arrangements).

⁴⁸⁹ *Id.* at 37–38 (illustrating how financial institutions can be used to give credit in the same way that private individuals can give credit to other individuals).

⁴⁹⁰ See generally, David S. Bieri, *Chapter 16: Regulatory Space and the Flow of Funds Across the Hierarchy of Money*, in HANDBOOK OF THE GEOGRAPHIES OF MONEY AND FINANCE 377, 382 (Ron Martin & Jane Pollard eds., 2017) (“[T]he Löschian system as a spatial monetary order where money and credit are created by different financial institutions at separate levels of the hierarchy.”).

⁴⁹¹ See *Finance Franchise*, *supra* note 1, at 1177–78 (illustrating through a figure the immense complexity of the securities markets).

hierarchy of money layers just noted.⁴⁹² The more elements in a payment “value chain,”⁴⁹³ in short, and hence the greater the degree of complexity that must enter into any comprehensive assessment of particular monetary and payment system possibilities, the more unavoidable it becomes to address multiple policy decision points and thus to draw distinctions like those just alluded to.

My third contextualizing observation is that, the moment we bite the proverbial bullet and decide that all parties shall have central bank or public fisc digital wallets and be able to make payments to one another through them, we also eliminate all the layers and associated complexities that occasion all of the confusions that presently vitiate monetary and payment system discussion.⁴⁹⁴ For the latter, again, all stem *entirely* from the presence of multiple steps and associated institutional interfaces in the processes of payment—steps and institutional roles that produce the aforementioned hierarchy of distinct moneys and near moneys in the first place.⁴⁹⁵ Put all accounts on liability side of the Fed or Treasury balance sheet, then—the accounting sheet whose *unit* of account, whose *money*, is the sovereign issuance of the account-keeper itself—and you at once collapse money “*hierarchies*” into just *money*, then sidestep the bewildering and

⁴⁹² See Jamie Toplin, *The Payments Industry Ecosystem: The trend towards digital payments and key players moving markets*, BUS. INSIDER (Dec. 21, 2018 11:44 AM), <https://www.businessinsider.com/payments-ecosystem-report> (illustrating the corporate players in a digital payment value chain, as well as the hierarchy and layering effects present in the chain).

⁴⁹³ This is a term of art in the literature. See, e.g., *Exploring the Payments System Value Chain*, FIRST DATA 1, 2-3 (2009), https://www.firstdata.com/downloads/thought-leadership/fd_insight_payments-value-chain_wp.pdf [<https://perma.cc/2HR6-W224>] (explaining the changes to the payments value chain post financial crisis); *Payments Value Chain*, METASECTION (last visited Apr. 2018), <https://www.metasection.com/payments-value-chain/> [<https://perma.cc/BV42-9XA5>] (introducing what a payments value chain is and breaking down the hierarchy of said chain); Toplin, *supra* note 430 (illustrates the corporate players in a digital payment value chain, as well as the hierarchy and layering effects present in the chain).

⁴⁹⁴ See *Money's Past*, *supra* note 3, at 1 (arguing that once central banks start to upgrade their payment systems and the Fed moves towards a crypto currency, banking will become centralized monetary policy will become simplified).

⁴⁹⁵ See *Finance Franchise*, *supra* note 1 at 1170, 1180 (describing how “near monies” play a role in the current monetary payment system).

altogether unnecessary Ptolmeic distinctions pervading the literature that stem from those hierarchies.⁴⁹⁶

The upshot of these observations is that the Democratic Digital Dollar that I propose will effectively moot most discussions of digital currencies and their associated technologies, including CBDC, that are now underway.⁴⁹⁷ There simply will not be a “there” there anymore. In retiring this discourse my proposal will also, in consequence, dissipate that head-spinning and anxiety-prompting air of “*embarrass de choix*” that now hangs over most digital currency and digital fiat currency discussion.⁴⁹⁸ There really are not all that many choices or options once money goes fully republican, for there are no longer multiple hierarchy layers to deal with.⁴⁹⁹ My proposal will accordingly simplify monetary conversations in the same degree that it simplifies monetary and payment arrangements themselves.

It is easiest to show this by singling out two particularly oft-encountered, and putatively fundamental, distinctions that nearly all discussions of digital money now seem to assume as immutable background conditions.⁵⁰⁰ My proposal, it will be seen, simply sidesteps

⁴⁹⁶ See *Money's Past*, *supra* note 3, at 8 (arguing that once the distinctions between public and private distinctions are discarded, then money can be centralized and digitalized in the modern age).

⁴⁹⁷ See Ben S.C. Fung & Hanna Halaburda, *Central Bank Digital Currencies: A Framework for Assessing Why and How*, BANK OF CANADA, 1, 12 (Nov., 2016), <https://ssrn.com/abstract=2994052> (discussing the positives and negatives in implementing a central bank digital currency); Dong He, *Monetary Policy in the Digital Age: Crypto assets may one day reduce demand for central bank money*, INT'L MONETARY FUND, 13, 15 (June, 2018), <https://www.imf.org/external/pubs/ft/fandd/2018/06/pdf/fd0618.pdf> [<https://perma.cc/49NP-2JAK>] (exploring the ramifications of not issuing a central bank digital currency).

⁴⁹⁸ Dan Lohrmann, “*Could a New Wave of Cryptocurrencies Be on the Horizon?*”, GOVERNMENT TECHNOLOGY (May 26, 2019), <https://www.govtech.com/blogs/lohrmann-on-cybersecurity/is-a-new-wave-of-cryptocurrencies-coming-soon.html> [<https://perma.cc/5QJY-F35V>] (showing the wide number of cryptocurrencies already in existence, as well as the many more that are planned and will be coming).

⁴⁹⁹ See *Money's Past*, *supra* note 3, at 1 (arguing that once central banks start to upgrade their payment systems and the Fed moves towards a crypto currency, banking will become centralized monetary policy will become simplified from the complex hierarchical layers that came before).

⁵⁰⁰ See Adrian & Mancini-Griffoli, *supra* note 416, at 2 (“The first attribute that defines a means of payment is type-either a claim or an object.”); Open

both distinctions—and with them, therefore, most modern digital money proposals and associated discussions as well. It renders the laundry list of options that I rattled off in opening this Part instantly obsolete—something we need no longer waste valuable time on attempting to make sense of, let alone disentangle.

The first putatively fundamental distinction is the one often cited between so-called “account-based” and “token-based”—alternatively, “claim-based” and “object-based”—forms of money and payment.⁵⁰¹ Pursuant to this distinction, a payor can pay a payee either by directly remitting tokens or objects that are recognized as legal tender in all relevant settings—that is, cash—or can convey a claim to the payee that indirectly entitles her to some portion of cash or its equivalent in effect held by the payor in—or owed to the payer in the form of—some sort of account.⁵⁰² This distinction is important, we are told, because (a) payors or their account-administrators can prove to be insolvent before payments are settled, and (b) cash, unlike accounts, allows for anonymity among transacting parties.⁵⁰³

In our current payments system, this distinction does have some—dare one say it?—purchase, for it does highlight actual dangers that can afflict payment transactions over the course of the value chain—dangers the law must then mitigate.⁵⁰⁴ Checks used to bounce,

Loop Card, *supra* note 240 (“An open loop card is a general-purpose charge card that can be used anywhere that brand of card is accepted.”).

⁵⁰¹ See, e.g., BANK FOR INT’L SETTLEMENTS, COMM. ON PAYMENTS AND MKT. INFRASTRUCTURES & MKTS. COMM., CENTRAL BANK DIGITAL CURRENCIES 4 (Mar. 2018) (“Money is typically based on one of two basic technologies: *tokens of stored value* or *accounts* . . . Cash and many digital currencies are token-based, whereas balances in reserve accounts and most forms of commercial bank money are account-based.”); see also, e.g., ADRIAN & MANCINI-GRIFFOLI, *supra* note 416, at 2 (“The first attribute that defines a means of payment is *type*—either a claim or an object.”). Other work employs similar terminology in drawing what appears to be the same attempted distinction.

⁵⁰² See BANK FOR INT’L SETTLEMENTS, *supra* note 229, at 6 (discussing the direct and indirect nature of transfer mechanisms where “[t]he transfer of cash is conducted on a peer-to-peer basis, while central bank deposits are transferred through the central bank, which acts as an intermediary”).

⁵⁰³ See ADRIAN & MANCINI-GRIFFOLI, *supra* note 416, at 3 (discussing that central bank digital currency “could protect users’ data from third parties” but unlike cash, it “would likely not be anonymous”).

⁵⁰⁴ See generally BANK FOR INT’L SETTLEMENTS, *supra* note 440, at 9 (discussing legal considerations where some countries may not “have the

for example, and depository institutions could fail amidst multipart payment transactions such as those, for example, that letters of credit involve.⁵⁰⁵ Much of commercial law, negotiable instruments law, and banking law accordingly prescribes to this day who has what rights to which things under what circumstances.⁵⁰⁶

Much current discussion of crypto-currency and associated payment infrastructure options, be they central-bank-administered or otherwise, highlights and addresses these same sorts of dangers.⁵⁰⁷ Likewise, many participants in current fintech discussions tout the preferability of “token” or “object” money over “account” or “claim”

authority to issue digital currencies” and “issuance may require legislative changes”).

⁵⁰⁵ See, e.g., *Federal Deposit Ins. Corp. vs. Philadelphia Gear Corp.*, 476 U.S. 426 (1986) (involving a failed bank in the midst of a standby letter of credit transaction).

⁵⁰⁶ See generally, e.g., Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Pub. L. No. 111-203, 124 Stat. 1376 (stating pertinent law relating to the Durbin Amendment on debit card issuers); Credit Card Accountability Responsibility and Disclosure Act of 2009, Pub. L. No. 111-24, 123 Stat. 1734 (establishing “fair and transparent practices relating to the extension of credit under an open end consumer credit plan”); Check Clearing for the 21st Century Act of 2003, Pub. L. 108-100, 117 Stat. 1178; 12 C.F.R. § 210 (2017) (“Collection of Checks and Other Items by Federal Reserve Banks and Funds Transfers Through Fedwire (Regulation J.)”); 12 C.F.R. § 229 (2018) (“Availability of Funds and Collection of Checks (Regulation CC.)”); 12 C.F.R. § 235 (2012) (“Debit Card Interchange Fees and Routing (Regulation II.)”); 12 C.F.R. § 1005 (2017) (“Electronic Fund Transfers (Regulation E.)”); U.C.C. §§ 3-101–3-605 (NAT’L CONF. OF COMM’RS ON UNIFORM STATE LAWS 2009-2010) (stating pertinent law on negotiable instruments); U.C.C. §§ 4-101–4-504 (NAT’L CONF. OF COMM’RS ON UNIFORM STATE LAWS 2009-2010) (stating pertinent law on bank deposits and collections); U.C.C. §§ 4A-101–4A-507 (NAT’L CONF. OF COMM’RS ON UNIFORM STATE LAWS 2009-2010) (stating pertinent law on funds transfers). At the time of this writing, members of Congress recently proposed another piece of payment system legislation that would be rendered unnecessary by my proposal. See H.R. 3951, 116th Cong. (2019) (“Payments Modernization Act of 2019.”); see also S. 2243, 116th Cong. (2019) (“Payments Modernization Act of 2019.”).

⁵⁰⁷ See, e.g., *Systemically Significant Prices*, *supra* note 338, at 2 (“[Systemically important prices and indices] render financial markets vulnerable to many of the same systemic dangers as do [systemically important financial institutions] . . .”).

money owing to its cash-reminiscent anonymity properties.⁵⁰⁸ These people accordingly speak of “digital cash” and “digital wallets” as things radically distinct from and preferable to “digital currency” and “digital accounts.”⁵⁰⁹

It requires little acuity or imagination, however, to see that these distinctions and the dangers they highlight are entirely artifacts of a hybrid public-private payments system in which multiple steps and associated entities, nearly all of the latter being private sector institutions, stand between payors and payees in the payments process.⁵¹⁰ This means a move to a system of Fed- or Treasury-administered Citizen and Resident Wallets and an associated Democratic Digital Dollar like what I propose will, in collapsing the money hierarchy and removing its layers, immediately collapse the mentioned distinctions themselves and thus render discussions predicated upon them no longer interesting.

Physical currency tokens such as dollar bills and coins, for example, are claims upon—liabilities of—federal instrumentalities just as demand deposits and associated transaction accounts are claims upon—liabilities of—the private sector banks and other financial institutions that offer and administer them.⁵¹¹ The aforementioned popular distinction between “token” and “account”—or “object” and “claim”—is thus less a distinction between kinds or types of money, in any natural kind sense of those words, than it is between layers in the same money hierarchy associated with public and private obligees—that is, between privately owned financial intermediaries and publicly run sovereign instrumentalities.⁵¹²

Since the system I am proposing simply dispenses with privately owned intermediary institutions where both banking and payments are concerned, these distinctions and the systemic vulnera-

⁵⁰⁸ See BANK FOR INT’L SETTLEMENTS, *supra* note 229, at 17 (demonstrating the preferability of cash-like properties by arguing that “the more anonymous the instrument and the more decentralized the transfer mechanism was, the greater the opportunity for cross-border activity . . .”).

⁵⁰⁹ See *id.* at 4–6 (highlighting the key distinctions between token-based money and account-based money where token-based benefits from anonymity and peer-to-peer transfers while account-based does not).

⁵¹⁰ See, e.g., Toplin, *supra* note 431 (listing the various private institutions that play a variety of roles including issuers, card networks, and processors in the “payments ecosystem”).

⁵¹¹ See *Finance Franchise*, *supra* note 1, at 1152 n.22 (noting that demand deposits are to be thought of liabilities of the bank).

⁵¹² *Id.*

bilities that render them salient simply collapse. “Token” and “account,” “object” and “claim,” become one and the same thing, just as they would be in a system in which all payments were made in sovereign issued coin and currency, and all bank accounts were publicly provided and guaranteed bailment services into which additional, lent money or “helicopter” money could be dropped.⁵¹³ In effect, what I propose is simply a digitized version of just that—a version that was technically unavailable in the eighteenth and nineteenth centuries but now can afford literally instantaneous clearing and settling in digital fiat currency between any two or more parties.

The one caveat to this observation is that physical cash does afford some privacy potentials that some systems of digital currency might not.⁵¹⁴ But this is a matter of system design that confronts any electronic issuance of anything, public or private, since electronic networks are, well, physical networks.⁵¹⁵ They are material infrastructures over which flows of electrons can in principle always be tracked or retraced.⁵¹⁶ This means that cash-simulating safeguards must be cryptographically built in—again, whether the system in question be publicly or privately administered.⁵¹⁷ I will come back to this shortly in describing the Democratic Digital Dollar that is the monetary counterpart of the payment system that our Fed or Treasury balance sheet will constitute in a system of Citizen Finance.

The second putatively fundamental distinction that is salient only under our current hybrid payments system arrangements is the difference between so-called “open loop” and “closed loop”—a.k.a. “peer to peer” or “P2P”—systems, a distinction that partly prompts interest in blockchain and other distributed ledger technologies among

⁵¹³ See *Money's Past*, *supra* note 3, at 3 (discussing generally what “sovereign-issued currency looks like . . . when paid out” by banks).

⁵¹⁴ See generally Mauro Conti et al., *A Survey on Security and Privacy Issues of Bitcoin*, 20 IEEE COMM. SURV. & TUTORIALS 3416 (2018) (discussing Bitcoin and cryptocurrency security risks and possible solutions).

⁵¹⁵ See Daniel DiMase et al., *Systems Engineering Framework for Cyber Physical Security and Resilience*, 35 ENV'T SYS. AND DECISIONS 291 (2015) (discussing cyber physical systems security and risk management).

⁵¹⁶ See *id.* at 295 (stating that track and trace mechanisms provide “the internal and network-based process and tools for determining the current and past locations and logistics security controls” to perform their required duties).

⁵¹⁷ See, e.g., *id.* at 298 (demonstrating that safeguards such as “resilience” must be “built into the framework”).

many enthusiasts in the first place.⁵¹⁸ Broadly speaking, in contemporary parlance, an open loop payments system is one in which intermediaries—typically, but not always, financial institutions—stand between transacting parties and whatever party manages the relevant payments platform or infrastructure.⁵¹⁹ In a closed loop system, by contrast, only a single payment platform and system administrator stand between payors and payees.⁵²⁰ The coexistence of open and closed loop systems is of course one case of that layering and complexifying via intermediating institutions that I noted above to be a confusion-sowing aspect of our present arrangements.⁵²¹ That is particularly true insofar as closed systems tend to integrate into and become subsystems of broader open loop systems over time.⁵²²

A stylized case of an open loop system would be one in which Jack pays Jill by in effect instructing his bank to pay Jill for him, whereupon his bank debits his account and pays the payment system administrator, which then pays Jill's bank, which then credits Jill's account. Most payment service providers with which most of us are familiar operate on some version of this model.⁵²³ Credit and debit card payment systems, wire transfer systems, and even check image

⁵¹⁸ See, e.g., Troy Segal, *Open Loop Card*, INVESTOPEDIA, (Jul. 16, 2019), <https://www.investopedia.com/terms/o/open-loop-card.asp> [https://perma.cc/RQT5-QDFL] (defining open loop systems); Julia Kagan, *Closed Loop Card*, INVESTOPEDIA, (Apr. 11, 2019), <https://www.investopedia.com/closed-loop-card-definition-4683996> [https://perma.cc/UN76-HGS6] (defining closed loop systems); *Finance Franchise*, *supra* note 1, at Part V (discussing institutional integration of banking and capital markets).

⁵¹⁹ Segal, *supra* note 456 (describing how “open loop” systems are for general use; cards may be used at a wide variety of places—credit cards and debits are good examples of “open loop”).

⁵²⁰ Kagan, *supra* note 456 (describing “closed loop” systems, such as store-specific gift cards).

⁵²¹ *Money's Constitutive Contexts*, *supra* note 420.

⁵²² As discussed immediately below. See generally *Systemically Significant Prices*, *supra* note 338 (developing a general account of systemically important prices and indices, and the market vulnerabilities to which they can give rise); *National Investment Authority*, *supra* note 4 (offering an account of “collective goods” as solutions to collection action problems in decentralized markets).

⁵²³ Segal, *supra* note 456 (describing commonly-used open loop cards from payment service providers like credit card companies, banks, and credit card unions).

transfer systems are cases in point.⁵²⁴ So is ACH—the Automated Clearing House Network—that has managed billions of payments for decades now.⁵²⁵

In a closed loop or P2P system, by contrast, payment takes the form of a payor instruction to the system administrator to credit the payee’s account in the same system, which then occurs more or less simultaneously to the payor’s account’s being correspondingly debited within the system.⁵²⁶ PayPal, Venmo, and Western Union are among the better-known payment service providers operating on this model in the United States.⁵²⁷

While these systems are, by definition, “closed” relative to their immediate users, it is noteworthy that they typically also participate in wider “open” payments infrastructures in order to fund the interparty payments that they conduct.⁵²⁸ Something like this happens, for example, when one uses a bank card to make her PayPal payment to a payee.⁵²⁹ The open system/closed system distinction is thus a fuzzy or relative one even under present arrangements, and becomes ever more fuzzy as closed systems integrate themselves into, and thus become subsystems of, broader open loop systems. This in turn tends to produce further payment system layering and associated money hierarchies of the kinds noted above—the kinds that then force

⁵²⁴ Segal, *supra* note 456 (“Open loop cards can take a variety of forms . . . credit cards, debit cards. . .”); FED. RES. BD., REPORT TO THE CONGRESS ON THE USE OF THE ACH SYSTEM AND OTHER PAYMENT MECHANISMS FOR REMITTANCE TRANSFERS TO FOREIGN COUNTRIES (Mar. 2013) (“Less commonly, consumers . . . use ‘open-loop’ payment systems such as wire-transfer systems, correspondent banking channels, and ACH networks.”).

⁵²⁵ FED. RES. BD., *supra* note 462 (clarifying that ACH networks are a type of open loop system).

⁵²⁶ Kagan, *supra* note 456 (describing how closed loop systems allow cardholders (the payor) to purchase from one specific vendor (the payee)).

⁵²⁷ Brett King, *USA – World’s Largest Closed Loop Payment Systems?* BANK INNOVATION (Oct. 1, 2013) <https://bankinnovation.net/allposts/biz-lines/payments/usa-worlds-largest-closed-loop-payments-system/> [<https://perma.cc/BZ8W-DPZJ>] (discussing the presence of large closed loop payment systems, including Venmo and PayPal, in the United States.).

⁵²⁸ Kagan, *supra* note 456 (providing a brief overview of closed loop system payment infrastructures).

⁵²⁹ *Id.* (discussing card processing in closed loop systems).

a baroque system of distinct bodies of creditor/debtor, negotiable instrument, commercial, and banking law.⁵³⁰

The open/closed distinction can be salient in some circumstances under current arrangements notwithstanding its porousness, however, inasmuch as each sometimes offers distinct advantages and disadvantages.⁵³¹ For these apparent advantages and disadvantages positively and negatively motivate, respectively, much that now goes by the name of “innovation” in payment technologies.

One advantage of an open loop system, for example, is said to be that it can quickly be made to operate on a large scale because the intermediaries that act on behalf of payors and payees—typically commercial banks—already have large customer bases.⁵³² Even a small number of such institutions’ joining a network accordingly brings millions of exploitable payor/payees into the payment system “value chain.”⁵³³

The corresponding disadvantage of the open system is that operating rules must be established and then maintained across multiple layers of interfacing institutions, which then represent multiple “near-moneys” and associated sites of potential error and associated legal liability in the event something goes wrong.⁵³⁴ Such error can of course pose systemic dangers and even occasion temporary payment system shut down—which, thanks to money’s always being constituted by a payment system, can be the functional equivalent of a liquidity crisis that morphs into a depression-or recession-causing “credit crunch” in the financial system.⁵³⁵

⁵³⁰ See generally *Open Labor*, *supra* note 29 (offering a case for institutionalizing continuous public operations in labor markets analogous to continuous Fed operations in money markets); *How to Make QE More Helpful*, *supra* note 328 (suggesting innovations to monetary policy).

⁵³¹ See Dan Kosir, *Open vs. Closed Loop Mobile Payments*, Clearbridge Mobile (May 21, 2014), <https://clearbridgemobile.com/open-vs-closed-loop-mobile-payments/> [<https://perma.cc/V842-MEHB>] (laying out the advantages and disadvantages of closed and open loop systems as well as some emerging hybrid systems).

⁵³² Segal, *supra* note 456 (listing several large financial institutions, including banks and credit card companies that utilize open loop systems).

⁵³³ AMERICAN EXPRESS CO., 2018 ANNUAL REPORT i (2018) (“As our 2018 results show, we . . . added 12 million new Card Members”).

⁵³⁴ See generally, *Finance Franchise*, *supra* note 1, at Part II (discussing banking institutions’ interactions with the public and banking liabilities).

⁵³⁵ Probably still the most infamous case in point is the brief global scare brought on by Bankhaus Herstatt in 1974—a scare which both occasioned the

Closed loop systems, by contrast to open systems, are comparatively simpler and present flatter money hierarchies and fewer sites of potential glitch and associated system-wide crash and liability.⁵³⁶ Their corresponding disadvantage is that they ordinarily take more time and effort to scale-up than do open systems, because, unlike the latter, they do not always build upon already-large, ready-made client bases.⁵³⁷

This is one of the putative advantages that Facebook and other large firms and social media platforms tout in connection with proposals like Facebook's Libra. With nearly two and a half billion users worldwide, Facebook, in theory, could offer a closed loop system that boasts all the simplicity advantages of a closed loop while also enjoying the scaling advantages of an open loop system.⁵³⁸ The same goes for WeChat Pay and AliPay in China, which are preparing to do there—save in collaboration with China's central bank— what Facebook proposes to do here.⁵³⁹

This in turn invites a thought: what better payments system could there possibly be than one that is both maximally open and maximally closed—i.e., one that cuts out all intermediating layers while also including all possible payors and payees, all citizens, residents, and businesses? The answer, as I will next show, is that no system could be better. And so that is what I will propose for the Fed's or Treasury's liability ledger and associated Democratic Digital Dollar.

As suggested above, the same capacities to bridge open and closed loops that render a Libra or AliPay attractive to some people

establishment of the Basel Committee so beloved by finance regulators and provided a name to a specific form of systemic risk routinely now noted to afflict financial markets: 'Herstatt Risk.' Opinion, *The Long Dark Shadow of Herstatt*, *ECONOMIST*, Apr. 14, 2001, at 70–71 (discussing a new financial institution aimed at reducing the risk of a crisis in foreign-exchange payments post-Herstatt); Julia Kagan, *Settlement Risk*, *INVESTOPEDIA* (Jan. 9 2018), <https://www.investopedia.com/terms/s/settlementrisk.asp> [<https://perma.cc/9CZV-J9QX>] (describing settlement risk, also called "Herstatt Risk").

⁵³⁶ See Kagan, *supra* note 456; see also Segal, *supra* note 456 (juxtaposing the closed loop system with the open loop system).

⁵³⁷ *Id.* (discussing a specific disadvantage of a closed loop system that an open loop system does not have).

⁵³⁸ See *More Pisces Than Libra*, *supra* note 376 (arguing that because of Facebook's large user base they can offer a closed loop system, therefore precluding an issue of scaling).

⁵³⁹ *Id.* (stating that similarly to Facebook, WeChat and Alipay can offer a closed loop system because of their large user base).

also account for some of the attraction of blockchain and other distributed ledger technologies, along with associated crypto-currencies to the same people. In effect, these technologies can be seen as offering the prospect of a payments infrastructure bearing both the intimacy, quasi-anonymity, clearing-simultaneity, and middleman-minimization advantages of a closed loop system, and the scale advantages of an open loop system.⁵⁴⁰ These reasons drive many of the more reasonable, less silly, contributions we sometimes find in the literature on crypto, blockchain, and other distributed ledger technologies.⁵⁴¹ This too, then, invites a thought: what need would there be for these technologies were our payments system already both maximally open and maximally closed? The answer, as again I shall indicate below, is “undeniably some, but not as much as cryptopians claim.”

As in the case of the token/account or object/claim distinction discussed above, then, here too the salience of a popular distinction and a whole literature still growing around it is entirely an artifact of the roles played by multiple private sector entities in constituting multiple “near money” layers in our current hybrid, public-private payments infrastructure. Were literally everybody to hold Citizen or Resident Wallets with the Fed or Treasury in a form that employs Democratic Digital Dollars as a unit of account, as I propose, there would be no need to develop hub and spoke structures linking up various accounts already held at various institutions, as privately offered open loop payment infrastructures do.⁵⁴² Nor would there be any need painstakingly to build user bases—or to piggyback upon private sector social media user bases—as privately-run closed systems must do.⁵⁴³ We would already have the whole possible user base—ourselves, in our shared capacity as citizens of a democratic commercial republic—available for inclusion.⁵⁴⁴

⁵⁴⁰ See Kosir, *supra* note 469 (laying out the advantages and disadvantages of closed and open loop systems as well as some emerging hybrid systems).

⁵⁴¹ See *id.* (discussing benefits of hybrid systems).

⁵⁴² See *Money's Past*, *supra* note 3, at 10 (arguing that a Citizen Account will centralize banking and make it more efficient).

⁵⁴³ See *More Pisces Than Libra*, *supra* note 376 (juxtaposing the Citizen Account approach with the approach of social media giants like Facebook who rely on their user bases).

⁵⁴⁴ *Id.* (arguing that a user base would already be pre-built if a Citizen Account proposal was created because everyone would be on a “Citizens’ Ledger”).

In such case everyone would immediately be on one ledger—a sort of Consolidated Citizens’ & Residents’ Ledger—and payments would simply be simultaneous creditings and debitings on that single ledger.⁵⁴⁵ There would be little need to distribute, even if some advantage in distributing, a ledger as a means of indelibly mimicking centralized clearing among disparate peers.⁵⁴⁶ For there simply would be traceable centralized clearing among all paying and paid citizens and approved residents, via a democratically owned and operated digital payments system and associated Democratic Digital Dollar platform.⁵⁴⁷ Blockchain’s sole use then would be less as a money-platform than as a useful “smart contract” and linked-transaction file folder, as I will explain presently.⁵⁴⁸

In effect, then, many putative benefits—at any rate, non-criminal benefits—said to be offered by new crypto-currencies and associated tech architectures will be immediately rendered superfluous under my proposal.⁵⁴⁹ They will have no more use in the future than have nineteenth century bank-issued “wildcat” currencies now.⁵⁵⁰ We will have moved on from fintech to what might be called “Ourtech”—or perhaps even better, just plain old “tech.”⁵⁵¹

The same goes for all options mentioned in the opening paragraph of this Part. The only salient benefits that these technologies will offer will be (a) the privacy-maintenance prospects they promise, and (b) certain book-keeping virtues they afford in connection with contracting apart from payment-consummation. The latter benefits are of some relevance for present purposes—indeed I am developing uses for them in other contexts such as mortgage registration and chain-of-title

⁵⁴⁵ See *Money’s Past*, *supra* note 3, at 10 (predicting that the Fed will begin administering a Distributed Ledger Technology to more efficiently track transactions).

⁵⁴⁶ *Id.* (describing the benefits of a centralized distributed ledger).

⁵⁴⁷ *Id.* (describing the benefits of a centralized distributed ledger).

⁵⁴⁸ *Id.* (implying that blockchain technology’s primary use would be to track transactions).

⁵⁴⁹ See *More Pisces Than Libra*, *supra* note 376 (stating that if Facebook makes the Libra “regulatorily tolerable” then it will result in the Libra being monetarily superfluous).

⁵⁵⁰ See *Money’s Past*, *supra* note 3, at 10 (arguing that if the Fed adopts a digital dollar, the current cryptocurrencies would have no use).

⁵⁵¹ *Id.* at 12 (arguing that even though technology is changing the way we use money, it will always be “our money” (the sovereign public’s money) that is allowing these new technological changes; hence “ourtech”).

tracking⁵⁵²—but not as much as cryptopians claim. The former, or privacy, benefits, for their part, are easy to bake in to a Democratic Digital Dollar and associated payments architecture with cryptography.⁵⁵³ I turn, then, to doing just that.

B. From Payments to Moneys: Technical Options for the Democratic Digital Dollar—and Its Counterparts Abroad

What, then, should a Democratic Digital Dollar look like? How should payments be made and transactions clear? The answer might initially look surprisingly simple. But the surprise should not be long-lasting in light of the foregoing observations. For those observations lead directly to the conclusion that most decision points commonly said to be implicated by digital currency proposals need not actually be decided upon at all. They can be mooted the moment we opt for Fed- or Treasury-administered Citizen and Resident Wallets, for they rest on distinctions that are mere artifacts of our not having yet instituted such a system of public accounts.

My answer to the “what will a Digital Dollar look like” question, then, is that all can proceed much as it appears on the surface—or, in industry parlance, at “the back end”—already, save without intermediating payment processors, banks, or other financial institutions calling shots under the surface—that is, at “the front end.” The Fed or Treasury will simply debit and credit transacting parties’ Citizen or Resident Wallets, just as the Fed now does with bank Reserve Accounts.⁵⁵⁴ Payment instructions for their part can be made to the Fed or Treasury much as they are presently made to banks or to closed loop payment service firms like PayPal—namely, via phones, laptops, chip cards, strip cards, wire, etc.—in short, all of the above and all that might emerge in the future.⁵⁵⁵

⁵⁵² See, e.g., Robert C. Hockett & William Fry, *The Simplified Mortgage and Recorded Title (SMART) Act of 2019* 19-04 (Cornell Legal Studies Research Paper, Paper No. 19-04, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3298870 (providing an example of some of these uses in another context).

⁵⁵³ See *More Pisces Than Libra*, *supra* note 376 (analyzing privacy benefits of Facebook’s Libra).

⁵⁵⁴ *Finance Franchise*, *supra* note 1, at 1147–48 (explaining how reserve accounts work at the Federal Reserve).

⁵⁵⁵ See, e.g., Morgan Stanley, Payment Instructions, (last visited Oct. 16, 2019) https://www.morganstanley.com/spc/amazon/docs/en/Payment_Instruc

In this connection the Fed or Treasury can supply payment cards to those who prefer plastic with strips or with chips to smart phones or other devices, and will post freely downloadable “Wallet apps” for use on electronic devices. We should also, I think, continue to make cash and coin available, at either or both ATMs and teller windows as noted above, at least for the time being. And these forms should be freely interchangeable with all digital forms just as they are now via check-cashing and ATM withdrawals. Perhaps one day paper currency, coin, and other old money-media will die out, but I see no need publicly to force the issue, and see compelling reasons not to do so.⁵⁵⁶

How about privacy? Well, as noted above it is easy to bake this in to any digital system in a manner that replicates or simulates what we do now with cash and bank-administered transaction accounts.⁵⁵⁷ Under this regime, transactions in cash or by transfer, when for values below certain threshold amounts, enjoy specific privacy protections. Transactions in amounts exceeding those threshold amounts, by contrast, must be reported.⁵⁵⁸

There is no reason we cannot import this regime into the system of Citizen and Resident Wallets, either with (a) cryptographic protections provided to transactions valued at amounts lower than the same thresholds, (b) prepaid value cards whose amounts can be withdrawn at will, or (c) both (a) and (b). Digital Dollars can thereby be made to constitute cryptographic currency or coin up to stipulated threshold amounts in connection with specific transactions, and

tions_Amazon.pdf [<https://perma.cc/J65V-WR7J>] (providing an example of payment instructions at Morgan Stanley).

⁵⁵⁶ I say this notwithstanding the warnings of Kenneth Rogoff, whose concerns are readily addressable by means that do not throw elderly people off of the payment technologies to which they are accustomed. *See generally* KENNETH ROGOFF, *THE CURSE OF CASH* (2017). For more reasons not to dispense with contemporary cash forms too quickly, *see, e.g.*, Satyajit Das, *Think Twice about Going Cashless*, BLOOMBERG (May 21, 2017), <https://www.bloomberg.com/opinion/articles/2017-05-21/world-should-think-twice-before-abolishing-cash>.

⁵⁵⁷ *See More Pisces Than Libra*, *supra* note 376 (stating that digital currency utilizing distributive ledger technology affords consumers increased privacy).

⁵⁵⁸ Filing Obligations for Reports of Transactions in Currency, 31 C.F.R. § 1010.311 (2011) (requiring reporting of transactions over \$10,000).

something more like presently traceable bank money beyond those thresholds.⁵⁵⁹

Violations of such protections by public instrumentalities including the Fed or Treasury itself, in turn, would of course constitute actionable violations of Fourth Amendment rights.⁵⁶⁰ And the regime will at all events always be, as it is now and as the Fed system more generally is, democratically determined—by federal statute.⁵⁶¹ This is far better for privacy than would be any system driven by the profit- or rent-seeking motives that could move privately owned banks and other financial institutions, not to mention Facebook and other social media firms whose business model just is data-”harvest” and -sale, to violate user privacy.⁵⁶²

As for blockchain and other distributed ledger technologies, these will be contingently useful even though not strictly necessary in a Fed- or Treasury-administered Digital Dollar payments system. One virtue of blockchain technology, for example, is the ease with which it enables associated transaction records to be in effect “stapled” together for purposes of tracking complex sets of transactions as clusters or wholes.⁵⁶³ Letter of credit transactions are obvious cases in point, as would be mortgage-lending and -transfer transactions and other species of negotiable instrument transaction.⁵⁶⁴ In essence, any transaction type involving multiple component actions with documents associated with each component—e.g., the multiple documents used in documentary letter of credit transactions, or the documents linked in a

⁵⁵⁹ *Are Cryptocurrencies Anonymous?*, COINBASE (last visited Oct. 16, 2019), <https://www.coinbase.com/learn/are-cryptocurrencies-anonymous> [<https://perma.cc/NQU3-T3X9>] (stating that cryptocurrencies are generally traceable).

⁵⁶⁰ *See, e.g.*, Protection of Nonpublic Personal Information, 15 U.S.C. § 6801 (2012) (creating an obligation on financial institutions to protect the privacy and confidentiality of its customers).

⁵⁶¹ *See, e.g., id.* (providing an example of a federal statute protecting against Fourth Amendment violations).

⁵⁶² *See More Pisces Than Libra*, *supra* note 376 (describing major data breaches of personal data like that of Cambridge Analytica).

⁵⁶³ *See Finance Franchise*, *supra* note 1, at 1209 (explaining that blockchain technology uses a distributed ledger to record and verify each transaction and is not stored at a single host which eliminates the risk of alteration).

⁵⁶⁴ *See, e.g., Rousseauvian Money*, *supra* note 66, at 45 (providing an example of such mortgage-lending transactions).

chain of title—will of course lend themselves to tracking by suggestively named blockchain technology.⁵⁶⁵

Insofar as payments within such transaction-clusters are made across Fed or Treasury Citizen or Resident Wallets, it would presumably become convenient at some point for the Fed or Treasury to make use of blockchain technology in effecting the relevant transactions.⁵⁶⁶ It would be of obvious benefit to the parties, and probably also to the Fed or Treasury itself. Hence one can deem it desirable. It would not be essential, however, hence the decision whether to do it will amount to a garden-variety cost-benefit decision we can leave to the Fed or Treasury or to Congress.⁵⁶⁷ Similar remarks hold of all forms of distributed ledger technology.⁵⁶⁸ On the one hand it will not be necessary to my proposal insofar as the tracking benefits that typically recommend it are already had on a centralized ledger such as the liability side of the Fed's balance sheet will be.⁵⁶⁹ On the other hand, it

⁵⁶⁵ See Sayuri Shirai, *Central Bank Digital Currency: Concepts and Trends*, VOX (Mar. 6, 2019), <https://voxeu.org/article/central-bank-digital-currency-concepts-and-trends> [<https://perma.cc/RRB7-8AAC>] (“Blockchain is a type of distributed ledger where each transaction is verified using encryption keys and digital wallets; the numbers of the transactions are recorded on a new electronic distributed ledger, which is then connected through a chain (using hash functions) to previous, proven distributed ledgers using the proof-of-work process.”).

⁵⁶⁶ As noted below, central bank experiments with DLT-based CBDCs thus far suggest that the technology is promising but not yet cost-effective. See Sayuri Shirai, *Central Bank Digital Currency: Concepts and Trends*, VOX, (Mar. 6, 2019) <https://voxeu.org/article/central-bank-digital-currency-concepts-and-trends> [<https://perma.cc/RRB7-8AAC>] (“Most of the central banks concluded that their experiments successfully transferred digital tokens on a distributed ledger in real time and in reasonable volumes.”).

⁵⁶⁷ *Id.* (“[N]o central banks have found strong advantages to issuing their own digital coins due to technical constraints.”).

⁵⁶⁸ *Id.* (“The board of directors shall perform the duties usually appertaining to the office of directors of designated financial market utilities (as defined in 12 USC § 5462(4)) and all such duties as are prescribed by law.”); see also Simon Scorer, *Central Bank Digital Currency: DLT, or Not DLT? That is the Question*, BANK UNDERGROUND (June 5, 2017), <https://bankunderground.co.uk/2017/06/05/central-bank-digital-currency-dlt-or-not-dlt-that-is-the-question/> [<https://perma.cc/49EX-2NAR>] (“It’s important for central banks to determine exactly what might motivate them to ever issue CBDC . . .”).

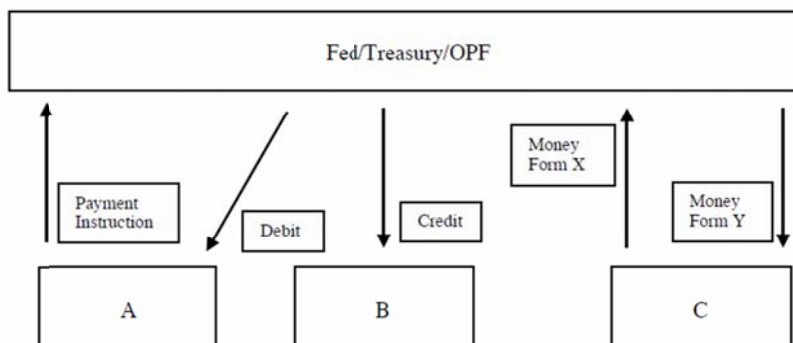
⁵⁶⁹ See *supra* Part III (“As early as the 1920s, foreign central bankers were noting how U.S. Fed open market operations had become the primary determinants, not only of the U.S., but also of the global money supply.”).

offers other benefits that the Fed, Treasury or Congress might deem worth offering when upgrading our payments system with the new features I am here proposing, particularly as they become less costly. At the very least, their replicability and associated indelibility properties lend them good back-up or potential that can afford payment system resilience once the new Democratic Digital Dollar regime is in place.

And that is essentially it. There need be no further complication or layering. Nor, therefore, need there be any more “hierarchy” of moneys and “near moneys” associated with discrete privately managed subsystems of the full public payments system. There will simply be one payment system, run on the liability side of the Fed’s or the Treasury’s balance sheet, and one associated digital payments platform and associated currency. And both will be democratically sovereign and citizen-owned.

Diagrammatically, then, the system I envisage is as depicted in *Figure 2* above or *Figure 4* immediately below. Payment from any A to any B will take the form of a card or mobile device or other such instruction to the Fed or Treasury Master Account administrator, which will then simultaneously debit A’s and credit B’s Citizen or Resident Wallet. Any person C, moreover, will be able to convert dollars she holds in some form X—e.g., digital cash—into dollars she wishes to hold in some other form Y—e.g., paper notes or metallic coins.

Figure 4: Fed- or Treasury-Administered Digital Dollar Payments System



How does this compare to what other jurisdictions are doing? As noted earlier, many central banks and monetary authorities

worldwide—nearly twenty at this point—are now considering the adoption of some form of digital fiat currency.⁵⁷⁰ News of Facebook’s Libra proposal, moreover, appears to have instigated some acceleration along these lines.⁵⁷¹ Some central banks at present are merely studying the prospect of issuing digital currencies, others are actively conducting limited experiments with a view to determining in advance what opportunities to exploit and what pitfalls to avoid before actually instituting anything, and a few are now actively doing such instituting.⁵⁷² The farthest along at this point is Sweden’s Riksbank, and I think it no accident that the Swedish plan also is the one that most closely resembles my own.⁵⁷³

Plans now being actively considered or vetted fall into two broad categories, which I will call “citizen-benefitting” (or “retail”) and “bank-benefitting” (or “wholesale”).⁵⁷⁴ The idea behind proposals

⁵⁷⁰ See, e.g., Mike Orcutt, *At Least 15 Central Banks Are Serious About Getting into Digital Currency*, MIT TECH. REV. (Dec. 15, 2018), <https://www.technologyreview.com/s/612573/at-least-15-central-banks-are-serious-about-getting-into-digital-currency/> (“In fact, no fewer than 15 such central banks around the world are taking the idea seriously, and many others are at least exploring it, according to a recent report from the International Monetary Fund (IMF).”).

⁵⁷¹ See, e.g., Ana Alexandre, *China’s Central Bank Developing Own Digital Currency in Response to Libra*, COIN TELEGRAPH (July 8, 2019), <https://coin-telegraph.com/news/chinas-central-bank-developing-own-digital-currency-in-response-to-libra> [<https://perma.cc/QEU2-KLCV>] (“China’s central bank is reportedly developing its own digital currency in response to Facebook’s Libra”); Claire Jones, *Central Bank Plans to Create Digital Currencies Receive Backing*, FIN. TIMES (June 30, 2019), <https://www.ft.com/content/428a0b20-99b0-11e9-9573-ee5cbb98ed36> (“Global central banks may have to issue their own digital currencies sooner than expected”); Nicholas Megaw, *BIS Warns on Facebook Risk to Finance After Libra Plan Unveiled*, FIN. TIMES (June 23, 2019), <https://www.ft.com/content/db37a29e-95a8-11e9-8cfb-30c211dcd229> (“The BIS, the central bank for central banks, said regulators worldwide may need to ‘revamp’ rules to deal with the structural changes being brought about by entrants that control ‘key digital platforms’ such as ecommerce sites and social networks.”).

⁵⁷² See *supra* notes 508–09.

⁵⁷³ See Gabriel Söderberg, *What Is Money and What Type of Money Would an e-Krona Be?*, SVERIGES RIKSBANK ECON. REV. (2018) (discussing Sweden’s central bank issued digital currencies and the e-krona).

⁵⁷⁴ A number of jurisdictions are still very much in “study and deliberation mode.” These include the Bahamas, Curcao, the Czech Republic, the Eastern Caribbean Central Bank, Malaysia, Switzerland, Turkey, Ukraine, Uruguay,

being made and studies being conducted under the latter category is in essence simply to make improvements to existing payments infrastructures, not to upend or replace them.⁵⁷⁵ The focus is on wholesale central bank to private bank transfers and wholesale intra-bank transfers among private sector banking institutions themselves.⁵⁷⁶ And the thought is that cryptographic distributed ledger technology might make safer, faster, and more cost-efficient real time gross settlement of large batches of payments possible.⁵⁷⁷

Central banks exploring this model are accordingly thinking simply in terms of incremental “system-upgrading” rather than far-reaching systemic transformation.⁵⁷⁸ Prominent among central banks going this route thus far are those of Brazil, Canada, the Eurozone, India, Japan, Singapore, South Africa, and Thailand.⁵⁷⁹ The consensus

the UK, and the US, among others. *See infra* notes 514, 518, 524 (summarizing the various states of different central banks concerning the institution of digital currency).

⁵⁷⁵ *See, e.g.*, Sayuri Shirai, *Central Bank Digital Currency: Concepts and Trends*, VOX (Mar. 6, 2019), <https://voxeu.org/article/central-bank-digital-currency-concepts-and-trends> [<https://perma.cc/B79M-DS5Z>] (“This proposal is the most popular among central banks because of the potential to make existing wholesale financial systems faster, less expensive, and safer.”); *see also* Michael Kumhof & Clare Noone, *Central Bank Digital Currencies—Design Principles and Balance Sheet Implications* 23 (Bank of England, Staff Working Paper No. 725, 2018) (“CBDC is therefore a substitute for bank deposits, with substitutability determined by relative functionality and convenience, and actual substitution determined by these in conjunction with relative returns.”).

⁵⁷⁶ *See* Shirai, *supra* note 513 (“In contrast, reserve deposits are available only to designated financial institutions such as commercial banks (and are thus called ‘wholesale central bank money’), and are used for managing the real-time interbank payments and settlements system. Wholesale central bank money is not necessarily available 24 hours a day or 365 days a year, although central banks have been making efforts to improve systems to enable faster and more efficient transactions.”).

⁵⁷⁷ *Id.* (“This proposal is the most popular among central banks because of the potential to make existing wholesale financial systems faster, less expensive, and safer.”).

⁵⁷⁸ *See* Ashley Lannquist, *Central Banks and Distributed Ledger Technology: How are Central Banks Exploring Blockchain Today?*, WORLD ECON. FORUM (Mar. 2019) (discussing central banks use of blockchain).

⁵⁷⁹ *Id.* (“Since 2016, experiments have been conducted or examined by the central banks of countries including Canada, Singapore, Japan, Brazil, South Africa, and Thailand, as well as the euro area.”); *see also* Yves Mersch,

concerning the results of CBDC experiments conducted to date in these jurisdictions seems to be that distributed ledger technology does offer promise along the desired lines just enumerated, but that it is not quite ready for prime time yet.⁵⁸⁰ Presumably the technology will grow more cost-effective in time, and thus we might well see wholesale CBDCs being adopted in some of the enumerated jurisdictions before long.⁵⁸¹ This prospect is not altogether interesting in connection with what prompts my proposal, however—apart, perhaps, from the system interoperability benefits it might ultimately afford people with Fed or Treasury Citizen or Resident Wallets who wish to transact abroad.

More interesting are plans and proposals of the first category I mentioned—citizen-benefitting CBDC. These plans and proposals fall into two sub-categories, one of them well suited to countries that already have well-developed payments infrastructures, the other well-suited to countries with less well-developed such infrastructures. The idea in the latter case is for the central bank or monetary authority simply to issue digital tokens on a distributed ledger platform instead of paper currencies and metallic coins.⁵⁸² These then could be held in and paid out of digital wallets. The central bank would not necessarily

Executive Board Member, European Central Bank, Fairwell Ceremony for Pentti Hakkarainen, Deputy Governor of Suomen Pankki – Finlands Bank (Jan. 16, 2017) (“In some European countries, for instance in Sweden and Denmark, electronic payments have started crowding out the use of cash.”); Laura Shin, *Canada Has Been Experimenting with a Digital Fiat Currency Called CAD-COIN*, FORBES (June 16, 2016), <https://www.forbes.com/sites/laurashin/2016/06/16/canada-has-been-experimenting-with-a-digital-fiat-currency-called-cad-coin/#7f84279046a4> [<https://perma.cc/9LPX-R6QF>] (“A momentous development in digital currency was announced in a low-key way on Wednesday, at a Canadian payments conference.”); Ministry of Finance, Government of India, *Medium Term Recommendations to Strengthen the Digital Payments Ecosystem* (2017), http://finance.du.ac.in/du-finance/uploads/pdf/Reports/watal_report271216.pdf [<https://perma.cc/H4TV-2XQC>] (“[Digital payments] offers an unprecedented opportunity to our people, most of whom live in rural India or are migrants in big cities.”).

⁵⁸⁰ See *Exploring the Payments System Value Chain*, *supra* note 431, at 4 (“SEPA and other market pressures have opened the box on European payments with the result that the industry’s value chain is being fundamentally changed.”).

⁵⁸¹ See Shirai, *supra* note 513 (discussing the CBDC trend).

⁵⁸² See Toplin, *supra* note 431 (“As noncash payment volume accelerates, the power dynamics of the payments industry are shifting further in favor of digital and omnichannel providers, . . .”).

hand out or manage the wallets, but it would replace physical cash with digital cash that can interface with such wallets.⁵⁸³

The prompting considerations behind these plans and proposals seem to be to avoid having (a) to build extensive payments infrastructures from scratch, (b) to incur the printing and minting expenses that non-digital cash issuance occasions, and (c) to deal with the untraceable illicit financial flows that non-digital cash can enable.⁵⁸⁴ Countries whose central banks are either implementing, experimenting with, or considering this model include China, Ecuador, Lithuania, the Marshall Islands, Senegal, Tunisia, Uruguay, and Venezuela.⁵⁸⁵

The other subcategory of citizen-benefitting CBDC now being implemented or considered makes use of already well-developed payments system capacity, but has the central bank opening and administering accounts like Citizen and Resident Wallets in which a digital rendition of the existing currency serves as the unit of account.⁵⁸⁶ This is Phase 2 of the e-Krona project, now under study by the Riksbank of Sweden and its counterparts in Denmark and Norway.⁵⁸⁷ Phase 1, which is further along, is more limited,

⁵⁸³ See *Payments Value Chain*, *supra* note 431 (“The payments value chain has become increasingly industrialised, with back office processes increasingly automated and centralised.”).

⁵⁸⁴ Toplin, *supra* note 431 (“This is helping payments become seamless, allowing firms to boost adoption, build and strengthen relationships, offer more services, and increase usage. But payment ubiquity and invisibility also comes with challenges.”).

⁵⁸⁵ Shirai, *supra* note 513 (explaining that this model benefits emerging economies “desire to take the lead in the . . . fintech industry, to promote financial inclusion by accelerating the shift to a cashless society, and to reduce cash printing and handling costs”); see also *El BCU presentó un plan piloto para la emisión de billetes digitales*, BANCO CENT. DEL URU. (Nov. 3, 2017), https://www.bcu.gub.uy/Comunicaciones/Paginas/Billete_Digital_Piloto.aspx [<https://perma.cc/PT6B-HWWL>]; *Uruguayan Central Bank to Test Digital Currency*, AGENCIA EEE, (Sept. 20, 2017) <https://www.efe.com/efe/english/business/uruguayan-central-bank-to-test-digital-currency/50000265-3385232> (quoting the president of the Central Bank that digital currency “will be implemented in Uruguay”).

⁵⁸⁶ See, e.g., Cecilia Skingsley, Speech at FinTech Stockholm 2016, Should the Riksbank Issue e-Krona?, at 10 (Nov. 16, 2016) (“[T]he Riksbank is not intending to abolish banknotes and coins, but is considering supplementing them with another service to the general public.”).

⁵⁸⁷ See, e.g., *id.* at 9 (stating that the Riksbank plans to investigate the feasibility of digital currency in Sweden); Stefan Ingves, Governor of the

resembling the pilot plans mentioned above underway in China, Ecuador, Lithuania, and several other jurisdictions.⁵⁸⁸

The prompting considerations behind e-Krona are essentially two.⁵⁸⁹ The first is that Sweden has gone largely cashless by now, with many payees no longer accepting paper notes or metal coins.⁵⁹⁰ The Riksbank is accordingly worried that system failure on the part of privately-run e-payment services could bring down the Swedish financial system and broader economy.⁵⁹¹ A digital form of sovereign banknote is accordingly needed.⁵⁹² This is what prompts e-Krona Phase 1.⁵⁹³

The considerations prompting e-Krona Phase 2 are in sync with my own, though the Riksbank is less un-ambivalently committed to acting upon them than I am.⁵⁹⁴ They include interest in a more inclusive electronic payments infrastructure that will facilitate much

Riksbank, *Do We Need an E-Krona?*, at 3 (Dec. 8, 2017) (explaining that “Sweden and the other Nordic countries” are ahead of the trend toward technological solutions to the decline of cash use); Jon Nicolaisen, Deputy Governor, Speech at Nor. Acad. of Sci. and Letters, *What Should the Future Form of Our Money Be?*, at 11 (Apr. 25, 2017) (addressing Norges Bank’s future will involve electronic central bank money).

⁵⁸⁸ See Skingsley, *supra* note 524; see also SVERIGES RIKSBANK, THE RIKSBANK’S E-KRONA PROJECT: REPORT 238 (2018) [hereinafter *Riksbank Report 2*] (“[T]he initial focus will be on an e-krona that constitutes a prepaid value (electronic money) without interest and with traceable transactions”); Sveriges Riksbank, *Special Issue on the e-Krona*, SVERIGES RIKSBANK ECON. REV. at 25 (2018) [hereinafter *Special Issue on the e-Krona*] (acknowledging that the Riksbank has “begun to investigate the possibility of introducing a digital form of the Krona”).

⁵⁸⁹ See *Riksbank Report 2*, *supra* note 526, at 2 (stating that the decline of cash and the Riksbank’s need to promote safety are two important issues behind the investigation into e-Krona).

⁵⁹⁰ *Id.* at 5 (“According to the Riksbank’s survey from 2018, only 14 percent paid for their most recent purchase in cash. The corresponding figure for 2010 was 39 percent”).

⁵⁹¹ *Id.* at 29 (discussing e-Krona’s effect on financial stability in times of ease and distress).

⁵⁹² *Id.* at 2–3 (explaining the ways e-Krona can contribute to the public welfare).

⁵⁹³ *Id.* (discussing the conditions that gave rise to the e-Krona).

⁵⁹⁴ *Id.* at 35 (stating that “technology need[s] to be further examined before the Riksbank can decide how a development project could be designed”).

more effective monetary policy transmission.⁵⁹⁵ Sweden plans also to enable at least some degree of anonymity as I have recommended above, by issuing e-Krona in the form of prepaid cards limited in value even after opening Riksbank accounts to the citizenry if such they do.⁵⁹⁶ Phase 2 of the e-Krona has just moved, as of the start of 2020, into a pilot program now operational “on the ground.”⁵⁹⁷

At present, the e-Krona project eschews reliance on DLT, presumably because (a) the technology underlying the Swedish payments infrastructure is already apparently safe, fast, and cost-efficient, and (b) DLT is itself still developing along those lines, as noted above in connection with the first category of CBDC experiments that I noted.⁵⁹⁸ Presumably the time will come when DLT proves itself worthy of deployment in a comprehensive payments system upgrade.⁵⁹⁹ Fortunately in light of present purposes, however, Sweden and possibly Norway might have in place something like what I am proposing even before that, thereby affording a live experiment from which to learn by the time my proposal draws sufficient attention to invite movement.⁶⁰⁰ Even before that, the State of New York, in which legislation I’ve drafted to institute what I call an “Inclusive Value Ledger” is now before the State Assembly and Senate, might offer our republic a live

⁵⁹⁵ See *Riksbank Report 2*, *supra* note 526, at 3 (describing how a completely neutral digital infrastructure could affect efficiency and inclusiveness by increasing competition, reducing fees, and reaching those without access to payment instruments other than cash).

⁵⁹⁶ *Id.* at 16–17 (explaining that all e-Krona transactions will be traceable “with the exception of a prepaid e-krona card used as cash and handed over from one user to another,” so long as the card is no more than EUR 250); see also Shirai, *supra* note 275 (describing the two proposed models for Riksbank’s digital currency as “non-anonymous” and “traceable”).

⁵⁹⁷ See Riksbank Announcement, “Riksbank to Test Technical Solution for the e-Krona,” February 20, 2020, available at <https://www.riksbank.se/en-gb/press-and-published/notices-and-press-releases/notices/2020/the-riksbank-to-test-technical-solution-for-the-e-krona/> (last visited Mar. 10, 2020).

⁵⁹⁸ See *Riksbank Report 2*, *supra* note 526, at 34 (explaining that e-Krona must be designed flexibly so that it may be “integrated with other systems in the financial infrastructure” of Sweden); see also Shiari, *supra* note 275.

⁵⁹⁹ See Shiari, *supra* note 513 (“[Central banks] have not taken further steps towards implementation because the current technology is seen as not yet sufficiently advanced to cope with privacy protection issues.”).

⁶⁰⁰ See *Riksbank Report 2*, *supra* note 526, at 8 (“The Riksbank and Nordic central banks have mainly been interested in a version [of CBDC] that is broadly available to the general public . . .”).

pilot in our largest metropolitan area and indeed the world's very financial center.⁶⁰¹

VIII. Citizen Finance & the Digital Dollar: Cavils and Competitors

I noted in introducing this article that many proposals have been made in the wake of our hybrid finance franchise's failings in the lead-up to 2008 and thereafter.⁶⁰² I noted also that I expect some to object to or quibble with what I propose.⁶⁰³ Here, I will briefly consider some of those other proposals along with anticipated objections to mine. I treat them roughly in the order in which I first referenced them in the Introduction.

One objection that I expect is that I have misidentified the culprit in our nation's no longer tenable finance franchise arrangement—that it is the public franchisor, not the private franchisees, whose role should be newly curtailed or eliminated. Some will follow Ron Paul in crying “end the Fed!”⁶⁰⁴ Some will follow Murray Rothbard in crying “back to free banking!”⁶⁰⁵ Others will follow Peter Schiff in crying “back to gold!” investing in the same while so crying.⁶⁰⁶ And still others will follow John Taylor in crying “tie their hands!”—“rules, not discretion!”⁶⁰⁷

⁶⁰¹ See, e.g., Jordana Rosenfeld, “New York is Proposing the Creation of a ‘Public Venmo,’” *Vice*, January 7, 2020, available at https://www.vice.com/en_us/article/pked9v/new-york-is-proposing-the-creation-of-a-public-venmo (last visited Mar. 7, 2020).

⁶⁰² See *supra* nn. 5–8 (describing events that prompt a reconsideration of our current economic system).

⁶⁰³ See *supra* p. 9 (suggesting the existence of objections or alternatives to the proposed new system).

⁶⁰⁴ See Paul, *supra* note 7, at 5 (suggesting ending the Federal Reserve “would be the single greatest step we could take to restoring American prosperity and freedom . . .”).

⁶⁰⁵ See, e.g., MURRAY N. ROTHBARD, *THE MYSTERY OF BANKING* 11 (1st ed. 1983) (popularizing a ‘right wing libertarian’ read of the ‘Austrian’ tradition of monetary economics).

⁶⁰⁶ See, e.g., PETER D. SCHIFF, *CRASH PROOF: HOW TO PROFIT FROM THE COMING ECONOMIC COLLAPSE* 210 (2007) (describing the Federal Reserve's abandonment of the international gold standard in 1971 as bringing the United States dollar “to the brink of collapse”).

⁶⁰⁷ See generally, e.g., JOHN B. TAYLOR, *GETTING OFF TRACK: HOW GOVERNMENT ACTIONS AND INTERVENTIONS CAUSED, PROLONGED, AND WOR-*

These would amount less to objections to my proposal than to counterproposals, and the discussion above in Part I, along with earlier work which that Part reprises and references, makes clear why they are very bad ideas. A usable currency must be a stable currency—one that retains more or less constant value across jurisdictional, temporal, and geographical spans.⁶⁰⁸ That in turn requires managed currency “elasticity,” which in turn requires daily fine-tuning by a central bank or other monetary authority—a publicly instituted collective agent able to address that system-wide collective action challenge with which all financial and money markets involving exchange, not just those in a democratic commercial republic like ours, are continually confronted.⁶⁰⁹

As Parts III and IV above indicated, it took us quite literally over a century to learn this, during which time we successively rejected, first, wildcat banknotes; second, “gold-backed” Greenbacks; and finally, “rules-based” monetary policy.⁶¹⁰ Advocates of Fed-ending or Fed-binding proposals of this sort might never have learned this history, but our commercial republic is, happily, unlikely to forget it.⁶¹¹ The problem with our Fed is its *incomplete* citizen-ownership, not its citizen-ownership. Hence the advocacy here of what I am calling Citizen Finance and a Democratic Digital Dollar.⁶¹²

A second objection I expect works from the other side of the public/private divide, in effect crying, not “end [or limit] the Fed,” but “end [or limit] banking.” The idea here is that “ending” banking a la

SENED THE FINANCIAL CRISIS (2009) (popularizing a view developed in the academic literature over the 1970s).

⁶⁰⁸ See *Rousseauvian Money*, *supra* note 66, at 51 (describing how currency is not money, rather “represents money” in jurisdictions that recognize such representation); *Money’s Past*, *supra* note 3, at 9 (“Nothing whose value is unstable can function for long as bona fide ‘money’”).

⁶⁰⁹ See *Money’s Past*, *supra* note 3, at 9 (“A money whose supply can be ‘modulated’ . . . is essential if we’re to avoid needlessly disrupting either transaction activity, investment activity, or currency value”).

⁶¹⁰ See *Rousseauvian Money*, *supra* note 66, at 3 (“Money figures as something that ‘doesn’t grow on trees,’ must be ‘backed up’ by gold . . . and is ‘debased’ by ‘the government’ itself when the latter resorts to ‘mere printing’ of ‘mere fiat’ money.”); *Money’s Past*, *supra* note 3, at 6 (explaining how Greenbacks eventually brought an end to ‘wildcat’ banknotes).

⁶¹¹ See *Rousseauvian Money*, *supra* note 66, at 9 (explaining our polity is our “joint emanation . . . our ‘internal’ means of selecting our shared destinations, not an ‘outward’ imposition of radically separate destinies”).

⁶¹² See *supra* Parts V–VII.

McMillan, “narrow banking” a la Cochrane, “limited purpose banking” a la Kotlikoff, “100% money”⁶¹³ a la Fisher, or perhaps what I call “40% money” after Admati and Hellwig, would be preferable to the system of Citizen Finance that I here propose.⁶¹³

This line of thinking, like “end the Fed” thinking, agrees that the fault in our nation’s finance franchise arrangement stems from its hybridity, but in effect faults the franchisee side of the public/private divide more than the franchisor side.⁶¹⁴ It is the height of moral hazard, the argument in effect runs, to entrust profit-seeking private sector entities with the management of a public resource that is as

⁶¹³ The ‘100% Money’ plan originates with the remarkably fertile mind of Irving Fisher. See IRVING FISHER, 100% MONEY AND THE PUBLIC DEBT, 8–9 (2009) (arguing for a “plan to put and keep a 100% cash Reserve behind all Demand Deposits.”). Variants were subsequently advocated by several Chicago economists, whereupon it began to be called ‘The Chicago Plan.’ Since the 2008 crash, revivals have been attempted by Cochrane, Kotlikoff, and several others, including my friends Jonathan McMillan. See, e.g., LAWRENCE KOTLIKOFF, JIMMY STEWART IS DEAD, 157 (2010) (advocating a system that would require depository institutions to “transfer all their checking accounts into cash mutual funds and use their reserves to provide cash to back these shares”); McMillan, *supra* note 21, at 145–46 (advocating an expansion of the definition of solvency to include only “real assets” to prevent “a daisy chain of balance sheets” where “the solvency of one balance sheet . . . depends on the solvency of balance sheets further up the chain”); John H. Cochrane, *Toward a Run-Free Financial System*, in ACROSS THE GREAT DIVIDE: NEW PERSPECTIVES ON THE FINANCIAL CRISIS 197, 198 (Martin N. Baily & John B. Taylor eds., 2014) (“In this vision, demand deposits, fixed-value money-market funds, or overnight debt must be backed entirely by short-term Treasuries.”). By ‘40% Money,’ I refer, tongue-in-cheek fashion, to my friends Anat Admati and Martin Hellwig’s recently proposed 40% capital requirement. See ANAT ADMATI & MARTIN HELLWIG, THE BANKER’S NEW CLOTHES 181–82 (2013) (postulating that there is no reason “why banks should *not* have equity levels between 20 and 30 percent of their total assets”).

⁶¹⁴ See, e.g., McMillan, *supra* note 21, at 8 (“The banking system turned into a dysfunctional public-private project.”); KOTLIKOFF, *supra* note 549, at 52 (“[T]he critical takeaways . . . are that power is extremely concentrated at the very top in modern American financial companies, that decisions are being made as much on emotion and ego as careful business planning, that the folks at the top are so rich as to face no real financial loss for themselves or their families if they role [sic] the wrong dice for their companies, that board after board of directors did nothing to oversee the decisions of their ultimate paymasters, and that the correlation between performance and compensation was negative.”).

systemically important as the monetized full faith and credit of the United States.⁶¹⁵ Advocates accordingly hold that simply removing the credit-generation authority from banks—or at least, say, some 40% of that authority—is the appropriate policy response.⁶¹⁶

Banks would continue to manage accounts and offer payment services to depositors under these proposals, but would no longer operate as disseminators of monetized public full faith and credit by lending in excess of what has been antecedently deposited with them.⁶¹⁷ They would effectively become mutual funds, and regulation would accordingly *make* true the intermediated scarce private capital story that I have long argued, as noted above in Part I, is *not* true.⁶¹⁸

It should be clear from what I have argued both here and elsewhere that I do not think it necessary or desirable that private sector banks and other financial institutions continue to operate as the primary allocators of our nation’s monetized full faith and credit. Both the Citizen and Resident Wallet plan and the Democratic Digital Dollar plans elaborated above, and the NIC and PSF proposals reprised above and detailed elsewhere, make plain what I think about that.⁶¹⁹ But simply ending private bank credit-generation, without simultaneously replacing it thoughtfully and pervasively with public credit-generation, would be as profoundly deflationary as “returning to gold” would be.⁶²⁰ Before ending credit-generative private sector

⁶¹⁵ See, e.g., MCMILLAN, *supra* note 21, at 43 (“[W]ith government guarantees in place, depositors now that their money is safe no matter what. They have no incentive to step in if their bank takes excessive risks. Knowing this, banks indeed take excessive risks.”).

⁶¹⁶ See, e.g., ADMATI & HELLWIG, *supra* note 549, at 181–82 (arguing banks should be subject to somewhere between 20–30% capital requirements); FISHER, *supra* note 549, at 8–9 (“[P]ut and keep a 100% cash Reserve behind all Demand Deposits.”).

⁶¹⁷ See, e.g., KOTLIKOFF, *supra* note 549, at 156–58 (describing the functioning of banks under his scheme).

⁶¹⁸ Further elaboration on this point see *Finance Franchise*, *supra* note 14, at 1151 (characterizing financial institutions in this scheme as “effectively variations on the mutual fund form”).

⁶¹⁹ See generally *Finance without Financiers*, *supra* note 1; *Finance Franchise*, *supra* note 1; *Money’s Past*, *supra* note 3; *supra* Part IV (expressing skepticism about the current banking system’s stewardship of the people’s full faith and credit).

⁶²⁰ This is precisely why Keynes politely declined to sign on to the first-ever proposal along these lines, when invited by Fisher to do so in 1934. See

banking, then, we must put in place explicitly credit-generative public institutions and procedures. That is precisely what the Citizen Finance and its Democratic Digital Dollar as elaborated above do.

The next set of proposals I referenced in introducing this paper involve various forms of small-scale “public banking,” understood as embracing either or both (a) deposit-taking and transaction-account-managing, and (b) retail credit-extending and -allocating.⁶²¹ As my remarks on “narrow banking” immediately above should make plain, I sympathize with many such proposals. Indeed, I am explicitly associated with and working on *several* of them.⁶²²

I do not, therefore, regard these as being in any fundamental tension with my proposals. I see them, rather, as proposed local or smaller scale complements to my more comprehensive and nationally applicable proposals—micro or half-complete counterparts, as it were, to my macro Wallet, Digital Dollar, NIC and PSF plans. The “central banking for all” proposals of McMillan and Gruen in 2014, of Andolfatto and Niepelt in 2015, and of *The Economist* and Ricks, Crawford and Menand in 2018, for example, overlap with what I propose at least for one piece of the liability sides of central bank balance sheets.⁶²³ So does the Swedish Riksbank’s already well-underway e-Krona project discussed above.⁶²⁴ The many “public

KEYNES, *supra* note 245, at 125 (critiquing the Fisher conception of appreciation and interest).

⁶²¹ See, e.g., BUILDING INCLUSIVE FINANCIAL SYSTEMS, *supra* note 10, at 92–94, 113 (discussing the new paradigm of commercial banks entering the microfinance space); PARZEN & KIESCHNICK, *supra* note 10, at 78–85 (discussing the deposit and credit services that banks should provide under her system).

⁶²² Cf. *Pre-Liberal Autonomy*, *supra* note 10 (citing and critiquing the small-scale models).

⁶²³ See Ricks, Crawford, & Menand, *supra* note 21, at 1 (“We propose giving the general public—individuals, businesses, and institutions—the option to hold accounts at the central bank, which we call FedAccounts.”); Andolfatto, *supra* note 21 (describing a system of digital federal currency); Niepelt, *supra* note 21 (“Letting the general public hold reserves at the central bank and use them for electronic payments would lower the risk of bank runs and strengthen financial stability.”); McMILLAN, *supra* note 21, at 10, 164–65 (describing the effects of a system without banking: “[t]o spend more money than it earns, the government will have to gain trust from potential lenders, that is, from its citizens”).

⁶²⁴ Riksbank *Report 2*, *supra* note 526, at 8 (discussing an electronic digital money widely available to the public).

bank,” revived “postal bank,” and “microfinance” proposals made over the last thirty years also aim to do something akin to what I would do with the Fed’s or the Treasury’s liability book, not to mention my earlier “Shoeboc Bank” started for homeless friends and “Occupy Bank” founded during the Wall Street “Occupation” of 2011, prompted as these all are by the value of greater financial inclusion.⁶²⁵

What these earlier proposals do not do, however, is engage seriously with the asset side counterparts of their particular liability side recommendations.⁶²⁶ Nor do most of them concern themselves with how to make use of, or even more generally what to do about, the rapidly unfolding revolution now underway in the realms of financial, commercial, and payments technology.⁶²⁷ And that is because each of them seems to concern itself with but one or two perceived problems instead of the broader array of mutually reinforcing problems that afflict contemporary financial and macroeconomic policy thanks to our system of hybrid, public/private finance.⁶²⁸

That narrowness of focus need not be a bad thing—there is much to be said for addressing discrete challenges in discrete ways. I do not think it possible to deal *optimally* with any one of the problems discussed in this paper, however, without dealing with all of them. For they are all in this case, as argued above, mutually reinforcing. And *whatever* one thinks of the comparative merits of piecemeal and comprehensive structural reform strategies, the important point for present purposes is that *these* proposals need not in any event be at crossed-purposes to mine. We can go “both/and” here instead of “either/or,” and in consequence let a thousand flowers bloom.⁶²⁹

⁶²⁵ See, e.g., BUILDING INCLUSIVE FINANCIAL SYSTEMS, *supra* note 10, at 178–81 (“Financial development could contribute directly to poverty alleviation by easing credit constraints on the poor and indirectly by fostering economic growth that benefits the poor.”).

⁶²⁶ See PUBLIC BANKS SOLUTION, *supra* note 10, at 352–60 (discussing the various different proposals).

⁶²⁷ See, e.g., PARZEN & KIESCHNICK, *supra* note 10; FISHER, *supra* note 549 (though perhaps this is merely the result of technology outpacing scholarship).

⁶²⁸ See, e.g., Ricks, Crawford, & Menand, *supra* note 21, at 2 (proposing a FedAccounts system for financial stability, smooth monetary policy communications, and regulatory simplicity); Niepelt, *supra* note 21 (focusing on eliminating both “the zero lower bound on nominal interest rates” and “anonymous transaction[s] that may obstruct the fight against crime, money laundering, tax evasion, and the like”).

⁶²⁹ Professor Omarova and I argue similarly in *National Investment Authority* and *Public Actors. National Investment Authority*, *supra* note 4, at 438–39

Another objection that I anticipate would stem from a claim that there is something “Orwellian” or otherwise “dangerous” about what I propose here—that putting us all on one Consolidated Ledger denominated in Democratic Digital Dollars will render us vulnerable to system-wide tech failure or subject us to centralized scrutiny and thereby imperil our “freedom.” Those who issue these warnings might also argue that the blemishes presently marring our finance franchise arrangements are better rectified simply through better regulation.⁶³⁰ Cautious “incrementalists,” wild-eyed crypto-anarchists, and any number of starry-eyed cryptopians will likely approve this response to my proposal, as will some older school self-styled libertarians, money-launderers, drug-dealers, terrorists, and other criminals.

The problem with the response, at least in its good faith guise, is that it is ill-informed both as to the present *sources* of systemic and Orwellian danger and, therefore, as to how that same danger is best addressed.⁶³¹ As for the source of the danger, the discussion above should make plain that our present patchwork payments system, which has developed ad hoc through the actions of profit-seeking private sector institutions, is itself vulnerable to glitches and associated panics at each node and connecting line segment in the “value chain.”⁶³² Indeed it is more vulnerable than any unitary system without multiple layers and connecting nodes ever can be.

Moreover, as also noted above, it is easy to build indelibility into transaction records on the Fed or Treasury balance sheet not only with backup computing power as is done now, but also with the new payments technologies I have just discussed.⁶³³ And lest anyone doubt that the Fed and Treasury have this capacity, they need only look at the

(addressing the challenge of “ensuring structurally balanced, sustainable, and socially inclusive long-term economic development” via a “National Investment Authority”); *Public Actors*, *supra* note 4, at 122 (outlining a range of modality extensions forming the buds of the enlightened financial flower).

⁶³⁰ See *When Is “Social Credit” Orwellian?*, *supra* note 392 (discussing the perils of a widespread social credit system that extends beyond the purely financial).

⁶³¹ *Id.* (drawing attention to the distinction between an algorithmic valuation of purely financial metrics and one of social ilk).

⁶³² See *MetaSection*, *supra* note 431 (diagraming the complicated flow of payments systems); *First Data*, *supra* note 431 (highlighting the rapid change in the industry and proclivity for the industry players themselves to drive that change).

⁶³³ See *Money’s Past*, *supra* note 3, at 10 (praising the “superior tracking ability afforded by [distributed ledger technology]”).

comprehensive flow-of-funds data the Fed and Treasury compile, process, and publicly report every quarter.⁶³⁴ Or, they can look at how each of the six mega-banks that now dominate our hybrid financial system handle clearing and settlement of transactions among the literal scores of millions of citizens and counterparties who transact on their books every hour.⁶³⁵

As for Orwellian danger, the discussion above also makes plain that Orwellian intrusion and invasion of privacy—indeed, even illicit mining, “harvesting,” and selling of private financial and other data—right now does not emanate from our citizen-owned, public sector, republican institutions.⁶³⁶ It emanates from gargantuan elite-owned private sector monopolies and oligopolies.⁶³⁷ The threat comes, that is, from the huge platform and social media firms—Amazon, Facebook, Google, and so on—that now harvest individual data they both use and sell on in an ever-greater commoditizing of our general public for private gain.⁶³⁸ Moreover, as noted above, large private sector banking and other financial institutions are now actively partnering with these same platform and social media firms, precisely in order to circumvent banking and finance-regulatory privacy laws and extract further value from all of us.⁶³⁹

⁶³⁴ At the time of this writing, the most recent is FED. RESERVE SYS., *Financial Accounts of the United States, Quarter 1* (June 6, 2019), <https://www.federalreserve.gov/releases/z1/20190606/z1.pdf> [<https://perma.cc/H6YT-6K7S>].

⁶³⁵ See Steve Schaefer, *Five Biggest U.S. Banks Control Nearly Half Industry’s \$15 Trillion In Assets*, FORBES (Dec. 3, 2014), <https://www.forbes.com/sites/steveschaefer/2014/12/03/five-biggest-banks-trillion-jpmorgan-citi-bankamerica/#459c8976b539> [<https://perma.cc/MG9F-WKMY>] (reporting that the five biggest banks control nearly half of the assets held by banks in the United States).

⁶³⁶ See *Omarova Testimony*, *supra* note 393, at 7 (emphasizing the danger that tech companies pose due to their unimpeded access to consumers’ financial data).

⁶³⁷ *Id.* (highlighting large tech platforms’ unauthorized use of personal data).

⁶³⁸ *Id.* at 7 (describing how tech companies can gain access to private financial information and use it to influence consumers into buying what they want to sell).

⁶³⁹ See, e.g., Kristina Russo, *Regulatory Oversight Uncertain Amid Growing Fintech Partnerships with Banks*, American Express (last visited Nov. 9, 2019), <https://www.americanexpress.com/us/foreign-exchange/articles/bank-fintech-partnership-regulatory-void/> [<https://perma.cc/42P9-LVG3>] (discussing the lack of regulation surrounding fintech and the partnering of banks with fintech to take advantage of this).

Reclaiming commercial and financial access and public investment as republican citizen functions, as my plan aims to do, is accordingly to be understood as a measure aimed at *recovering and safeguarding* citizens' access, privacy, and critical public infrastructures, not undermining or ending them. We cannot take away what we have already given away. We can only reclaim it. This is, again, precisely what the project of Citizen Finance laid out here is meant to do.

These same observations carry over to the suggestion that “regulation’s enough.” Obviously, regulation *is not* enough. That was the thrust of Parts II through IV and my prior work cited there. Financial privacy regulation is precisely what banks entering fintech right now are attempting to arbitrage out of.⁶⁴⁰ And public money-modulatory and credit-allocative regulation is precisely what banks that successfully rolled back Glass-Steagall regulation, derivatives regulation, mortgage loan regulation, consumer financial protection regulation, and now even Dodd-Frank macroprudential regulation are always and everywhere seeking to evade—and paying legislators to help them evade.⁶⁴¹

Of course, they will try likewise to roll back a system of Citizen Finance too once it is in place. But two things should be remembered here. First, that it is much harder to take away popular public institutions than it is to roll back regulations, as the popularity and longevity of Social Security, Medicare, Medicaid, public education, the National Parks and National Monuments and a host of other civic institutions attests.⁶⁴² And second, my proposal amounts also, especially in the long run, to a massive downsizing of precisely those

⁶⁴⁰ See *Money's Past*, *supra* note 3, at 2 (describing how fintech and cryptocurrencies create privacy “paradises”).

⁶⁴¹ Katy Milani, *Latest assault on Dodd-Frank has bank lobbyists beaming*, THE HILL (Mar. 5, 2019) <https://thehill.com/opinion/finance/376749-latest-assault-on-dodd-frank-has-bank-lobbyists-beaming> [<https://perma.cc/8VAE-Q44U>] (describing lobbying efforts by banks to weaken and remove Dodd Frank regulations).

⁶⁴² See Matthew Sherman, *A Short History of Financial Deregulation in the United States*, CENTER FOR ECON. AND POLICY RESEARCH (2009), <http://cepr.net/documents/publications/dereg-timeline-2009-07.pdf> [<https://perma.cc/FYR6-V8G7>] (describing the history of financial deregulation over the last three decades); *Historical Background and Development of Social Security*, SOCIAL SECURITY ADMIN., <https://www.ssa.gov/history/briefhistory3.html> [<https://perma.cc/QDT4-SJF3>] (last visited Oct. 16, 2019) (detailing the long history of Social Security since its establishment in the 1930s and its history of perseverance since then).

industries whose enormous rent revenues and gigantic, “too big to fail,” self-hostage-holding capacity have enabled them to strong-arm our legislators and other public officials in the first place. They will not be able to do that next time, for the plan here is precisely to shrink and disarm them, in addition to rendering us no longer dependent upon them.

IX. Conclusion: From Fintech to Ourtech—And Our Finance

I have covered a fair bit of ground in this paper, from characterizing our present public-private franchise system of payment and finance, through explaining how it came to be and why it was destined never to be more than a way-station *en route* to full citizen-managed money and finance, to describing in detail that better and final destination. Along the way I have clarified the nature of money, credit, payment, and finance themselves—in particular, their continuing and yet still hidden character as public-private franchise operations.

The hidden character of our system’s hybridity, I believe, is responsible for many delusions and misapprehensions, which manifest themselves in the persistence of dysfunctional monetary and financial arrangements that prevent our all being as productive and prosperous as we could be, all while subjecting us to exploitative privately-owned mega-firms that extract from us without giving back to us. These drive a bipolar financial treadmill that by turns trips us by rushing more quickly than we can run, and then holds us back by not moving at all. This ceaseless, manic-depressive oscillation between unstoppable bubble and unforgiving bust is the inevitable upshot of a franchise arrangement in which the franchisor routinely forgets its role, standing by idly as rogue franchisees dispense low quality knockoffs of its product—effectively “counterfeiting” it—with abandon.⁶⁴³ That is where regular over-emission and misallocation of our monetized public full faith and credit originates.⁶⁴⁴

⁶⁴³ See *Finance without Financiers*, *supra* note 14, at 3 (asserting that lack of quality control over franchisee performance leads to a failure to create effective modulation and allocation of credit resulting in less utilization of production capacity).

⁶⁴⁴ *Id.* at 2 (describing public faith and full credit as prone to over-generation and misallocation).

The solution is to bring to the surface what has been there all along, and then to correct it. Our mutual credit and debit relations effectively constitute one citizens' ledger. Our monetized public full faith and credit—our money—just is the set of relations that constitute that ledger. It is accordingly both our prerogative and our responsibility both to put and to keep this ledger—*our* ledger—to rights. The trajectory of American commercial and financial development, I maintain, is such as to recommend doing that reclamation in one simple stroke. That is the stroke of making our central bank and public fisc *our* central bank and public fisc, our public investment *our* public investment, and our money *our* money. That, in this country, will be a Citizens' Fed or Treasury, a Fed- or Treasury-administered public savings and payments platform, and an associated Democratic Digital Dollar. That, in our democratically productive commercial republic, will be Citizens' Finance.