

Digital Greenbacks: A Sequenced 'Treasury Direct' and 'Fed Wallet' Plan for the Democratic Digital Dollar

Robert Hockett

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DIGITAL GREENBACKS
A SEQUENCED ‘TREASURY DIRECT’ AND ‘FED WALLET’
PLAN FOR THE DEMOCRATIC DIGITAL DOLLAR

*Robert Hockett**

Abstract

I propose means of immediately converting the Department of Treasury’s existing Treasury Direct system of freely available transaction accounts into a publicly administered digital savings and payments platform. A platform of this type is an essential public utility in any commercial society such as our own. It is additionally growth-promoting inasmuch as growth-tracking Gross Domestic Product (GDP) is a measure of transaction volume, while transaction volume is a function of more efficient and inclusive transacting. As Congress seeks means of streamlining the payments infrastructure in a time of pandemic-induced crisis, the Treasury route recommends itself as the fastest way to digitize payments for 95% of our citizens and business enterprises. I also map means of migrating the Treasury architecture to the Federal Reserve System (Fed) over time once the crisis is past—as the “Greenback” paper dollar itself did in the late 19th and early 20th centuries—and include my draft Treasury Dollar Act as an Appendix.

INTRODUCTION	3
I. BACKGROUND: THE DEMOCRATIC DIGITAL DOLLAR, THE INCLUSIVE VALUE LEDGER, AND THE FED & TREASURY RENDITIONS THEREOF	5
A. <i>The IVL “Chassis”</i>	5
1. Basic Architecture	6
2. Pictographic Representation (Figure 1)	7
B. <i>Virtues of the IVL Chassis</i>	8
1. Justice and Inclusion	8
2. Growth and Efficiency	8
3. Fiscal and Monetary Policy (Including “Helicopter Money”) Transmission	8

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4.	Valuing Care Work	9
5.	Data and Financial Privacy	10
C.	<i>Federal Bodies for the Chassis—Fed or Treasury?</i>	10
1.	Why Federal?	11
2.	Why Treasury?	12
3.	Why—and When—the Fed?	13
II.	THE TREASURY DIGITAL DOLLAR AND TREASURY DIRECT PLAN	14
A.	<i>Digitizing Treasury Direct</i>	14
B.	<i>Functional Requirements</i>	15
1.	Digitize Treasury Direct Accounts	15
2.	Make TDBs Legal Tender	17
3.	Add Horizontal P2P Connectivity	17
4.	Build-In Cryptographic Privacy Protection	18
5.	Later, Consider Adding Interest on Accounts or Migrate to Fed and Do Same	18
C.	<i>Technical Requirements</i>	19
1.	The Accounts Layer	19
2.	The Payment Layer	19
3.	The Application Programming Interface Layer	20
4.	It's Not That Difficult	20
D.	<i>Pictographic Representation (Figure 2)</i>	21
III.	THE DIGITAL FED DOLLAR AND FED WALLET PLAN	22
A.	<i>Why We Might Migrate</i>	23
B.	<i>How We Might Migrate</i>	26
1.	Functional Requirements	26
2.	Technical Requirements	28
C.	<i>Pictographic Summation & Synthesis</i>	29
	CONCLUSION	33
	APPENDIX: THE TREASURY DOLLAR ACT OF 2020	34

INTRODUCTION

Since Facebook's announcement of its Libra proposal in June of 2019, monetary authorities worldwide have redoubled their efforts to develop central bank digital currencies (CBDCs).¹ These efforts were underway even before Libra, and for very good reasons. Facebook's announcement accordingly did no more than accelerate already ongoing developments.²

The sudden slowdown in productive activity worldwide brought on by the Coronavirus pandemic of 2020 makes matters more urgent. The social distancing measures necessitated by the pandemic are antithetical to productive activity—and, in turn, the *pay* people earn through productive activity.³ “Knowledge workers” might be able to collaborate remotely, but production line workers and delivery personnel cannot.⁴ Economies worldwide are thus confronted by simultaneous supply side and demand side shocks.⁵ The U.S. economy is no exception—indeed it appears to be worst hit of all.⁶

1. See Robert 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/> [<https://perma.cc/K9X8-8GFU>] (explaining that the world's central banks are looking to upgrade their domestic and overseas payment systems by availing themselves of new technology).

2. *Id.*

3. See Robert Hockett, *An Immediate Relief Plan for Coronavirus-Related Economic Mitigation* 4 (Cornell L. Sch., Research Paper No. 20-28, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3567855 [<https://perma.cc/5UPH-2THB>]; Robert Hockett, *Managing Coronavirus's Economic Fallout—Demand and Supply Side Measures*, FORBES (Mar. 16, 2020, 1:02 PM), <https://www.forbes.com/sites/rhockett/2020/03/16/managing-coronaviruss-economic-fallout-demand-and-supply-side-measures/> [<https://perma.cc/P9PZ-PRKJ>]; see also Robert Hockett, *We're at War and Need Wartime Institutions to Keep Our Economy Producing What's Necessary*, THE HILL (Apr. 4, 2020, 2:00 PM), <https://thehill.com/opinion/white-house/491166-were-at-war-and-need-wartime-institutions-to-keep-our-economy-producing> [<https://perma.cc/KC57-TK4H>] (“The virus . . . is threatening our way of life and destroying our productive capacity and economic health.”).

4. See Robert Hockett, *White Paper: How to Mobilize the Military to Produce Pandemic-Responsive Supplies in Adequate Quantity*, NEW CONSENSUS 4 (Mar. 17, 2020), <https://newconsensus.com/files/pandemic-production.pdf>; Robert Hockett, *Our Corona Response's Missing Ingredient—Mobilize the Supply Side!*, FORBES (Mar. 18, 2020, 12:29 PM), <https://www.forbes.com/sites/rhockett/2020/03/18/our-corona-responses-missing-ingredient--mobilize-the-supply-side> [<https://perma.cc/M7HJ-G36J>]; see also Robert Hockett, *The US Must Take Equity Stakes in the Companies it Rescues*, FIN. TIMES (Mar. 28, 2020), <https://www.ft.com/content/86a333d0-6dc3-11ea-89df-41bea055720b> [<https://perma.cc/LS99-6DDA>]; Robert Hockett, *The US Needs to Tackle the Coronavirus Pandemic with a Playbook out of the Great Depression and World War II, not the Financial Crisis*, BUS. INSIDER (Mar. 29, 2020, 9:42 AM), <https://www.businessinsider.com/coronavirus-pandemic-us-should-ramp-up-ventilator-mask-manufacturing-2020-3> [<https://perma.cc/AM7S-FW89>].

5. See sources cited *supra* notes 3–4.

6. See sources cited *supra* notes 3–4.

To arrest, minimize, and reverse these shocks, simultaneous demand and supply side measures must be taken as quickly as possible. This means that our capacities to store and transfer value—to make and receive payments and disburse moneys—must be sped up as well.⁷ Whatever we are *able* to do, both to optimize our payments architecture and to speed up that optimization effort, we *must* do. In so doing, we will not only optimize a pandemic response architecture but also optimize the payments infrastructure, with which we shall live and prosper long after the present pandemic is past.⁸

Digital currencies are ideal means to this optimization. The reasons are straightforward. A currency is simply “that which pays” in a payment system and “that which counts” in a value accounting system.⁹ To design a digital currency is to design a digital savings and payments platform. It is to design a literal speed-of-light mechanism of value storage and transfer. It is to deliver a banking and financial architecture by supplying a commercial architecture, as is the case in any “commercial society” or “exchange economy” such as our own.¹⁰

Fortunately, Congress is keen on this idea. Since late March, both Democrats and Republicans in both chambers have weighed proposals—including one of my own to which this Article is devoted—to pass legislation on a digital dollar and associated system of digital wallets. My own Inclusive Value Ledger (IVL) Plan, which has colloquially come to be known as the Public Venmo Plan since its draft bill was proposed in the New York State Assembly and Senate last year, can be instituted by municipal, state, or national authorities, and can be administered by either the Fed or Treasury at the national level.¹¹

7. See Robert Hockett & Lawrence Rufrano, *Digital Dollars for All*, WALL ST. J. (Apr. 6, 2020, 7:18 PM), <https://www.wsj.com/articles/digital-dollars-for-all-11586215100> [<https://perma.cc/8TR9-BTDS>]; see also Robert Hockett, *Why Now for a Digital Treasury Dollar? Because Coronavirus*, FORBES (Mar. 29, 2020, 8:36 AM), <https://www.forbes.com/sites/rhockett/2020/03/29/why-now-for-a-digital-treasury-dollar-because-coronavirus/> [<https://perma.cc/EE7Y-643V>].

8. See sources cited *supra* note 7; see also Robert Hockett, Anshul Gupta & Lawrence Rufrano, *A Digital Dollar – Why, How, and Why Now*, VENTUREBEAT (Apr. 18, 2020, 12:12 PM), <https://venturebeat.com/2020/04/18/a-digital-dollar-why-how-and-why-now/> [<https://perma.cc/9JYZ-SHBJ>].

9. Robert Hockett, *The Democratic Digital Dollar: A Digital Savings and Payments Platform for Inclusive State, Local, and National Money and Banking Systems*, 10 HARVARD BUS. L. REV. ONLINE, 2019–2020, at 1, 2.

10. *Id.* at 4; see also Robert Hockett, *The Capital Commons: Digital Money and Citizens’ Finance in a Productive Consumer Republic* (2018) (unpublished manuscript) (on file with author) [hereinafter Hockett, *Capital Commons*].

11. See generally Robert Hockett, *The Empire State Inclusive Value Ledger: A Peer-to-Peer Savings & Payments Platform for an All-Embracing and Dynamic State Economy* (Cornell L. Sch. Research Paper No. 19-39, 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3470923 [<https://perma.cc/FBE7-EKRB>].

For reasons rooted in both the “need for speed” and the need for inclusion in the midst of a pandemic, I aim with this Article to lay out my IVL Plan in both its Treasury and Fed renditions. The Treasury already possesses the requisite infrastructure for expeditious implementation and, partly for this reason, both Senators and Representatives in both party caucuses and in both chambers of Congress have been considering the plan since last March. There accordingly seems to be a need for a full discussion on the Treasury and Fed plans, their relation to one another, and their prompting considerations—including the simplicity and speed with which these plans, in comparison to others, can be sequentially set up and operated. This Article supplies these discussions. Part I provides background. Part II maps the Treasury plan. Part III charts the Fed plan. Part IV concludes and looks forward, while the Appendix includes a bill I have drafted for quick introduction and passage in Congress.

I. BACKGROUND: THE DEMOCRATIC DIGITAL DOLLAR, THE INCLUSIVE VALUE LEDGER, AND THE FED & TREASURY RENDITIONS THEREOF

I will begin by first sketching the basic structure that I believe a maximally efficient digital payment platform and wallet system will require, along with my reasoning for the structure. I will borrow a metaphor from the automotive sector and call this structure the plan’s “chassis,” onto which any number of distinct “bodies” selected by any level of government can then be installed.

A. *The IVL “Chassis”*

As noted above, my “Public Venmo” IVL Plan is already under consideration in New York. In the autumn of 2019 two visionary New York state legislators—Assemblyman Ron Kim and State Senator Julia Salazar—proposed legislation I had drafted to institute what I call a “Democratic Digital Dollar” and its associated “Inclusive Value Ledger,” or “Public Venmo” platform.¹² In New York, we call it ‘The

12. *Id.*; Assembly: <https://www.nysenate.gov/legislation/bills/2021/A3138>; Senate: <https://www.nysenate.gov/legislation/bills/2019/s6792> A.B. A088686, 2019-20 Gen. Assemb., Reg. Sess. (N.Y. 2020), https://assembly.state.ny.us/leg/?default_fld=&bn=A08686&Summary=Y&Actions=Y&Text=Y. For a sampling of this author’s columns and op-eds on the plan, several co-authored with the legislators who have introduced it to the New York state legislature, see, e.g., Assemblyman Ron Kim & Robert Hockett, *Dynamic Inclusive Money for a Dynamic Inclusive Economy*, AM. PROSPECT (Oct. 17, 2019), <https://prospect.org/economy/dynamic-inclusive-money-economy/> [<https://perma.cc/GHZ3-KQPD>] (explaining why the economy must allow money to flow in a way that is ‘inclusive’); Robert Hockett & Ron Kim, *Our New Currency for New York*, N.Y. DAILY NEWS (Oct. 28, 2019, 2:31 PM), <https://www.nydailynews.com/opinion/ny-oped-new-currency-for-new-yorks-poor-20191029-uevs4nbx7fdwtbrlzgerdos664-story.html> (explaining how the IVL will put money back into New York’s economy and create a more even distribution of funds); Robert Hockett, Ron Kim & Julia Salazar, *Our Money’s Not Green Enough*, FORBES (Nov. 9, 2019, 8:48 AM), <https://www.forbes.com/sites/rhockett/2019/>

Empire State Inclusive Value Ledger Plan.¹³

Although this innovative legislation was introduced at the state level, the IVL Plan design is meant to function as a sort of “chassis” onto which any number of “bodies” can be installed at the local, state, *or* federal levels—not to mention counterpart levels in the Eurozone and beyond.¹⁴ At the federal level, it can be established and administered by either the Fed or the Treasury.

1. Basic Architecture

The plan’s architecture is strikingly simple. It requires only two functional steps. First, every person and business receives a smartphone or smart-device-accessible digital wallet, with both (a) “vertical” connectivity to the public treasury and (b) “horizontal” (essentially P2P) connectivity to all other digital wallets.¹⁵ All wallet holders are then able “vertically” to pay taxes, licensing fees, and other remittances, as well as receive tax refunds, program moneys, and other disbursements over the IVL. Additionally, all users can “horizontally” make real time payments to one another.¹⁶

11/12/our-moneys-not-green-enough/ [https://perma.cc/YKM2-F8A5] (describing how the IVL system will work); Helen Partz, *Authors of New York’s P2P ‘Public Venmo’ Bill Hope for Greater Decentralization*, COIN TELEGRAPH (Jan. 10, 2020), <https://cointelegraph.com/news/authors-of-new-yorks-p2p-public-venmo-bill-hope-for-greater-decentralization> [https://perma.cc/4WUZ-L6LY] (describing how ‘new technologies’ will be used for the IVL); *New York Digital Currency Proposed for P2P Payments*, LEDGER INSIGHTS (Jan. 2020), <https://www.ledgerinsights.com/new-york-digital-currency-proposed-p2p-payments/> [https://perma.cc/59CZ-CA6N] (explaining how others are working to recreate economic ‘architecture’); Jordan Heal, *New York Lawmakers Propose Statewide Cryptocurrency*, YAHOO! FINANCE (Jan. 9, 2020), <https://finance.yahoo.com/news/york-lawmakers-propose-statewide-cryptocurrency-100001080.html> [https://perma.cc/WGZ9-7FXH] (describing the IVL cryptocurrency); *New York Lawmakers Push for Public eBanking System*, PYMNTS.COM (Jan. 8, 2020), <https://www.pymnts.com/news/digital-banking/2020/ny-lawmakers-push-for-public-ebanking-system/> [https://perma.cc/K2AX-8E59] (outlining the “push” for an online banking system in New York); Jordana Rosenfeld, *New York Is Proposing the Creation of a ‘Public Venmo,’* VICE (Jan. 7, 2020, 8:00 AM), https://www.vice.com/en_us/article/pked9v/new-york-is-proposing-the-creation-of-a-public-venmo [https://perma.cc/AW5E-VES7] (describing the IVL as a “public Venmo”).

13. See sources cited *supra* note 12 and accompanying text. On naming, one might envisage a comparable Lone Star IVL for Texas, a Crescent City IVL for New Orleans, a Continental IVL for the U.S., and so on.

14. See Robert Hockett, *Open the Marriage to Save It: A Peer-to-Peer Savings & Payments Platform and Complementary Digital Euro Plan* (Cornell L. Sch. Research Paper No. 19-40, 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3470934 [https://perma.cc/W8EC-TGXS].

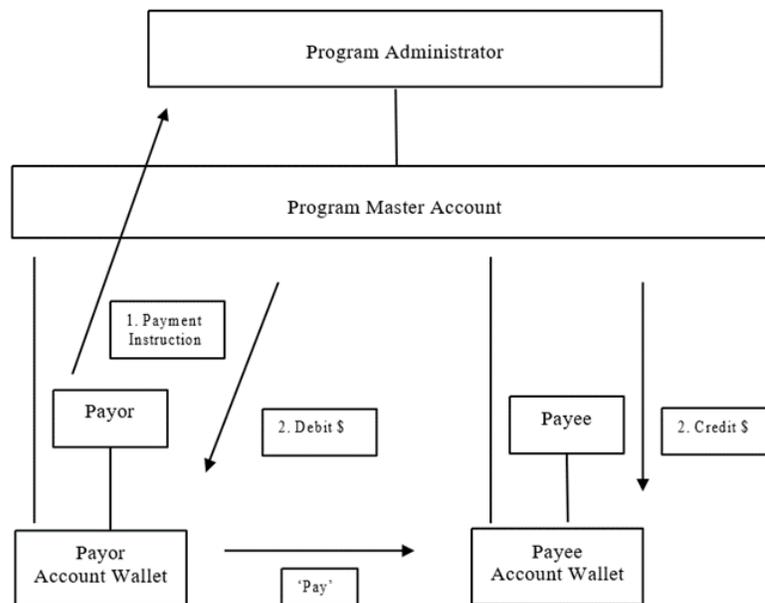
15. See Hockett, *supra* note 9; see also Hockett, *Capital Commons*, *supra* note 10; Robert Hockett, *Rousseauvian Money 7* (Cornell L. Sch. Research Paper No. 18-48, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3278408 [https://perma.cc/W6DH-7CJT] (discussing vertical and horizontal dimensions).

16. See sources cited *supra* notes 9–12.

2. Pictographic Representation

Diagrammatically, then, things look as depicted in Figure 1.

Figure 1: Basic IVL Chassis



In the diagram, lines without arrows represent institutional linkages, while arrowed lines represent payment instructions and associated value flows. A payment occurs when the Payor instructs the Master Account Administrator, via a chip card, strip card, or smart device payment app (Payment Step 1), to debit her own wallet account in the Master Account and correspondingly credit the Payee’s wallet account in the Master Account (Payment Step 2).¹⁷

At Implementation Stage 1 (the “vertical” stage) of IVL Plan implementation, counterparties in any such transaction will comprise one public and one private sector party. This is already possible through Treasury Direct Accounts as explained in Sections II.A.3 and III below.

17. I maintain a calculated ambiguity as among “wallets” and “accounts” throughout this Article for reasons rooted in fintech industry parlance. Pursuant to the latter, “wallets” hold “coins” that are legal tender, while “accounts” neither are nor “contain” legal tender, but instead represent liabilities on the part of account administrators to *tender* legal tender on account-holder demand. Where the issuer of the legal tender in question is also the administrator of the “account” in question, the distinction accordingly collapses—“wallet” and “account” then designate the same thing. See Hockett, *Capital Commons*, *supra* note 10, for full discussion.

At Implementation Stage 2 (the “horizontal” stage) of IVL Plan implementation, all wallet account holders in the system, public sector or private sector, will be able to make and receive payments to and from one another in the same manner. This is all that need be added to Treasury Direct wallets to convert them to universally functioning value-storage (saving) and value-transfer (payment) media.

B. *Virtues of the IVL Chassis*

There are a number of reasons, especially supplemented by recent crises-rooted needs, to put a proposal like the IVL Plan into place to get non-paper stimulus monies expeditiously to hard-hit American businesses and individuals.¹⁸ We can briefly discuss those reasons here.

1. Justice and Inclusion

In any “exchange economy” such as our own, a payments system must be considered an essential public utility on a par with roads, sidewalks, and the national currency. Justice requires we make such utilities usable by all at no cost. Just as people do not pay to use sidewalks or dollar bills, they should not have to pay to use a digital payment system in an increasingly digitized exchange economy.¹⁹

2. Growth and Efficiency

We measure the size and the growth of our economy by reference to transaction volume.²⁰ That is all GDP is—a measure of transaction volume. It follows that a more seamless and efficient payment system, by enabling more rapid transacting and hence larger transaction volumes within any time interval, means greater growth and a larger economy over time. So does greater inclusion itself. Call this the growth or efficiency reason for IVL.

3. Fiscal and Monetary Policy (Including “Helicopter Money”) Transmission

The presence of an IVL system, once in place, offers a host of collateral benefits. If administered by a nation’s fiscal or monetary authority—the Treasury or the Federal Reserve in the U.S.—it will enable

18. Paper is a very efficient vector of Coronavirus, which is why China has been literally laundering its paper money since February. Jesse Yeung, *China is Disinfecting and Destroying Cash to Contain the Coronavirus*, CNN Bus. (Feb. 17, 2020), <https://www.cnn.com/2020/02/17/asia/china-is-disinfecting-cash-coronavirus-intl-hnk-scli/index.html> [<https://perma.cc/H2JK-ZNUH>].

19. See Hockett, *supra* note 9; Hockett, *Capital Commons*, *supra* note 10; Hockett, *Rousseauvian Money*, *supra* note 15.

20. See sources cited *supra* note 19; see also Kim & Hockett, *supra* note 12.

faster fiscal stimulus or monetary policy transmission than our present system of middlemen, whom we hope will transmit inexpensive credit to consumers.²¹ Instead, we can drop digital “helicopter money” into our digital wallets, thereby sidestepping the notorious “pushing on a string” and diversion-to-speculative-use problems that hampered stimulus efforts in 2008.²² In less extraordinary times, we can even offer interest on savings in wallets, whereupon we can move those rates up or down when we must slow down or speed up spending activity economy-wide.²³ Indeed, we can even then “micro-target” specific sectors of the economy where spending appears to be either overheating or dangerously cooling, another prospect considered below and more fully fleshed out in other work.²⁴

4. Valuing Care Work

An IVL system would also enable public authorities, including cities and states, to begin disbursing monetary rewards to “care work” providers and other contributors to the public good that our present payment arrangements render too difficult for most governments to adjudge feasible.²⁵ A teenager who helps grade-schoolers with homework after school, for example, or someone who looks in on and cares for a “shut-in,” can quickly transmit digital proof of work (POW) to a city, state, or even federal social services authority and receive spendable IVL credits—what I call Democratic Digital Dollars, or 3Ds—in return.²⁶ Given the long-term savings to municipal, state, and federal budgets that

21. See, e.g., Hockett, *supra* note 9; Hockett, *Capital Commons*, *supra* note 10.

22. See sources cited *supra* notes 9–10; see also Daniel Alpert, Robert Hockett & Nouriel Roubini, *The Way Forward*, NEW AMERICA (Oct. 10, 2011), <https://www.newamerica.org/economic-growth/policy-papers/the-way-forward/> [https://perma.cc/2ZZQ-744G].

23. See sources cited *supra* note 22. This is a prospect, incidentally, that might recommend—though certainly it does not mandate—migrating a Treasury system in time to the Fed, as discussed *infra* Section III.A.

24. See, e.g., Robert 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/6G87-DL32]; Robert Hockett, *The Green New Deal: How We Will Pay for It Isn't 'a Thing' – and Inflation Isn't Either*, FORBES (Jan. 16, 2019, 7:15 PM), <https://www.forbes.com/sites/rhockett/2019/01/16/the-green-new-deal-how-we-will-pay-for-it-isnt-a-thing-and-inflation-isnt-either/> [https://perma.cc/7DZF-UTJV]; Robert Hockett, *Pay for the Green New Deal Now or Spend More Later*, FIN. TIMES (Feb. 3, 2019), <https://www.ft.com/content/046e7c30-23c8-11e9-b20d-5376ca5216eb>.

25. See Hockett, *supra* note 9; Hockett, *supra* note 11; Hockett & Kim, *supra* note 12, Kim & Hockett, *supra* note 12.

26. For examples of an IVL system’s disbursing monetary rewards to ‘care work’ providers and other contributors to the public good, see sources cited *supra* note 25.

such work demonstrably affords, crediting over the IVL is readily justified on long-term fiscal grounds, let alone ‘Good Society’ grounds.²⁷

5. Data and Financial Privacy

Finally, going digital offers financial data privacy benefits as well. Unlike private sector banks and many online payment service firms, public sector administrators of the IVL do not have a profit incentive—there are no non-criminal “carrots” to entice data harvest and sale. Such administrators also are subject to Fourth Amendment constraints as state actors. Unlike, say, Wells Fargo or Facebook—there is a “stick.” Adding *more* sticks through criminal law, moreover, along with especially hard encryption for all transactions in amounts lower than what we already require banks and other institutions to report under anti-terrorism and anti-money laundering law, is easily done on an IVL system.²⁸

No matter how one looks at the matter, then, it seems clear we should do this. Commercial and financial inclusion, more rapid economic growth, leak-proof fiscal stimulus and monetary policy, valuing undervalued work, and tightening financial privacy . . . there seems little not to like. All such features, additionally, grow more attractive in times of crisis like the present.

The real question, then, is who best to administer the IVL. Should it be cities, states, or our federal government? If it’s the latter, should it be the Fed or the Treasury?²⁹

C. Federal Bodies for the Chassis—Fed or Treasury?

In light of the present pandemic and the nationwide financial stresses to which it is giving rise, it seems clear that whatever New York and other states or their subdivisions might do, we will do better to install a *federal* body on the IVL chassis than to rely solely on those more jurisdictionally circumscribed units of government.³⁰ The same reasons that underwrite this judgment seem to suggest also that the *Treasury* body would be preferable to the Fed body, at least in the short-run—even if we should decide ultimately to migrate the system over to the Fed, as we did with the paper dollar about a century ago.³¹

27. For support that crediting certain work over an IVL system is justified on long-term fiscal grounds in addition to “Good Society” grounds, see sources cited *supra* note 25.

28. For support that an IVL system can offer financial data privacy benefits, see sources cited *supra* note 25.

29. The Eurozone, of course, invites counterpart questions. Hockett, *supra* note 14, at 5.

30. See sources cited *supra* notes 1, 7–8.

31. Hockett et al., *supra* note 8. For more on that migration, along with the Greenback, see discussion *infra* Section II.A; see also Robert Hockett, *Money’s Past and Fintech’s Future: Wildcat Crypto, the Digital Dollar, and Citizen Central Banking*, 2 STAN. J. BLOCKCHAIN L. & POL’Y 221, 228–30 (2019).

1. Why Federal?

The reason that I designed the IVL plan to be adaptable to local, state, *and* national use in the first place, stems in part from lessons I learned in the last crisis. In 2008, at the onset of a *financial* meltdown rooted in an underwater *mortgage* loan meltdown, I developed a plan that permitted public sector entities to employ their eminent domain authority to make compulsory purchases of underwater mortgage loans out of the private label securitization (PLS) trusts in which they were improvidently locked, then write them down and return them to the trusts.³²

These were loans that even trusts' bondholders wished to see written-down to avert default-prompted losses, as default risk lowered the expected values of mortgage loans by margins well below the level required to pull these loans back above water.³³ The problem was that neither scattered bondholders nor their PLS trustees could do the writing-down on an adequate scale.³⁴ For the pooling and servicing agreements (PSAs) pursuant to which PLS trusts had been settled, hastily drafted as they had been by lawyers who hadn't foreseen the prospect of a nationwide housing price crash and associated default wave, did not allow it.³⁵ If public authorities could partner with such bondholders to combine their own condemnation authority with bondholder money, I accordingly concluded, fair value condemnation awards could be paid at minimal or no public expense and the loans could at long last be written-down and thus salvaged.³⁶

When it came to deciding what level of public authority to approach—state, federal, or municipal—I thought it best to try all. Hard-hit homeowners, cities, and states that could not wait for the Federal Housing Authority (FHA) or any other instrumentality to act to forestall foreclosures, evictions, and associated financial turmoil, even if federal action was, ideally, preferable.³⁷ In the end, then, while I started with federal officials and even Presidential candidates (then Senators Obama and McCain) in advocating the plan, it was ultimately hard-hit cities that

32. See Robert Hockett, *Paying Paul and Robbing No One: An Eminent Domain Solution for Underwater Mortgage Debt*, 19 CURRENT ISSUES ECON. & FIN., no. 5, 2013, at 1 (2013); Robert Hockett, *We Don't Follow, We Lead: How New York City Will Save Mortgage Loans Nationally by Condemning Them Locally*, 124 YALE LAW J. 131 (2014). In effect, the plan was meant to enable PLS trusts to do what commercial banks, which were not subject to PSA--rooted impediments, were already doing in voluntarily writing--down portfolio loans in NPV-- positive manners to salvage their expected values. The plan simply added a step to that process corresponding to the added entity—the PLS trust—interpolated between debtors and ultimate creditors.

33. See sources cited *supra* note 32.

34. See sources cited *supra* note 32.

35. See sources cited *supra* note 32.

36. See sources cited *supra* note 32.

37. See sources cited *supra* note 32.

acted once it became clear that the new Obama Administration was only going to pursue piecemeal “cram-down” in bankruptcy courts rather than plenary “write-down” in Congress or at FHA.³⁸

In turning from the eminent domain plan to the IVL Plan several years after the mortgage loan crisis had finally receded, I kept the eminent domain plan experience in mind and accordingly started with our states and their cities at the same time that I approached federal officials and legislators, just in case. And while the *anticipated* case turned out to be *the* case for a time, with New York much quicker to act than was any other public authority,³⁹ the present pandemic appears to have changed things where speed and exigency are concerned. Now it seems that both Fed and Treasury, as well as both caucuses in both houses of Congress, might be ready to act.⁴⁰ The pandemic has denied us the luxury of waiting at *all* levels of government in our federal union.⁴¹

2. Why Treasury?

Now as already noted, the federal rendition of the IVL Plan is adaptable to both Fed and Treasury use. The latter would simply add two functionalities to Treasury’s already existing network of Treasury Direct Accounts (TDAs), a long-standing but little known facility pursuant to which any citizen or legal resident of the US can already open a digital account through which to transact with Treasury in its own securities 24/7.⁴² To convert this already existing platform into a universal digital

38. See sources cited *supra* note 32.

39. In this sense, contemporary New York might be likened to Governor Roosevelt’s and State Industrial Commissioner Frances Perkins’s New York, which pioneered many of the New Deal programs that Roosevelt and Perkins subsequently pushed as President and Secretary of Labor, respectively, of the United States. See Jessica Breitman, *Frances Perkins*, FRANKLIN D. ROOSEVELT PRESIDENTIAL LIBR. & MUSEUM, <https://www.fdrlibrary.org/perkins> [https://perma.cc/PW2D-Q69S] (last visited Oct. 16, 2020).

40. Philip Rosenstein, *COVID-19 Relief Could Be Catalyst for a Digital Dollar*, LAW360 (Mar. 26, 2020, 6:53 PM), <https://www.law360.com/articles/1257079/covid-19-relief-could-be-catalyst-for-a-digital-dollar> [https://perma.cc/TJQ2-URC7].

41. *Id.* The author of this Article is in discussions with Congressional staff on both sides of the aisle in both houses of Congress.

42. TREASURYDIRECT, <https://www.treasurydirect.gov/> [https://perma.cc/BP46-ZXWE] (last visited Oct. 17, 2020). For recent writing done by the present author on TreasuryDirect and possible Treasury Dollars, see, e.g., Hockett, *supra* notes 7–8; see also Robert Hockett, *The Treasury Dollar: An Immediate Funding and Digital Banking Plan for Pandemic Relief and Beyond* (Cornell L. Sch. Research Paper No. 20-30), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3567829 [https://perma.cc/5AQY-PTS3]; Hockett, *How To Keep The Digital Dollar Democratic: A ‘Treasury Dollar Bill’ / ‘Treasury Direct’ Plan*, FORBES (Mar. 24, 2020, 2:35 PM), <https://www.forbes.com/sites/rhockett/2020/03/24/how-to-keep-the-digital-dollar-democratic-a-treasury-dollar-bill-treasury-direct-plan> [https://perma.cc/G8KC-TW92]; Robert Hockett, *The Democratic Digital Dollar: A ‘Treasury Direct’ Option*, JUST MONEY (Mar. 25, 2020), <https://justmoney.org/r-hockett-the-democratic-digital-dollar-a-treasury-direct-option/>

payment platform, we would need to take only two simple measures, which is why the draft bill appended to this article requires fewer than three pages of legislative text beyond Findings and Definitions.

The two steps, the first of which simply is Stage 2 of the IVL Plan schematized above in Section I.A.2 and Figure 1, are as follows: First, we add horizontal peer-to-peer (P2P) connectivity between TDA digital wallets to the current vertical connectivity between Treasury itself and all TDAs, as explained above in Section I.A.2. Second, we confer legal tender status on the Zero Percent Certificates of Indebtedness that Treasury already issues through TDAs—I call them Treasury Dollars, or Digital Greenbacks in honor of the national dollar that Treasury issued from the mid-1860s until the Fed’s establishment fifty years later.⁴³ Even these two measures would be unnecessary if more than 75% of our population were banked because Treasury Direct already interfaces—indeed, at present *must* interface—with traditional bank accounts. But because 25% of Americans are unbanked or under-banked while only 5% lack smartphones or comparable devices, these two tweaks would be important.⁴⁴

3. Why—and When—the Fed?

The other way to proceed—the alternative to building out Treasury Direct—would be to do something much like what I have just described but to do it through the Federal Reserve System instead, as elaborated below in Part IV.⁴⁵ In the long run, this might be preferable since the Fed conducts most of our monetary policy and we might wish to keep it that way.⁴⁶ In the short run, however, going the Fed route would be rather more difficult and, therefore, more time consuming—for the Fed, unlike

[<https://perma.cc/DZ4E-EH8D>]; Robert Hockett, *Money in Context: Part 2*, LPE PROJECT (Apr. 9, 2020), <https://lpeproject.org/blog/money-in-context-part-2/> [<https://perma.cc/78JM-JBPJ>].

43. See sources cited *supra* note 42. The Greenback, incidentally, was virtually identical to the later Federal Reserve Note—same imagery and iconography, same size and material, etc. All that differed was the subtle inscription across the top, which of course did not read “Federal Reserve Note” until we migrated the Greenback over to the Fed after 1913. The Greenback history, incidentally, accounts for what might seem an idiosyncratic name that we continue to give to one of our primary bank regulators, the Office of the Comptroller of the Currency (OCC), so named because this office in Treasury actually *did* once control the currency. See Hockett, *supra* note 31.

44. 2017 FDIC National Survey of Unbanked and Underbanked Households, FDIC 23, 34 (Oct. 2018), <https://www.fdic.gov/householdsurvey/2017/2017report.pdf> [<https://perma.cc/8C5G-EEXS>].

45. See discussion *infra* Part III; Hockett, *supra* note 9; Hockett, *Capital Commons*, *supra* note 10.

46. See Hockett, *supra* note 9, at 16; see also Hockett, *Capital Commons*, *supra* note 10. It is also possible that we will in the future elect to consolidate some Fed and Treasury functions that now occur separately. I discuss what consolidation might look like at length in *Capital Commons* in particular.

the Treasury, has no preexisting network of wallet-convertible individual and small business accounts.

My own view is that whatever we can do most quickly is what we should do now, with optimization to be addressed later.⁴⁷ And if I am right in my conjecture that this means beginning with Treasury and only later migrating to the Fed—again as our nation’s first currency, the Treasury administered Greenback regime introduced in 1863, did in converting to the Federal Reserve Note regime 50 years later—then so be it.⁴⁸

As just suggested, both for the reasons adduced immediately above and for additional reasons adduced below, I think the Treasury route is best for now, with migration to the Fed to come only later, if at all, once the pandemic is past and the Fed is reformed on the basis of lessons we’re already learning.⁴⁹ To the details of both plans I accordingly now turn, starting with Treasury and then proceeding to the Fed.

II. THE TREASURY DIGITAL DOLLAR AND TREASURY DIRECT PLAN

Both for the reasons just noted and for additional reasons I lay out below, I think it best to debut the Digital Dollar as a Treasury Dollar or Digital Greenback, then migrate it over to the Fed, if at all, only after the present pandemic is past us. Here is how.

A. Digitizing Treasury Direct

Few seem aware of the fact, but the U.S. Treasury already affords any citizen or legal resident who desires it a TDA with the Treasury itself. Through this portal, citizens and legal residents can purchase or sell all four of the principal classes of Treasury security—bills, notes, bonds, and

47. See Hockett, *supra* note 7; Hockett, *supra* note 8; A.B. A088686, 2019-20 Gen. Assemb., Reg. Sess. (N.Y. 2020) (pending bill in the New York State Assembly for creating a master account and system of individual wallets to make and receive payments to state entities and residents of the state); see also Hockett, *supra* note 12 (discussing the proposed Inclusive Value Ledger which would enable the free flow of money during coronavirus); *Our New Currency for New York*, *supra* note 12 (discussing the benefits of the proposed Inclusive Value Ledger to New York residents); *Our Money’s Not Green Enough*, *supra* note 12 (discussing how the Inclusive Value Ledger can dispose of the limitations on privately-run payment platforms); Partz, *supra* note 12 (giving a general overview of IVL and why it is being proposed); *New York Digital Currency Planned for P2P Payments*, *supra* note 12 (discussing the IVL proposal and the features of the ledger); Heal, *supra* note 12 (describing the features of the IVL and its purpose); *New York Lawmakers Push for Public eBanking System*, *supra* note 12 (describing the IVL as a solution to the millions of Americans who are excluded from the formal banking system); Rosenfeld, *supra* note 12 (describing IVL and distinguishing it from Facebook’s Libra cyprocurrency).

48. Hockett, *supra* note 31, at 6.

49. See generally Robert Hockett, Spread the Fed: Distributed Central Banking in Pandemic and Beyond (May 10, 2020) (unpublished manuscript) (on file with author), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3597724 [<https://perma.cc/T99G-WXT2>].

TIPS—at any time, 24/7. All that is needed is: (a) an internet accessible laptop, smartphone, or other device; (b) a Social Security or Taxpayer ID number; and (c) a bank account out of which payments for, and into which redemptions of, Treasury securities can be made.

All that is needed to make this a full Treasury-administered Democratic Digital Dollar and IVL, then, is to add one new Treasury security endowed with legal tender status—a kind of digital cash—to the basket now offered and to establish horizontal connectivity between TDAs to supplement the vertical connectivity between these accounts and the Treasury by making them P2P-interactive.

Here, then, is the nucleus of what can be quickly scaled up into a national savings and payments platform administered by Treasury during the pandemic, then perhaps migrated over to the Fed when there is time to build out the Fed’s digital infrastructure. I will begin with functional requirements, then turn to technical requirements.

B. *Functional Requirements*

Because Treasury Direct is already halfway there en route to a full digital dollar and payment platform, the functional adjustments requisite to conversion are simple and straightforward.

1. Digitize Treasury Direct Accounts

First, the Treasury will be explicitly authorized and indeed required to either: (a) allow digital dollars (digital Federal Reserve Notes) to be held in and spent from TDA Wallets, or (b) issue a new denomination of Treasury bill with no coupon or maturity date and a face value of \$1. We’ll call it a Treasury Dollar Bill (TDB) or Digital Greenback (DG). There is a sense in which Treasury already administers the seed of a TDB or DG: The Zero-Percent Certificate of Indebtedness (in Treasury shorthand, the “Zero-Percent C of I,” or “C of I,” and in my parlance “Zero-CI”) is a Treasury security that does not earn any interest. It is intended, according to the Treasury, to be used as a source of funds for purchasing eligible interest-bearing Treasury securities in TDAs.⁵⁰ Treasury arguably already possesses authority to digitize Treasury Direct in this manner and even to issue a new legal tender Treasury Dollar. But “helicopter drops” into new starter accounts would require explicit Congressional appropriation, so we might as well explicitly authorize and indeed mandate the new issuance in the same initial appropriation legislation.

50. *TreasuryDirect Help: Zero-Percent Certificate of Indebtedness*, TREASURYDIRECT, https://www.treasurydirect.gov/indiv/help/TDHelp/help Ug_152-CofILearnMore.htm [<https://perma.cc/9RXC-7V4K>] (last visited Oct. 17, 2020).

The Treasury-Dollarized Zero-CI will effectively be a one-dollar perpetual, a.k.a. consol, much like the Federal Reserve notes we call dollar bills. Treasury will directly convey Congressionally determined amounts of these Treasury Dollar Bills, which I will call “Starter Deposits,” to holders of TDAs, which can be digitized into digital wallets as described below. There will be no need, then, to ‘sell’ these Bills to convey them—a critical difference from other Treasury issuances. Starter Deposits, perhaps started with CARES Act style disbursements or “Baby Bonds” of the kind contemplated by sundry developed nations in the late 1990s and early 2000s, then can be periodically supplemented by what we will call Supplemental Deposits as Congress determines.⁵¹ We can also cap digital TDB amounts held in TDA wallets, if we wish, as Treasury itself used to cap Zero-CIs. All else being equal, I would not myself favor such capping, but all else might not be quite equal.⁵² Existing banks and payment companies might object to unlimited TDB amounts, for example, for fear of being rendered superfluous by a once again solely publicly issued payment medium. Financial stability imperatives might operate to similar effect—if, say, mass migration of deposits from private sector banks to digital TDA wallets would suddenly drain most of the banking sector’s liquidity base.⁵³

The latter danger could, of course, be well mitigated, if not eliminated, through Treasury lending to banks in the same dollar amounts as migrate from bank accounts to TDA wallets.⁵⁴ But that might take a while to work out, not to mention to work out to the satisfaction of frightened bankers. So, I suggest that we start TDA wallets simply with such future stimulus payments of the CARES Act variety as we make available for the remainder of the present pandemic, or with Baby Bonds as noted above.⁵⁵

Treasury Direct wallet accounts holding TDBs will be much like accounts held with present-day money market mutual funds (MMFs), save that they will be sovereign issuances with all the guarantees thereof. TDBs will, for their part, be reminiscent, again, of the Greenback dollar bills that the Treasury issued as the nation’s primary currency from the mid-1860s until early in the 20th century—when the Fed was established, and Fed Notes began to supplant Treasury issuances as primary currencies.⁵⁶ Hence my suggestion of Digital Greenbacks is an alternative name for TDBs.

51. See Robert Hockett, *A Republic of Owners*, YALE U. PRESS (forthcoming 2021) (discussing Baby Bonds as piecemeal asset-spreading policies). See generally Robert Hockett, *A Jeffersonian Republic by Hamiltonian Means*, 79 S. CAL. L. REV. 45 (2005); Coronavirus Aid, Relief, and Economic Security Act or CARES Act, S. 3548, 116th Cong. (2020).

52. See Hockett, *Capital Commons*, *supra* note 10, for more on when to cap and not to cap.

53. See *id.*, for full consideration of such prospects and means of mitigating them.

54. *Id.*

55. See sources cited *supra* note 51.

56. See Hockett, *supra* note 31.

2. Make TDBs Legal Tender

Second, if we do not mandate the permission of TDA Wallets to hold digital Federal Reserve Notes, then, through legislation, we will mandate either: (a) that henceforth Treasury Dollar Bills will be legal tender on the same footing as Fed dollar bills, or (b) that the Fed will open individual deposit-cum-transaction accounts—we will call them Fed Transaction Accounts (FTAs)—for all who have TDAs, with free transferability of funds between each pair of twinned Fed Transaction and TDAs.⁵⁷ Any and all such accounts will be digitized into smart-device-accessible digital wallets as we upgrade the national payments infrastructure as most developed nations are now planning to do.⁵⁸

TDBs will thus constitute Congressionally determined helicopter money that functions alongside garden-variety Fed-administered money. Of course, the Treasury will coordinate with the Fed to prevent undesired inflationary impacts.⁵⁹ Because what occasions helicopter drops is essentially by definition a significant contraction, however, this seems unlikely to become an issue.⁶⁰

3. Add Horizontal P2P Connectivity

Third, we supplement the currently open vertical connectivity channel between the Treasury and TDA wallet holders with universal P2P horizontal connectivity among all TDA wallet holders themselves.⁶¹ We do that either between TDAs themselves, in the event that we opt for Option (a) just above, or between FTAs, in the event that we opt for Option (b) above. Again, then, TDAs or FTAs will become digital wallets, out of which anyone can pay anyone else for anything legally sold and into which anyone can be paid by anyone else for anything legally sold or conveyed.

As in my Democratic Digital Dollar and IVL plans more generally, private sector banking institutions can also be required, as a condition of licensure, to be among those businesses with what I call horizontal connectivity to TDA wallet holders. In that capacity, they can be required to offer full, fee-free access to teller windows, ATMs, and all other facilities at which anyone might wish to convert TDBs into Federal Reserve Notes (FRNs), coins, or any other form of legal tender cash we

57. For more on the prospect of Fed-administered digital dollars, see discussion *infra* Section II.C.4; Hockett, *supra* note 31; Hockett, *Capital Commons*, *supra* note 10. The latter work also discusses previous digital dollar and non-digital Fed account proposals proffered by various friends and colleagues of the authors since 2014.

58. See *infra* Section II.C.4; see also sources cited *supra* note 57.

59. See Hockett, *Capital Commons*, *supra* note 10, for a detailed design for Fed and Treasury coordination and even partial consolidation can be found in.

60. *Id.*

61. See sources cited *supra* note 19 and accompanying text.

might ever include among our money forms. But of course, this added feature can also be forgone if Congress fears backlash from bank lobbyists.

4. Build-In Cryptographic Privacy Protection

Fourth, we will cryptographically protect all TDAs or FTAs, and all transactions performed with them. We should also guarantee cash-reminiscent anonymity of transacting for all transactions in amounts not already required to be reported to bank regulators under current bank privacy and money laundering enforcement laws. Violations of these protections by any government official will not only constitute Fourth Amendment violations, but will also be legally prosecutable—as, of course, will be any breaches by hackers or other miscreants. Because the Treasury, unlike private sector banking institutions and payment service providers, is not actuated by a profit motive, security and data protection seem likely to be easier assured on the new Treasury Direct system than they are now. But there is no need to leave this to chance.

5. Later, Consider Adding Interest on Accounts or Migrate to Fed and Do Same

Finally, once the system is fully up and running, we might commence paying interest on funds held in TDAs or FTAs in the future, just as the Fed now pays interest on reserves (IOR) to banks holding accounts with it and as private sector banks pay (minimally) on checking and savings accounts held with them.⁶² One reason for doing this is that it will afford our monetary authority—be that the Fed, Treasury, or a consolidated fiscal and monetary authority such as that I design in other work—a direct and hence very effective monetary policy tool. Rates can be raised immediately to slow spending, and can be lowered to boost spending, rather than changing them indirectly through bank rate policy.⁶³

Should we go this route, in other words, there will be no more pushing on a string problems or other leakages in monetary policy transmission. Nor need we hope banks will lend or hope people will borrow in crises.⁶⁴ We will simply drop money in when we must, soak it back up other ways—raising rates higher, impounding some funds, or raising taxes if necessary.⁶⁵ As CPI inflation seems to have been lower than policy targets for decades now, though, that seems a fairly remote possibility.⁶⁶ We shall soon see whether productivity-drops owing to social distancing

62. See sources cited *supra* notes 9–10, 31 and accompanying text, for more on this prospect, why it might be considered attractive, and how it might be employed.

63. See sources cited *supra* note 62.

64. See sources cited *supra* note 62; see also Alpert, Hockett & Roubini, *supra* note 22.

65. See sources cited *supra* note 62.

66. See sources cited *supra* note 62.

during the pandemic will increase CPI inflation to meet or exceed policy targets.⁶⁷

C. Technical Requirements

What, more specifically, does the technology look like for converting Treasury Direct Accounts into Treasury Dollar wallets for citizens, legal residents and businesses, without requiring them also to maintain separate private sector bank accounts? It is, believe it or not, not at all complicated. There are several key layers of any such system, and only one has yet to be built.

1. The Account Layer

First is the account layer. There must be safe, secure accounts that have reliable “know your client” (KYC) identity authentication protocols. These accounts are what function as users’ virtual wallets, in which users can safely store, from which they can send, and into which they can receive digital dollars. They are essentially bank accounts with smart device keypads instead of brick-and-mortar storefronts. Critically, wallet holders have instant access to their funds, which is not the case with Venmo, PayPal, or other already existing private sector payment platforms that depend upon multi-day automated clearing house (ACH) operations to finalize payments. TDAs already possess most of these features, and can be readily upgraded within weeks or days, not months or years, to complete the replication.⁶⁸

2. The Payment Layer

Second is the payment layer. There must be a real-time capacity allowing for simultaneous debiting of payor accounts, and crediting of payee accounts, if wallets are to outperform traditional bank or payment accounts along with the ease and speed of transacting dimension. The Federal Reserve, as is by now widely known, is developing such a system, “FedNow,” for clearing between banks—a welcome development, but one whose completion (a) stands to benefit only banks and those holding bank accounts, and (b) for reasons unknown, is continuously postponed by the Fed.⁶⁹ Treasury can readily supply the same among all Treasury Direct wallets, and more quickly—the

67. See sources cited *supra* notes 3–4, for a discussion of pandemic-wrought supply side dangers.

68. A surprising multitude of this author’s friends and colleagues in the tech sector, amusingly enough, use precisely the same phrase in this connection—a “piece of cake.” Special thanks, incidentally, to Anshul Gupta, with whom I have worked for a long time indeed in getting the tech design right.

69. See FedNow Service, FED. RSRV., <https://www.frbservices.org/financial-services/fednow/index.html> [<https://perma.cc/LG8U-45KW>] (last visited Oct. 16, 2020).

technology, again, has long been familiar in the financial technology industry.⁷⁰

3. The Application Programming Interface Layer

Third is the application programming interface (API) layer. This enables interoperability between the system being developed on the one hand, and various verified 3rd-party services, including PayPal, Venmo, merchant POS systems, and cross border payment services on the other hand. These integrations will be desirable insofar as there continue to be other ways to send money to friends, family, and businesses—which we might well desire for purposes of at least some resilience-assuring redundancy in the payments system. But it is worth also bearing in mind that the upgraded Treasury Direct system is meant to enable costless payments among all parties who pay or are paid in legally permissible transactions, such that any other systems out there are strictly speaking unnecessary, even if desirable for some purposes.

4. The Ledger Layer

The final layer is that of the ledger—in this case, the Treasury Direct accounting system as a whole, as administered by the Treasury. There must be a transaction-aggregation locus and a node through which to inject Treasury Dollars into the money supply for purposes of recipient self-maintenance and macroeconomic stimulus. The ledger can be distributed and thus grounded in blockchain technology, or can be centralized, as Treasury Direct is now. If we ultimately decide to go the former route, then we might see some increased complexity in implementation as we make architectural decisions concerning encoding keys, hashing, and hot/cold storage. Yet the underlying functionalities and requirements do not change, and in any event, we can convert Treasury Direct as currently constituted to P2P use without having to wait. Then any subsequent move to a blockchain or other distributed ledger technology (DLT) can be planned and executed at our leisure.

5. It's Not That Difficult

The technology involved in a Treasury Direct upgrade is, then, not trivial to build, but neither is it daunting or especially challenging. The requisite conversion involves technology with which both the industry and other agencies of our deferral government are well familiar. Indeed, the latter already has departments whose personnel are charged precisely with performing the very tasks just elaborated. One is the United States Digital Service (USDS), which is housed in the Executive branch of our

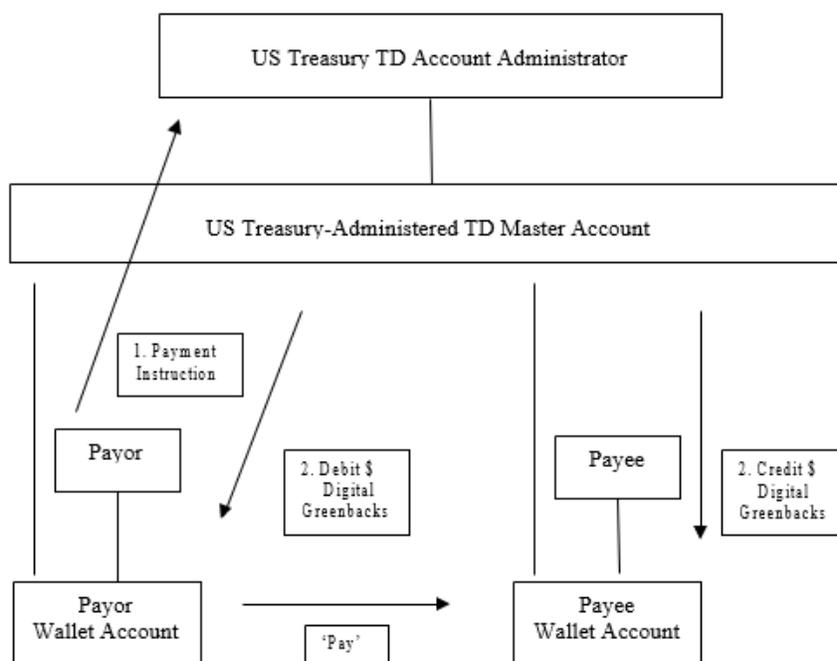
70. *Supra* note 68.

federal government.⁷¹ Others are—unsurprisingly when you think about it—the Internal Revenue Service, itself housed in Treasury, and the Social Security Administration. While we might (or might not) wish to consult with private sector experts, then, in tweaking the Treasury Direct system into a network of digital wallets, it is noteworthy that we need not.

D. Pictographic Representation

In any event, the upshot once we are through will look as depicted in Figure 2, which the reader will note is isomorphic to Figure 1 above.

Figure 2: U.S. Treasury-Administered TDA Payments System



In the diagram, non-arrowed lines again represent institutional linkages and arrowed lines represent payment instructions and associated flows. A payment occurs when the Payor instructs the TDA Account Administrator, via a chip card, strip card, or smart device payment app (Payment Step 1), to debit her own wallet account in the TDA Master

71. See US DIGIT. SERV., <https://www.usds.gov/> (last visited Oct. 16, 2020).

Account and correspondingly credit the Payee's wallet account in the TDA Master Account (Payment Step 2).

At Implementation, Stage 1 of Plan Implementation, counterparties in any such transaction will comprise the Treasury and one private sector party—that is effectively what is possible through Treasury Direct Accounts now, albeit not yet in Treasury Dollars or Digital Greenbacks, which I am proposing to institute. At Implementation Stage 2 of Plan Implementation, all wallet account holders in the system, public or private, will be able to make and receive payments to and from one another in the same manner. This is all that need be added to Treasury Direct wallets now to convert them to universally usable value storage (savings) and transfer (payment) media.

III. THE DIGITAL FED DOLLAR AND FED WALLET PLAN

While Treasury Direct seems the obvious route to go in digitizing the dollar in the short run, we might nevertheless wish to migrate any national rendition of the IVL system over to the Fed in the long run. The primary reason for doing so would be to keep the digital dollar fully integrated, under one administrator, with the nation's broader monetary policy apparatus and payments system—both of which are presently conducted and administered respectively by the Fed.⁷²

This need, not to mention objections from the banking sector, might be less pronounced if TDA wallets were limited to low threshold ceiling amounts, but would grow if those ceilings were raised or eliminated. Similarly, if the Treasury Direct system is only sporadically used—for example, only for occasional and infrequent helicopter drops during a crisis—it also could presumably stay within Treasury, which could simply make certain to coordinate closely with the Fed during these ad hoc intervals as it always does in such circumstances.⁷³ This should in theory present no more difficulty than does the fact that there already are many bank deposit substitutes that the Fed must monitor even while not directly controlling them.⁷⁴

If, on the other hand, we wish to maintain an ongoing digital dollar system making use of wallets free of any ceilings, then there will be at least some reason, even if not necessarily a dispositive reason, to migrate it over to the Fed—again rather as we did when we gradually replaced the Treasury Greenback regime, our first ever and principal paper currency system from the late- mid- 19th century to the early 20th century,

72. See Hockett, *supra* note 9; Hockett, *supra* note 31; Hockett, *Capital Commons*, *supra* note 10, for full discussion of present arrangements, why we have them, and why if at all we might wish to alter them.

73. See sources cited *supra* note 72.

74. See sources cited *supra* note 72.

with the virtually identical Federal Reserve Note after 1913.⁷⁵ The dollar system as now constituted represents a portion of the liability side of the Fed balance sheet—hence the term “Note,” which abbreviates “Promissory Note,” which we find atop all dollar bills.⁷⁶ And to these liabilities correspond assets.⁷⁷

In theory, the Treasury could borrow from account holders willing to credit the Treasury through their TD Wallet Accounts just as the Fed in accounting terms borrows from dollar holders. It could even pay a coupon on such credits—in effect, interest on digital dollar deposits—in a manner that renders them functionally equivalent to both (a) Fed Reserve Accounts that now pay out Interest on Reserves (IOR) to banking institutions, and (b) Treasury Notes, Bills, and Bonds that pay out a premium to investors.⁷⁸ This would carry the Treasury well into the realm of central bank monetary operations, however, the full ramifications of which exceed the scope of interest of this Article though not of other work done by the author.⁷⁹

The reader is accordingly asked simply to bear in mind that the functionalities of the Fed rendition of the IVL Plan—let’s call it a FedWallets plan—that I shall now sketch all could *in theory* be discharged by the Treasury or a single consolidated authority performing all of the functions now separately distributed over our fiscal and monetary authorities, but in practice would then require we make basic structural changes to Treasury practice and associated accounting.⁸⁰

If one day the U.S. should decide that central bank independence has been oversold and should be diminished or parted with, some such consolidation of funding, money-modulating, and liability-issuing authority might well be affected as it was in other eras of our nation’s financial history.⁸¹ For the present, however, the plan-sketching proceeds on the assumption that the nation retains separate fiscal and monetary authorities—that is, a separate Treasury and Fed.

A. *Why We Might Migrate*

A FedWallet rendition of the IVL Plan could either replicate the Treasury rendition and administer it as a separate functionality in parallel with the Fed’s other functionalities or could integrate the Treasury into a more ambitious programmatic. The latter option would employ the IVL Plan not only as a national payments platform, associated Democratic

75. See sources cited *supra* note 72.

76. See sources cited *supra* note 72.

77. See sources cited *supra* note 72.

78. See sources cited *supra* note 72.

79. See sources cited *supra* note 72.

80. See sources cited *supra* note 72.

81. See sources cited *supra* note 72.

Digital Dollar, and public option for traditional retail banking—that is, value storage and transfer as outlined above—but also as an architecture for a far more effective channel of monetary policy and even more national investment than we have now.⁸²

In the case of monetary policy, which central banks and monetary authorities traditionally conduct with a view to maintaining balance between money aggregates and productive potential, the Fed transacts with publicly favored “dealer banks” and other privileged financial institutions to effect policy.⁸³ It (a) buys or sells Treasury securities in such transactions to grow or shrink monetary aggregates, (b) changes interbank lending charges to affect money rental rates and hence credit-money aggregates, (c) alters capital requirements to alter the quantum of credit that financial institutions can emit in monetized form, or (d) employs a combination of such tactics.⁸⁴

In all such cases, the hope is that Fed monetary easing will translate into greater bank lending to productive and other needful units throughout the national economy, or that counterpart monetary tightening will similarly contract credit-money aggregates and thereby slow inflationary spending activity. The problem is that the hope sometimes goes almost entirely unfulfilled and always goes less than fully fulfilled. The reason is not hard to find once one notes the pervasiveness of recursive collective action problems in any decentralized exchange economy and associated financial system like that of the U.S.⁸⁵

During a bust, with prices falling, it is irrational for individuals to borrow and spend, even when the slump could be reversed were all individuals to borrow and spend simultaneously in concerted fashion. Such individuals lack the means of collective agency required to ensure that all individuals *do* engage in the requisite spending, however.⁸⁶ During a boom, in turn, with prices rising, it is likewise irrational for individuals *not* to borrow and spend, even when their all doing so inflates the bubbles that ultimately burst and become busts.⁸⁷ Private sector lending institutions are as caught up in this individually rational,

82. See sources cited *supra* note 72.

83. See sources cited *supra* note 72; see also Hockett, *Rousseauvian Money*, *supra* note 15, at 49.

84. Hockett, *supra* note 9, at 16–17; see also Hockett, *Capital Commons*, *supra* note 10; Hockett, *supra* note 31.

85. Hockett, *supra* note 19, at 17; see also Robert Hockett, *Recursive Collective Action Problems: The Structure of Procyclicality in Financial and Money Markets, Macroeconomies, and Formally Similar Contexts*, 3 J. FIN. PERSPS. 1 (2015) [hereinafter *Recursive Collective Action Problems*] (explaining what constitutes a recursive collective action problem and how to address those challenges).

86. See Hockett, *Recursive Collective Action Problems*, *supra* note 85.

87. *Id.* at 18.

collectively irrational logic as are their prospective borrowers.⁸⁸ A money-modulatory system that depends on the independently-reached decisions of such institutions will accordingly lack the means of collective agency required to conduct monetary policy efficiently.⁸⁹

A similar individually rational, collectively irrational logic afflicts national investment in much productive industry and infrastructure.⁹⁰ Many productive projects, whose value-adds inure to the benefit of large populations over lengthy temporal durations, do not inure sufficiently to the benefit of individuals over short temporal durations to induce them optimally to engage or invest in the productive activity in question.⁹¹ It is thus individually rational for disaggregated and uncoordinated persons simply to leave long-term value on the table, as collectively irrational as that is.⁹² And once again, what is true of individuals here is likewise true of the disaggregated profit seeking, private sector institutions that lend to them, whose “short-termism” is individually rational under present disaggregated and uncoordinated arrangements, even while collectively wasteful and even disastrous in the longer term.⁹³

These two collective action impediments to efficient money-fueled productive activity can be readily remedied by limiting the role of disaggregated middleman institutions in the monetary policy effectuation process, leaving them to retail lending against a backdrop of publicly modulated and hence stable money and credit aggregates economy-wide.⁹⁴ And a Fed-administered rendition of the IVL Plan affords ready means of doing just that—means of enabling the Fed fully to discharge its role as our polity’s authorized collective agent in matters monetary.⁹⁵ This is readily demonstrated in respect both of monetary policy and of infrastructure investment policy.

The monetary policy case is the easiest to see in light of the foregoing schematization of digital IVL Accounts and associated digital dollars. All that the Fed needs do is: (a) pay interest on IVL Accounts; (b) raise those rates to slow down, and lower them to speed up, spending activity by account holders; and (c) in extreme cases, either impose negative interest rates upon, or conduct direct digital helicopter drops into, these same accounts. And that would be that—direct, leak-proof monetary policy,

88. *Id.* at 18–19.

89. *Id.* at 19.

90. See Hockett, *Capital Commons*, *supra* note 10, at 33–38; see also Hockett, *Recursive Collective Action Problems*, *supra* note 85, at 20.

91. See Hockett, *Recursive Collective Action Problems*, *supra* note 85, at 20; see also Hockett, *supra* note 11.

92. See Hockett, *Recursive Collective Action Problems*, *supra* note 85, at 20.

93. See sources cited *supra* note 72; see also Robert Hockett & Saule Omarova, *Private Wealth and Public Goods: A Case for a National Investment Authority*, 43 J. CORP. L. 437 (2018).

94. See Hockett, *supra* note 9, at 18.

95. *Id.* at 16.

and associated effectuality where expansionary and contractionary policy alike are concerned.⁹⁶

The investment policy case is slightly more complicated than is the monetary policy case, if only because the necessary architecture in this case has not already been fully laid out as it was for the monetary policy case earlier in this Article. It is nevertheless easy enough to describe quickly what is needed and then diagram the result. The key point to remember is that the Fed, like any financial institution, maintains a large and complex balance sheet comprising many classes of assets and many classes of offsetting liabilities. The Fed uses this balance sheet somewhat in the way that Congress uses the Internal Revenue Code—as a means of policy-optimal macro-allocation economy-wide.⁹⁷

Among the Fed's liabilities are the Reserve Accounts that it maintains for private sector banking institutions, which operate much as do individuals' deposit accounts maintained with these private sector banks themselves. Among the Fed's assets, in turn, are the trillions of dollars' worth of Treasury securities, mortgage and other federal agency securities, and International Monetary Fund (IMF) Special Drawing Rights (SDRs) that it holds—not to mention the new assets newly acquired pursuant to the Fed's pandemic relief efforts.⁹⁸ Private sector bank balance sheets look much like the Fed's balance sheet, save that the assets and liabilities include much more in the way of for-profit private investments and individual demand deposits, respectively, than does the latter.⁹⁹ Migrating an IVL-like digital wallet system from Treasury to Fed would involve adding wallets to the liability side of the balance sheet in a manner well integrated with the addition of new assets to the asset side of the balance sheet. It would look, more or less, as follows.

B. *How We Might Migrate*

As with the Treasury Direct Plan laid out above, so here with the Fed rendition there would be both functional and technical requirements to discharge. I will address them in the same order here as I did above.

1. Functional Requirements

The functional requisites to migration of the kind here contemplated fall into two categories. First come the functionalities of the system *qua* payments system, which are identical to those laid out above in Part II in connection with the Treasury Direct Plan. Second come the

96. *Id.* at 18.

97. *Id.*

98. *See* Hockett, *supra* note 49, at 20 (elaborating on the new assets now being acquired pursuant to the Fed's pandemic relief efforts).

99. *See id.* at 24–25.

functionalities requisite to incorporating the Fed version of the plan into its regular monetary policy operations. Those are unique to the Fed rendition of the plan, so let us now turn briefly to carefully elaborating them.

A FedWallet rendition of the IVL Plan would simply alter the compositions of the Fed's own and private sector banks' balance sheets in a few straightforward ways. First, the Fed IVL Master Account would simply be (a large portion of) the liability side of the Fed's balance sheet. Payments among businesses and individuals would then manifest as shifting allocations on that liability side of the Fed balance sheet (see Figure 5, below). Insofar as individual Fed IVL wallet accounts subsumed within that Fed IVL Master Account were employed in this manner as transaction accounts by their holders, there would also be a corresponding reduction in the sizes of private sector bank balance sheets. This would depend on what ceilings, if any, we imposed upon wallet account balances. Their deposit liabilities would migrate in some measure over to the Fed.¹⁰⁰

Second, insofar as we wanted private sector banks to continue to “gate-keep” in connection with business and other forms of productive lending as they do now—when not betting on price movements on secondary financial and tertiary derivative markets—we would permit them to do so in either or both of two ways. The first way would be by letting them offset their lending with such ordinary deposits as they can continue to attract or legally open. They might then elect to sell, as they do now, some of these loans on to the Fed *ex post* as they now often do to other federal entities such as the Government-Sponsored Enterprise (GSE).¹⁰¹

The second way would be by letting them borrow from the Fed *ex ante* or *ex post* through the Fed's Discount Window in connection with loans they either plan to extend or have extended—a sort of bespoke lending rendition of what the Fed, Fannie Mae and other GSEs, and other entities do in purchasing and thus monetizing bonds, notes, and other issuances.¹⁰² In all such cases, the effect would be simply to substitute liabilities owed to the Fed for liabilities owed to individual depositors on bank balance sheets, and add these bank liabilities to the asset side of the Fed's balance sheet, thereby offsetting the new Fed Note equivalent liabilities that the Fed “owes” in the form of business and individual IVL wallet accounts.¹⁰³

100. *Id.* at 20.

101. *Id.*

102. *Id.*; see also Hockett, *Capital Commons*, *supra* note 10 (detailing, in particularly painstaking detail, the many accounting implications of these operations).

103. See Hockett, *supra* note 49, at 20. The scare-quotes around ‘owes’ are because these liabilities stem from, rather than preceding and enabling, Fed loans to the ‘creditors.’

Were we to go this route, requiring private sector banks to fund some or all of their investments through Fed Discount Window lending instead of privately maintained deposits could have as salutary an effect upon national investment policy as the Fed's maintaining a system of IVL FedWallet accounts for all legal persons would have upon national monetary policy.¹⁰⁴ For the Fed now could *condition* its lending expressly upon private sector banks' lending for manifestly *productive* purposes in primary markets rather than upon speculative activity in secondary and tertiary markets. In effect, we would then have both (a) a renewed—and far more effective—Glass-Steagall separation of depository from speculative financial market activity, and (b) an affirmative linkage of that depository activity to productive investment.¹⁰⁵

Another asset side offset to the new currency-like liabilities that the Fed would take on in maintaining a system of IVL FedWallet accounts for businesses and individuals would be direct Fed purchases of infrastructure bonds, “social impact” bonds, state, and municipal securities (munis),¹⁰⁶ and issuances made by any new public entity we might establish in future to plan and conduct national development finance. The possibilities here are quite breathtaking in some cases, but their details are beyond the scope of this Article and accordingly more fully discussed in other work complementing this one.¹⁰⁷

2. Technical Requirements

The technical prerequisites to digitizing Fed administered digital dollars and IVL wallets are, like the functional requirements other than monetary policy requirements, the same here as in the Treasury case. In other words, the same “Accounts,” “Payments,” “API,” and “Ledger” layers discussed in Part II above would have to be dealt with here in designing and instituting a Fed IVL platform for value- storage and

104. See Hockett, *supra* note 49, at 6; see also sources cited *supra* note 72.

105. See Hockett, *supra* note 49, at 11; see also sources cited *supra* note 72.

106. See sources cited *supra* note 105. For more of this author's work on the Fed's new Municipal Liquidity Facility (MLF) and QE, see Memorandum from Robert Hockett, *The Fed's Municipal Liquidity Facility: Present and Future Necessities and Possibilities* (May 10, 2020) (on file with author), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3597732 [<https://perma.cc/5ZH3-E4SL>]; Robert Hockett, *Community QE2: Newly Eased Terms and a New Game Plan For Use*, FORBES (May 2, 2020, 8:35 AM), <https://www.forbes.com/sites/rhockett/2020/05/02/community-qe2-newly-eased-terms-and-a-new-game-plan-for-use/> [<https://perma.cc/QVU8-H4VV>]; Robert Hockett, *Community QE - An April Game Plan for States and Cities*, FORBES (Apr. 12, 2020, 8:39 AM), <https://www.forbes.com/sites/rhockett/2020/04/12/community-qean-april-game-plan-for-states-and-cities/> [<https://perma.cc/PC5S-XRPJ>]; Robert Hockett, *Welcome to Community QE - Now Let Us Put It to Use*, FORBES (Apr. 9, 2020, 10:21 AM), <https://www.forbes.com/sites/rhockett/2020/04/09/welcome-to-community-qe/> [<https://perma.cc/GRL4-C6M7>].

107. See sources cited *supra* note 106; see also sources cited *supra* note 72.

transfer. Because there is almost no difference between the two cases—Treasury and Fed—on this dimension, and because the same federal offices that would do the converting at Treasury can do it at the Fed, let us incorporate the findings of Part II here by reference as well.

The one difference between the two cases is that Treasury, unlike the Fed, already administers individual digital accounts for citizens, while the Fed only manages Reserve Accounts for large banking and other privileged financial institutions. The Fed would accordingly have to build out millions of IVL wallet accounts from scratch. Technically, of course, this need be no more daunting than it was for Treasury when it began Treasury Direct. Indeed, the Fed can even make use of the same personnel that the Treasury did when it turns to the task and can learn from any bugs or mistakes that the Treasury Direct project has by now brought to light. It will, however, take time.

C. Pictographic Summation and Synthesis

Diagrammatically, then, in going the Fed route for an IVL digital dollar we would move from a banking system like that depicted in Figure 3 to a banking system like that depicted in Figure 4 where credit-money flows and associated assets and liabilities are concerned. Adding the payment platform of the previous diagrams to Figure 4 yields a complete picture in the form of Figure 5, in connection with which the reader is hereby reminded that all entities represented above the Master Account box in the diagram are among the Account Holders, hence Payors and Payees, represented below that box in the diagram.

Figure 3: Current Fed/Bank/Depositor/Issuer Arrangements & Financial Flows

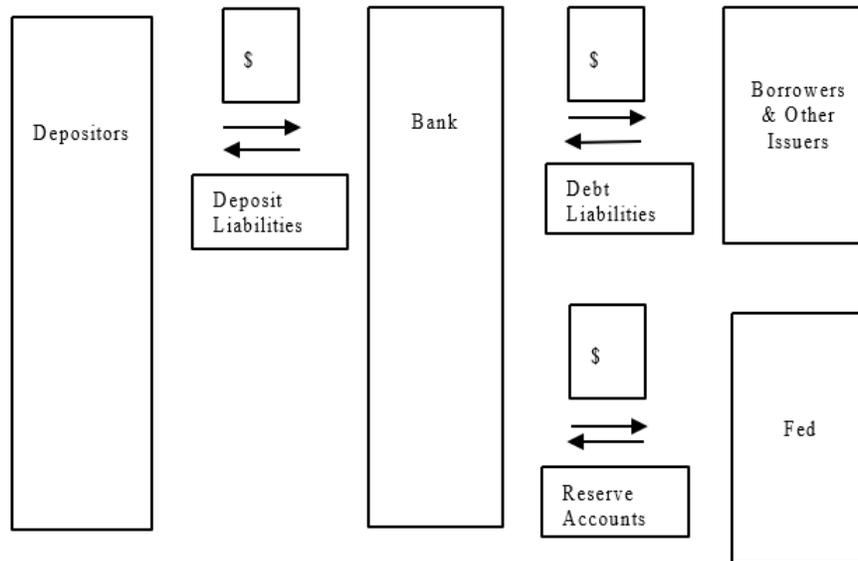


Figure 4: Reformed Fed/Bank/Depositor/Issuer Arrangements & Financial Flows

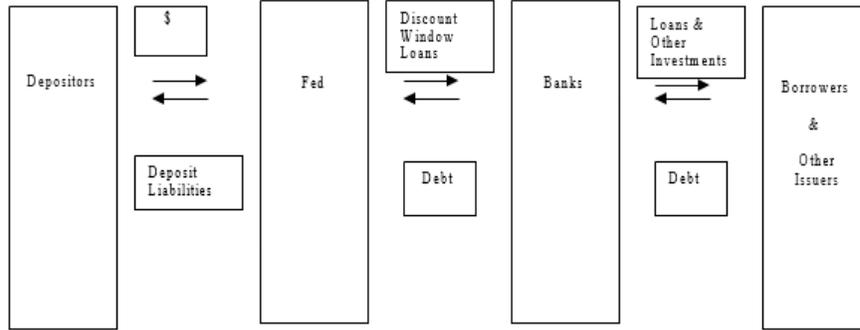
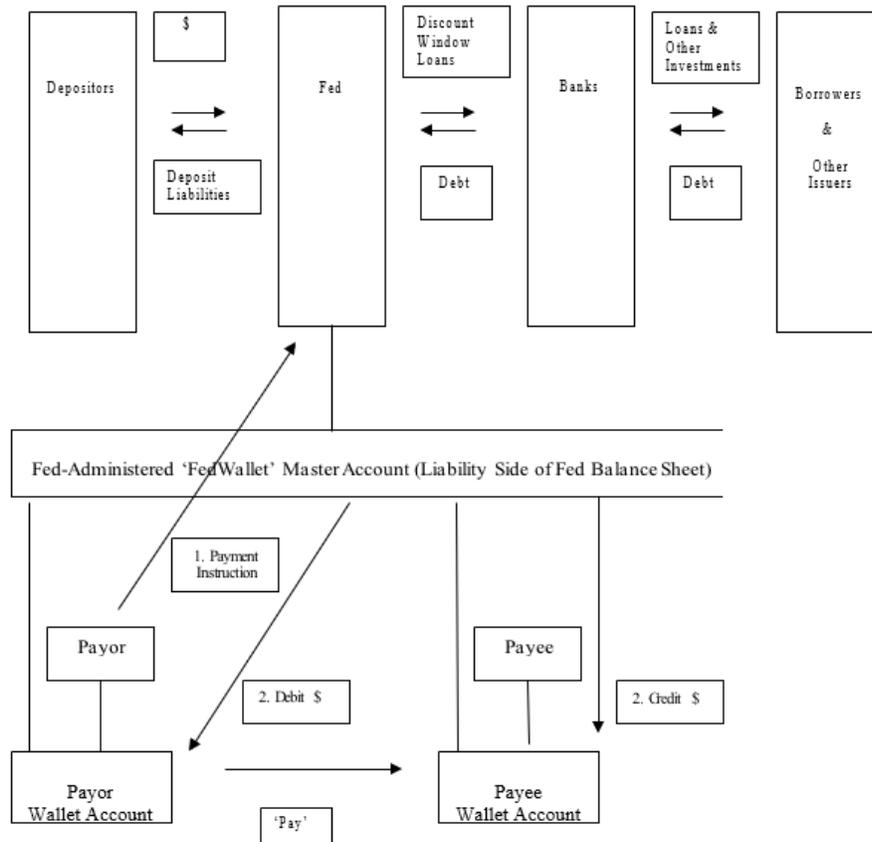


Figure 5: Reformed Fed/Bank/Depositor/Issuer Arrangements & Financial Flows, with Fed--Administered 'FedWallet' IVL Platform



CONCLUSION

The technology involved in the Treasury Direct upgrade, or even in establishing a FedWallet counterpart, will not be *trivial* to build, but neither will it be particularly *daunting* to build. It has been done before, by multiple firms and networks for multiple purposes, over the years. All that differs now is that we are doing this for a forthrightly public purpose—that of installing a universally accessible, fee-free and frictionless, state-of-the-art national value storage and payments architecture. As noted above, this is desirable in all times, not only times of crises. So, in doing this we will also be opening saving and paying to 50 million unbanked and underbanked households, businesses, and individuals in need of immediate aid during the current crisis and any subsequent crises.

As the discussion above has indicated, going the Fed route would be somewhat more complicated than going the Treasury route, and for that reason the Fed route is probably not up to the task of immediate implementation during the present pandemic. But in time it could be managed—particularly were we to start now at Treasury and then in future migrate to the Fed—as the Greenback paper dollar regime itself did in the late 19th and early 20th century. As noted above, central banks worldwide are already developing and rolling out CBDCs in the name of greater commercial inclusion, smoother payment systems, less leaky monetary policy, and financial stability.¹⁰⁸ Sweden began its first public trial of the e-Krona project, long in development, only last February. China will soon follow.

China is a particularly interesting case because it has begun more and more often to secure first mover advantages relative to the U.S. in multiple spheres of economic competition.¹⁰⁹ Is there really any reason—especially now, amid crisis—to cede China the advantage, or even global monopoly status, in this space as well? Surely there is not. Our present pandemic-fueled exigency requires we act quickly in any event, which TreasuryDirect makes quite feasible.

108. It bears noting that private sector entities are even now actively engaged in mastering the new technologies that lie behind what I propose here, thereby potentially ‘disrupting’ financial stability and accordingly affording us yet another reason to digitize the dollar now if we wish to avoid a digital rendition of the highly volatile ‘wildcat currency’ days that necessitated establishment of the Treasury-administered Greenback itself during the Civil War. See Hockett, *Capital Commons*, *supra* note 10; Hockett, *supra* note 31, at 228–30, for a full vetting of the subject.

109. See Robert Hockett, *America’s Digital Sputnik Moment*, THE HILL (May 12, 2020, 8:00 PM), <https://thehill.com/opinion/technology/497427-americas-digital-sputnik-moment> [<https://perma.cc/9HBW-CS5H>].

APPENDIX: THE TREASURY DOLLAR ACT OF 2020

A BILL

To establish a uniform, publicly administered mechanism through which relief payments and other public sector disbursements can be made to all citizens, legal residents, and businesses legally operating within the territorial jurisdiction of the United States; and in so doing to provide the digital equivalent of a bank savings and transaction account to these same citizens, legal residents, and businesses.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ‘Treasury Dollar Act of 2020.’

SECTION 2. FINDINGS AND PURPOSE.

(a) FINDINGS.—Congress finds that—

(1) For over half a century from the mid-1860s into the early 20th century, the US Treasury issued the principal legal tender currency used in the United States to settle all obligations, public and private;

(2) After the Federal Reserve Note (‘dollar bills’) began first to supplement, then to supplant Treasury currency as the nation’s principal legal tender in the second and third decades of the 20th century, Treasury currency continued—and continues—to qualify as legal tender;

(3) The Treasury continues to issue trillions of dollars’ worth of other US sovereign liabilities—including Bills, Bonds, and Notes—which constitute the largest securities market in the world;

(4) The Treasury is both legally and logistically well positioned to issue any

new sovereign liabilities, including zero-coupon, dollar denominated liabilities counting as legal tender, in whatever quantities Congress sees fit to authorize, be this *ad hoc* in crises or on a continuing basis;

(5)The Treasury also maintains a system of ‘Treasury Direct’ accounts open to all citizens and legal residents of the United States, through which account-holders can transact in Treasury securities with the Treasury ‘24/7,’ any time day or night;

(6)The United States is in need of a universally inclusive and efficient, ‘real time’ means of transmitting purchasing power to citizens, legal residents, and businesses that suffer the income and liquidity consequences of crisis-wrought monetary, financial, and macroeconomic contraction;

(7)Any such system as that just described would be both more just and more growth-promoting than any less inclusive or less efficient system can be, because (a) a value storage and transfer architecture—that is, a savings and payment platform—is an essential public utility in any commercial society or exchange economy such as those of the United States, and (b) economic growth is measured by transaction volume, while transaction volume is a positive function of transaction velocity;

(8)Millions of citizens and legal residents of, and small businesses operating in, the United States have limited or no access to traditional banking and payments services of the kind necessary both to transact with each

other and to receive income support, tax refunds, program and procurement payments, or other disbursements from the federal fisc, leaving these citizens, legal residents, and small businesses vulnerable to the exploitative practices of many payday lenders and payment service firms.

(b) **PURPOSE.**—The purpose of this Act is to build upon the historical precedent and institutional architecture referenced in Findings (1) through (5) in order to rectify the deficiencies identified in findings (6) through (8).

SECTION 3. DEFINITIONS.

- (a) Account.—
 - (b) Account Holder.—
 - (c) Bank Account.—
 - (d) Banking Association.—
 - (e) Banking Services.—
 - (f) Coupon.—
 - (g) Credit and Debit Card.—
 - (h) Cryptographic.—
 - (i) Digital.—
 - (j) Digital Account Wallet.—
 - (k) Digital Equivalent.—
 - (l) Digital Payment System.—
 - (m) Digital Wallet.—
 - (n) Disbursements.—
 - (o) Dollar.—
 - (p) Dollar Bill.—
 - (q) E--Banking.—
 - (r) Electronic Banking.—
 - (s) Federal Reserve Note.—
 - (t) Interest.—
 - (u) Interoperability.—
 - (v) Issuable.—
 - (w) Legal Tender.—
 - (x) Payday Lender.—
 - (y) Payment Service.—
- ...

SECTION 4. TREASURY DOLLARS.

Congress shall authorize and instruct the Department of the Treasury to issue a new class of Treasury Bill, to be designated a ‘Treasury Dollar Bill,’ abbreviated as ‘Treasury Dollar.’ Treasury Dollars shall—

(a) Be valued at precisely one Federal Reserve Note (colloquially known as ‘the dollar bill’) per Treasury Dollar, yielding no interest or ‘coupon’ that Federal Reserve Notes do not, and differing from Federal Reserve Notes only in respect of their issuer;

(b) Be designated as Legal Tender, sufficient to discharge all payment obligations, public and private, on precisely the same terms as Federal Reserve Notes;

(c) Be issuable in both paper and digital form, and any other form in which Federal Reserve Notes are or shall in future be issued;

(d) Serve as the unit of account in Treasury Direct Accounts as specified in Section 5 of this Act.

SECTION 5. TREASURY DIRECT ACCOUNTS.

Congress shall authorize and instruct the Department of the Treasury to expand its existing system of Treasury Direct Accounts in the following three manners—

(a) Bank and Thrift Account Interoperability.— All Treasury Direct Accounts shall retain the interoperability with Bank or Thrift Transaction Accounts that they currently have, save that, pursuant to Section 4(b) of this Act declaring Treasury Dollars legal tender, there shall be no public or private sector requirement to convert Treasury Dollars into Federal Reserve Notes or their digital equivalent, or *vice versa*, as there presently is when transferring funds between Bank or Thrift Transaction Accounts and Treasury Direct Accounts in purchasing or redeeming

present-day Treasury Securities that are not Treasury Dollars;

(b) E--Banking, Phone Banking, Credit and Debit Card, Automatic Teller Machine, and Other Banking Services.—Pursuant to Section 4(b) of this Act declaring Treasury Dollars to be legal tender, no State or Nationally chartered Banking Association or Thrift Institution shall discriminate between Treasury Dollars and Federal Reserve Notes or their digital equivalent in administering the Electronic Banking (‘e-banking’), Phone or Other Device Banking, Credit and Debit Card, Automatic Teller Machine (ATM), or other traditional banking services that they offer customers;

(c) Digital Account Wallets.—The Treasury shall, with all deliberate speed—

(1) Add digital peer-to-peer (‘P2P’) Interoperability to all Treasury Direct Accounts, enabling all Account Holders to transact directly in real time both with the Treasury and with one another, so that Account Holders without Savings or Transaction Accounts held with other institutions, including Banking Associations and Thrift Institutions, can transact directly both with Treasury and with one another in ‘real time’ through their Treasury Direct Account Wallets;

(2) Retain the services of the US Digital Service to design the P2P-- Interoperable Digital Account Wallets referenced in Subsection (c)(1) of this Section immediately above;

(3) Cryptographically build into the Digital Account Wallet system all Privacy and ‘Hack-Proofing’ protections that Treasury Direct Accounts currently offer or that Banking

Associations and Thrift Institutions are currently required by law to provide in connection with the Transaction Accounts and Payment Services that they provide.

(d) Treasury Disbursements into Digital Account Wallets.—After the system of Digital Account Wallets described in Subsubsection (c)(e) of this Subsection is operational, Treasury shall make all future digital or electronic disbursements, including but not limited to crisis relief payments, into these Account Wallets, with the object of encouraging wide use of this system as the preferred, universally accessible digital payments platform for all e-payments made in the United States.