

The New York Inclusive Value Ledger: A Peer-to-Peer Savings & Payments Platform for an All-Embracing and Dynamic State Economy

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Abstract: Many units of government see a need for more inclusive money, payment, and retail banking systems for the generation, accumulation, and free transfer of spendable value among their constituents. This document sketches a smart-device-accessible peer-to-peer ('P2P') savings and payments platform – the 'New York Inclusive Value Ledger' – which, thanks to new digital technologies, can easily be instituted and administered by any unit of government in the State of New York that wishes to supply this critical productive, commercial and financial infrastructure to all of its constituents. The resulting 'Public Venmo' will enable the monetization, hence the production, saving, and spending, of far more value than the state's economy allows at present. Inclusive monetization will combine with inclusive economic participation to generate the most dynamic state economy New York has ever known.

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Introduction

Many national and subnational units of government see a need for more inclusive money, payment, and retail banking systems for the capture, storage, and transfer of spendable value among their constituents. Existing and still proliferating

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payments platforms, most provided by for-profit private-sector entities, exclude too many people, and extract too much value in the form of transaction charges and other rents, to be up to the task of efficiently affording this essential commercial and financial utility to the full public on sensible terms. This document sketches a smart-device-accessible peer-to-peer ('P2P') platform – the 'Inclusive Value Ledger' – which, thanks to new payment technologies, can easily be put into place and administered by any unit or 'level' of government with a view to supplying this critical commercial and financial infrastructure to all of its constituents. It does so, however, with explicit regard to the State of New York, where Assemblyman Ron Kim has commissioned the project.

Because a money just is whatever 'counts' for purposes of accounting, accumulating, and paying within the architecture of a given value-storage and -payments system,¹ supplying a Inclusively accessible commercial and financial infrastructure of the kind here designed is equivalent to supplying an Inclusive (1) currency, (2) trade and payments, and (3) retail banking platform to all who participate. Because new digital payments technologies now make construction of such platforms a simple and straightforward proposition, moreover, it is now easy for any unit of government to supply a comprehensive commercial and financial infrastructure of this general form – in effect, a portable, smart-device-accessible, Inclusive savings and payments ledger – to literally all of its constituents. New York, in view of the rich diversity both of its population and of its economy, is especially well situated to benefit by affording this essential commercial and financial infrastructure to its residents – just as it was when it pioneered what became the New Deal during the administration of Governor Franklin Roosevelt and Industrial Commissioner Frances Perkins.

All that a unit of New York government (or, as will be shown, consortium of such units) need do to afford this form of Inclusive productive, commercial and financial inclusion to all state residents, including businesses, is supply all with a publicly administered or overseen P2P digital payments platform and associated system of digital 'wallets' or transaction accounts that can be credited and debited through the connecting link of one 'master account.' The latter can be either the fisc of the governmental unit in question or a separate account maintained or sponsored by that unit in the form of a legal trust or account held with some other institution.

By making such wallets or accounts smart-phone- or smart-device-accessible, moreover, and by facilitating interoperability between these payment platforms and others both in the private sector and at different levels of government, state and substate units of government can jointly or severally supply their voting and business constituents with open access 'entrance ramps' onto the nation's – and world's – broader commercial and financial thoroughfares. The

¹ See Robert Hockett, *Rousseauvian Money* (2018), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3278408, for more on these linkages. Also Robert Hockett, *Payment Polyphony and Monetary Hierarchy* (2019).

national government for its part can of course also provide, through the Treasury or the Fed, such a system to all citizens and legal residents, again including business firms, as most national governments already do for privileged banking and other financial institutions permitted to hold accounts with their central banks or other monetary authorities.

The fact that many of the world's central banks and monetary authorities are now planning to upgrade their national payments systems, even as social media monopolies threaten to 'go live' with their own rent-extractive payment platforms and associated currencies, renders the present an especially opportune – if not indeed urgent – time for all units of government to develop and offer this indispensable public utility to their full residential and business publics without exception.² This document accordingly designs a single such P2P platform – the Inclusive Value Ledger – that can be readily adapted to state, local, or national – indeed, even transnational³ – use, and that ideally will be offered in some form first by the state and cities of New York, and then by all units and levels of government, to their constituents in the US. It can also be offered by consortia of substate and subnational units of government, via the familiar mechanism of inter-unit 'compacts.'

All such possibilities are sketched in what follows. A technical appendix then lays out the digital protocol, and a second appendix provides a draft statute adaptable for purposes of state, local, or federal legislation.

1. The Inclusive Value Ledger in Broad Outline

1. Many national and subnational units of government worldwide, including in the US, see a need for more widely accessible payment platforms and associated currencies for the accumulation, storage, and transfer of value. Such platforms and their associated currencies are prerequisites to maximal commercial and financial inclusion and optimally efficient value-accumulation, trade, and payments alike. At subnational – in the US, that is at state and local – levels, this need is often couched as the need of a 'complementary' currency or payment system, or as the need for

² See, e.g., Robert Hockett, *Money's Past is Fintech's Future: Wildcat Crypto, the Digital Dollar, and Citizen Central Banking*, 2 STANFORD JOURNAL OF BLOCKCHAIN LAW & POLICY 1 (2019), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3299555; and Robert Hockett, 'Facebook's Proposed Crypto-Currency: More Pisces than Libra for Now,' *Forbes*, June 20, 2019, available at <https://www.forbes.com/sites/rhockett/2019/06/20/facebooks-proposed-crypto-currency-more-pisces-than-libra-for-now/#1a957b4a2be2>.

³ See Robert Hockett, *Bretton Woods 1.0: A Constructive Retrieval for Sustainable Finance*, 16 NEW YORK UNIVERSITY JOURNAL OF LAW & PUBLIC POLICY 1 (2013), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1805962. Also Robert Hockett, *Open the Marriage to Save It: A Complementary Digital Euro Plan* (2019); and Robert Hockett, *Money for the World: A Digital Clearing Union* (2019).

some form of ‘community banking.’ At the national level, in the US at least it is typically couched as the need to ‘tap untapped markets,’ ‘democratize finance,’ or ‘bank the unbanked.’

2. A currency just is what ‘counts’ for purposes of accounting – that is, for generating, measuring, and transferring stored value – within a given payments architecture. It is a ‘token’ that betokens quantifiable value as accumulated, stored, and transferred within such a system. It is accordingly ‘that which accumulates’ and ‘that which pays’ as productive participants in any market exchange economy earn, save, and spend ‘purchasing power’ – that is, spendable wealth. To supply such a payment system to any community of any size is thus effectively to supply such a community both with a currency and, therefore, with a means to produce, earn, accumulate, store, measure, and transfer wealth. It is, in other words, to supply that community with a monetary medium, a payments platform, a commercial infrastructure and a rudimentary banking and financial system all in one stroke.⁴

3. New P2P digital payments technologies that have developed over the past decade now make the construction of such payment platforms a simple and straightforward proposition.⁵ All that is needed is a computer-based and -accessible infrastructure of accounts or ‘wallets’ that can be credited and debited through a pooled ‘master account,’ which latter can take the form either of the public fisc of the governmental unit in question or of a legal trust settled and administered by that unit. Value accumulation and storage then can be done through these individual wallets or accounts, simply by enabling payment into and storage within such accounts. Value transfer – that is, ‘payment’ – from any Payer to any Payee can for its part be effected through simultaneous crediting and debiting of Payee and Payer accounts.⁶ ‘Real-time clearing and settlement,’ long a holy grail to commercial and financial market participants, can now be made readily available to all – literally all, without ‘middlemen’ – if but publicly supplied as the critical market infrastructure it is in any exchange economy such as our own.⁷

⁴ See again Hockett, *Rousseauvian Money*, supra note 1, and Hockett, *Payment Polyphony and Monetary Hierarchy*, supra note 1, on the linkages noted in this paragraph.

⁵ See Robert Hockett, *The Capital Commons* (2018), for more on the matters described in this paragraph.

⁶ This sequencing, whereby ‘vertical’ public/private monetary relations enable and optimize ‘horizontal private/private monetary relations, is fully elaborated in Hockett, *Rousseauvian Money*, supra note 1, and Hockett, *Capital Commons*, supra note 5. It also is fully exploited in all renditions of the Inclusive Value Ledger plan developed below.

⁷ It bears noting that the Federal Reserve shares this goal with sufficient urgency as to broach making it available to all. Unfortunately, it continues to envisage making it ‘available to all’ only by making it available to *banks*, which do not *include* all. See, e.g., Federal Reserve Board of Governors ‘Federal Reserve announces plan to develop a new round-the-clock real-time payment and settlement service to support faster payments,’ August 5, 2019, available at

<https://www.federalreserve.gov/newsevents/pressreleases/other20190805a.htm>.

4. Any such system, if made available to all constituents of the governmental unit or consortium of units that furnishes it, will amount to a universally inclusive value-productive, commercial, and financial architecture within that unit's jurisdiction. It will afford easy and frictionless means of producing, earning, accumulating, storing, and measuring wealth, and means of real time transfer of such wealth with cash-reminiscent 'finality of payment' in any transaction, within the jurisdiction.⁸

5. A collateral benefit of any such system will be its enabling all users to side-step the present-day Babel of multiple middle-man payment services, all operating pursuant to their own often incommensurable protocols. Under this chaotic 'system' of multiple barely interoperable payment platforms, a needless multitude of far-flung networks (a) 'interface' with one another in only varyingly effective and friction-prone ways, (b) throw up multiple barriers, complications, transaction-costs, delays and associated risks in the payments process, and (c) afford a large and still-growing number of fly-by-night entities of uncertain origin and trustworthiness with multiple socially unnecessary and costly exploitation opportunities.⁹

6. Any unit of government, from local to state to national, can easily and inexpensively supply a uniform and Inclusively accessible such saving and spending infrastructure. 'Compacts' of governments can do likewise. All each need do is afford every constituent with a digitally accessible account or 'wallet' that 'interfaces' with its own fisc or some other 'Inclusive account' organized as a publicly administered entity or legal trust.

7. It then can make P2P payments (e.g., tax rebates, procurement expenditures, entitled benefits, and the like) and receive P2P payments (e.g., taxes, fees, fines and the like) in 'real time' through the medium of such accounts, simply by crediting or debiting them. Similarly, it can facilitate real time P2P payments among participating constituents themselves simply by affording means of simultaneously crediting Payee and debiting Payer accounts in accordance with Payer instructions conveyed via chip card, strip card, or smart device app.¹⁰ And, by assuring

⁸ How such a system facilitates measurement, storage, and voluntary transfer of value is presumably obvious to all. How it facilitates value production is more fully laid out below. The short answer is that value – in the form of access and resources – is used in the production of value itself, while money and credit are the means of access to resources in any exchange economy such as ours. Insufficient money and credit accordingly mean insufficient access, which in turn means insufficient value-productive activity. See *infra*, note 18, and associated text. Also Hockett, sources cited *supra*, notes 1 and 5.

⁹ *Id.*

¹⁰ *Id.* These two modalities of P2P transaction – between public and private and between private and private – are the mutually complementary and indispensable 'vertical' and 'horizontal' dimensions of all monetary relations as elaborated in Hockett, *Rousseauvian Money*, *supra* note 1 and Hockett, *Capital Commons*, *supra* note 5. They correspond to Stages 1 and 2 of the plans elaborated below.

interoperability with networks of ATMs and the like, it can ensure ready availability of older payment forms – cash – too.

8. Further details of any such platform are functions of the position and circumstances of the governmental unit that provides it in the constitutional order of the nation of which that unit is part. In the US, this is in part to say that these details will ride upon whether the governmental unit in question is a state, a municipality, or the federal government itself. The platform design elaborated here accordingly comes in four ‘flavors’ – state, local, interstate or interlocal ‘compact,’ and national – each of which now will be separately sketched, with emphasis on a state plan for New York and a local plan for its municipalities.

II. The State Inclusive Value Ledger

1. It is convenient to begin with the state rendition of the plan. This is because (a) state action legally must precede local action for the latter to occur, since localities – that is to say, state-chartered ‘municipal corporations’ – are incorporated by states in the US’s federal union; while (b) state action also typically precedes federal action in the US, in this case for practical reasons sounding in ‘laboratory democracy’ rather than for legal or constitutional reasons.

2. A New York state payments platform and associated system of digital ‘wallets’ or accounts, made interoperable with other payment forms including ATM cash, is easily constructed and administered. Practically speaking, it is perhaps best to proceed through two stages.

3. Stage 1: In the first stage, New York provides a digitally accessible wallet or transaction account – we can call it a ‘Inclusive Value Account’ – to all legal residents within its jurisdiction.¹¹ Each such account will be P2P-linked to a pooled ‘Master Account’ that can be either the New York state fisc itself or a separate account established as a state enterprise or legal trust. The account might be called something like the State ‘Revenue Collection and Benefit Disbursement Fund,’ in keeping with the fact that residents of most US states pay taxes, licensing fees, fines, and the like under multiple headings, and receive rebates and benefits under literally scores of state pension, social service, and other programs.¹² The account also might be given some more attractive name – the ‘Empire Fund’ in New York, for example, or the ‘Bear Flag Fund’ in California or ‘Ad Astra Fund’ in Kansas.¹³

¹¹ This stage corresponds to money’s ineluctable ‘vertical’ dimension as elaborated in Hockett, *Rousseauvian Money*, supra note 1 and Hockett, *Capital Commons*, supra note 5.

¹² New Yorkers, for example, pay taxes, fees and fines, and receive benefits under, some 100 state social service and other programs (SNAP, utilities payment assistance, pension benefits, etc.).

¹³ New York bills itself as ‘the Empire State,’ while California once was ‘the Bear Flag Republic.’ Kansas’s state motto is ‘Ad Astra Per Aspera.’ It is a surprisingly pleasant exercise to think up fund names for multiple states – a ‘Lone Star Fund’ for Texas, a ‘Quaker State

4. New York then will make remittances owed to its residents – e.g., tax rebates, procurement payments, entitled pension or other benefit payments, and the like – by crediting their individual accounts. It will correspondingly receive payments – e.g., state income taxes, excises, franchise fees, fines, or the like – by debiting these same accounts. In theory these credits and debits could be denominated in any measurement unit that New York and its residents found convenient, a fact that will prove helpful below in connection with the New York municipality rendition of the Plan. Because all US state transactions occur for good reason in the national currency – the dollar – however, states that institute a platform of the kind here designed will effectively be paying and being paid digital dollars – a fact that will prove helpful in connection with briefly ‘building the Plan out’ in stages below.

5. This first stage of state implementation of the Plan can accordingly be viewed as a simple digitization of contemporary New York state fiscal operations. This will not only render State/Resident payments more reliably tractable than they are under present arrangements, but also will render the conduct of State/Resident payment flows amenable to the use of new payment media such as smart phones and other devices. Indeed, to optimize the functionality of the new digitized arrangement, the State might even develop the ‘app’ through which State/Resident payment flows are effected, or contract out for design proposals.¹⁴ In time, as multiple states additional to New York implement versions of the Plan, we might even hope to see – if not affirmatively to encourage – interstate harmonization of Plans and associated apps across the Northeast, then the US.

6. Stage 2: The second stage of New York state implementation of the Plan will be to enable payment flows not only between the State and its Residents, but also among Residents themselves.¹⁵ All who hold digital P2P accounts for purposes of receiving payments from and making payments to New York will be enabled to transact with one another in ‘real time’ just as they transact with the State. Instead, for example, of directing that her account be debited as the State account is correspondingly credited, as in a tax or licensing fee remittance to the New York state fisc, a Payer will direct that her account be debited as some *other, private* sector Payee’s account is correspondingly credited – just as in any private sector commercial or financial transaction.

7. In principle, the transition from Stage 1 to Stage 2 of Plan implementation involves no fundamental change in technical requirements or associated challenges. It is simply a matter of adding an additional layer of payment ‘wiring.’ The only new

Fund’ for Pennsylvania, a ‘Lincoln Fund’ for Illinois, etc. As a native New Orleanian, the author cannot but hope that Louisiana’s fund will be named the ‘Bontemps Fund.’

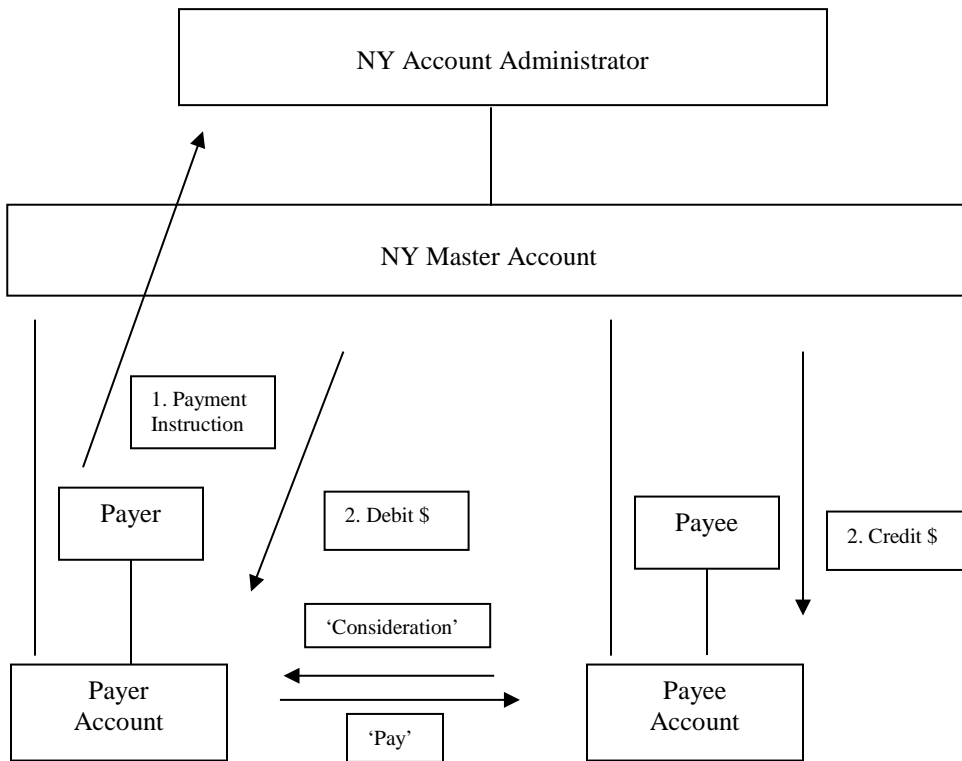
¹⁴ The author has developed such an app with a colleague in the tech sector, which app will be freely available.

¹⁵ This stage corresponds to money’s ‘horizontal’ dimension as elaborated in Hockett, *Rousseauvian Money*, supra note 1 and Hockett, *Capital Commons*, supra note 5.

task implicated by the added connectivity is the tracking of simultaneous P2P creditings and debittings of Private/Private transaction accounts in addition to the P2P creditings and debittings of Private/Public transaction accounts. That means more ‘workload’ in an aggregative sense, but because digital payments are overwhelmingly automated, the *practical* workload effect is *de minimis*.

8. It is easy to visualize the Inclusive Value Plan in operation at the New York state level of government. That is a consequence of the Plan’s simplicity – a simplicity enabled by contemporary P2P payments technologies that effectively render actual payment dynamics structurally isomorphic to double-entry book-keeping, which is in turn no more complex than the Algebra from which it derives.¹⁶ *Figure 1* exhibits the structure of payment flows under the Plan

Figure 1: NY-Administered Inclusive Value Ledger System



9. In the diagram, non-arrowed lines represent institutional linkages and arrowed lines represent payment instructions and associated flows. Payer agrees to pay Payee for some contractual consideration. Payment occurs when the Payer instructs the New York Master Account Administrator, via a chip card, strip card, or smart device app (step 1), to debit her own account in the New York Master Account

¹⁶ See again Hockett, *Rousseauvian Money*, supra note 1, and Hockett, and Hockett, *Payment Polyphony and Monetary Hierarchy*, supra note 1, on these linkages.

and correspondingly credit the Payee's account in the New York Master Account (step 2). At Stage 1 of Plan implementation, counterparties in any such transaction will comprise one public and one private sector 'peer.' At Stage 2 of Plan implementation, all 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.

10. It will be necessary at Stage 1, and desirable at Stage 2, to provide for commercial bank interoperability with the New York Plan Master Account, in order that state residents might be able to spend out of their NY Inclusive Value Accounts into the broader economy, and to withdraw traditional cash if desired, when they're in surplus. This can be done either by (a) requiring that commercial banks provide connectivity, including ATM connectivity, between individual NY Inclusive Value Accounts and bank transaction accounts, (b) holding Master Account funds themselves in the form of Plan commercial bank transaction accounts, (c) establishing a state bank, roughly along the lines of the widely celebrated Bank of North Dakota model,¹⁷ to assist in administering the Plan, or (d) any combination of these three modalities.

III. The Community ('Complementary') Inclusive Value Ledger

1. The community rendition of the New York Inclusive Value Ledger can be thought of as a structurally identical or near-identical, but jurisdictionally and practically more limited, case of the state rendition. It is structurally identical or near-identical in that the simple P2P structure manifest in *Figure 1* above can be retained with no more than a few labeling changes or other additions to represent it, as *Figure 2* below does. It is jurisdictionally and practically more limited in that localities are creatures of state law in the American constitutional order, state-charted as municipal corporations and endowed only with such functions and authority as states affirmatively confer upon them. In some cases – those in states with 'home rule' statutes – the conferral is plenary, while in others it is more 'case by case' incremental. In all cases the conferral is nevertheless within states' jurisdictional discretion.

2. Though the decision whether to permit local renditions of the Plan rests ultimately with states, there is good reason for states – and for New York in particular – to permit, encourage, and facilitate their adoption and spread. The principal reason is, non-accidentally, identical to that for 'community,' or 'complementary,' currencies as advocated by many proponents of greater commercial and financial inclusion – non-accidentally because, as noted above, a currency simply is 'that which counts' for purposes of accounting in any value-storage and -payments system.

3. As mentioned earlier, a currency is among other things a means of storing, measuring, and transferring value. One entailment of this truism is that if a given

¹⁷ See Bank of North Dakota Homepage, available at <https://bnd.nd.gov/>.

quantum of potential value exceeds a given currency stock's capacity fully to express and convey that value, potential value can fail to be fully 'realized.' Potential wealth will in such case accordingly be 'left' on the proverbial 'table.' People will not produce as much as they can potentially produce in this circumstance, for the means of securing command over productive resources ('purchasing power'), and of being remunerated for productive services ('earning power'), will be lacking in the precisely the same measure as the money supply is lacking.¹⁸

4. This unseverable causal correlation between potential value-creation and monetary value-expression is precisely why the US's first Treasury Secretary, Alexander Hamilton of New York, made establishment of a National Bank and issuance of a new monetary medium his first priority upon taking office with a view to setting the new nation on a path to productive prosperity.¹⁹ It is also why all modern nations maintain central banks or monetary authorities charged with issuing and administering what now are referred to in monetary parlance as 'elastic currencies.'²⁰

5. Supplies of elastic currencies can be extended when there remains productive potential yet to be realized (that is, when there is 'capacity-underutilization,' or 'slack'). They can, symmetrically, be modulated or contracted when they exceed what is necessary for productive use as distinguished from inflationary expenditure (that is, expenditure upon no longer expanding supplies of goods and services sold in an economy already operating at full capacity). Modern central banking just is the art and science of modulating extensible and contractible elastic currency supplies, with a view to maintaining sustainable balance between 'money supplies' and 'productive potential.'²¹

6. US states and localities, unfortunately, do not have authority to institute central banks or monetary authorities able to issue and manage their own elastic currencies. When there are frictions or barriers between varyingly 'isolated' communities and the broader state or national economy over which the nation's central bank operates, productive potential can in consequence lie fallow, with value in consequence left unproduced and untapped. This 'scarce currency' problem is familiar, of course, to many American cities and states, especially in upstate New York and some zip code areas of New York City.²²

¹⁸ See again Hockett, *Rousseauvian Money*, supra note 1, and Hockett, *The Capital Commons*, supra note 5, for further elaboration of these linkages.

¹⁹ Id. Also Robert Hockett, *A Jeffersonian Republic by Hamiltonian Means*, 79 SOUTHERN CALIFORNIA LAW REVIEW 865 (2006).

²⁰ Id.

²¹ Id. Also Robert Hockett, *A Fixer-Upper for Finance*, 97 WASHINGTON UNIVERSITY LAW REVIEW 1213 (2010).

²² It is also familiar, alas, to some countries and regions in the Euro Area – notably Greece and Italy – which also lack domestically managed elastic currencies

7. If, for example, the residents and businesses of Bedford Falls, NY have few dollars to work with owing to imperfect connectivity to the broader New York state and US national economy, they will have little with which to encourage or compensate potentially value-adding activity taken by many among them – much as Secretary Hamilton’s new US had very little ‘global’ or other extra-national currency to work with during the early years of the Republic. Ms. Mary Hatch, for example, might be willing and able to put in time managing the local public library, while the town and its residents are too ‘cash-poor’ to pay her adequately. Mr. Martini for his part might be willing to repair local roadways and other civic infrastructure, yet be similarly unpayable in dollars. And Mr. George Bailey might be willing and ready to provide forms of care to the town’s ailing and elderly, but be likewise unpayable in dollars owing to the local shortage of national currency.

8. Mary Hatch’s, Mr. Martini’s, and George Bailey’s forgone activities under this scenario could, if not forgone but in fact multiplied across many in the community, vastly improve the material wealth and productive potential of upstate Bedford Falls NY over time, ensuring it not become Potterville and go to ruin. They could make the small New York town much more productive and wealthy in aggregate, to the point that it became far more integrated into the national economy and thereby grew wealthier still. But a community that is ‘cash-poor’ in the sole form of value-capture, retention, and transfer – the sole ‘cash’ – available will have to forgo all this value. There are too few dollars, and there is no supplement to those rare dollars, to enable full value-expression hence value-production and value-dissemination in Bedford Falls now.

9. The idea behind complementary currencies is simply to afford additional (‘complementary’) means – means additional to the scarce dominant currency – of expressing, capturing, and trading the value forgone in a cash-poor locality. The currency complemented just is the dominant currency in which the community is ‘cash-poor.’

10. We can think of such supplemental currencies as ‘value gap fillers,’ trickling into currently inaccessible ‘dry crevices’ that, owing to imperfect integration with the national economy, there is presently not enough regular currency to reach. The complementary currencies in effect nourish currently undernourished ‘green shoots’ or ‘value sprouts.’ If a New York municipal authority can supply such a currency, then, it can fuel more productive activity of the kind that will ultimately not only improve life in the community, but also draw in more of the complemented currency from outside of the community as well, thereby solving the problem that necessitates complementary currencies in the first place.²³

of their own. See again Hockett, *Open the Marriage to Save It: A Complementary Digital Euro Plan*, supra note 3; and Hockett, *Money for the World: A Digital Clearing Union*, supra note 3.

²³ See again Hockett, *Rousseauvian Money*, supra note 1, and Hockett, *The Capital Commons*, supra note 5.

11. The *institutional challenge* posed by the need of a complementary currency is that municipalities lack legal authority to issue any currency that might too closely resemble or otherwise appear to compete with the national currency. But it is easy with ordinary levying or assessing – e.g., license fee-collecting, taxing, fining, etc. – authority and new P2P payments technologies, on the other hand, for a New York municipality to issue a rough *functional equivalent* of a traditional currency, usable within its territorial jurisdiction, that truly does *complement* and *supplement* rather than *compete* with the national currency. As Ithaca, New York demonstrated for decades not long ago, all the locality need do is relinquish or transfer rights to the payments it is owed in a locally spendable form, while providing a local currency in which that local spending then can be done. A payment *platform* of the kind *now* technologically available is of course far better still for this purpose than paper ‘Ithaca Hours.’

12. The municipal relinquishments that ground the digital currency can be thought of as – indeed in the first instance they will likely primarily *be* – assessment credits, just as many now-familiar sovereign-issued currencies appear originally to have been or betokened.²⁴ Various forms of locally value-adding activity – local infrastructure work, care-provision, environmental abatement, etc. – then can be remunerated in these credits, which at Stage 1 of implementation can be locally permitted to be conveyed to the municipal authority in lieu of national currency in fulfillment of the payment obligations that it levies. Then at Stage 2 the locality can facilitate transfers among constituents themselves of these same instruments, such that a local resident might pay a local retailer, for example, in assessment credits ultimately payable to the municipality in discharging assessment obligations.

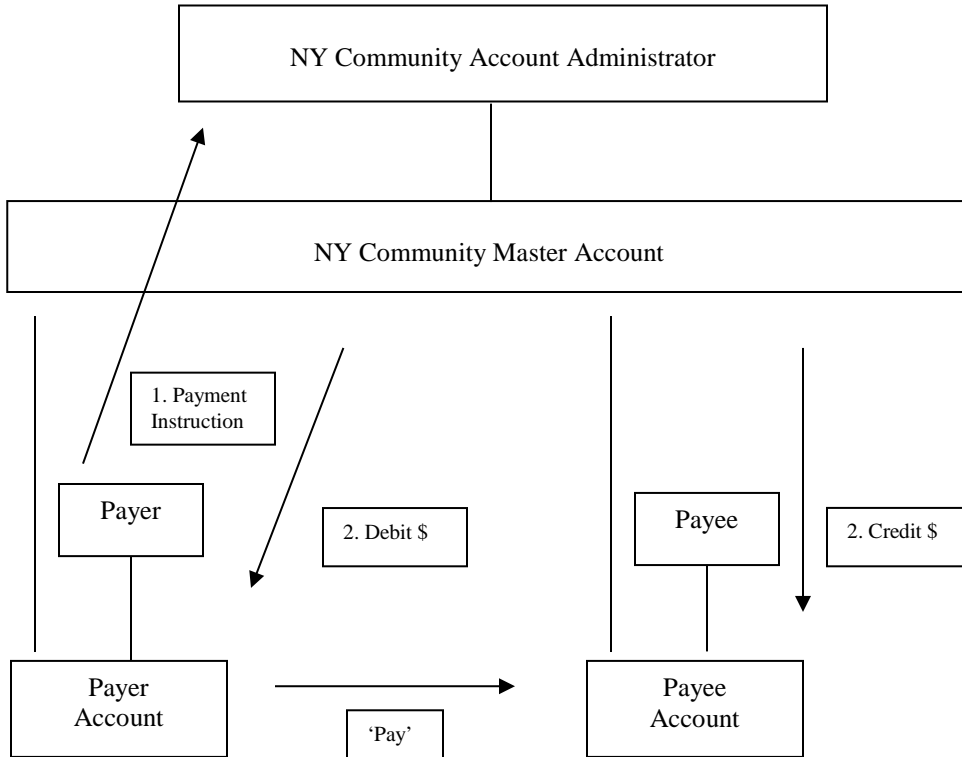
13. These latter credits can, once again, in theory be measured in any unit the local authority that establishes the payment platform, along with its electoral constituents, sees fit to establish. (Such was the case with ‘Ithaca Hours.’) But as in the New York State case above, so here it makes sense to denominate in the national currency to facilitate both (a) ready interoperability with that currency, especially as it comes to be digitized on a national payments platform as envisaged below, and (b) associated fuller integration with the national economy. For the same reasons it will be desirable to ensure interoperability between individual Inclusive Value Accounts and more traditional banking facilities including ATMs.

14. Stages 1 and 2 as just described of course replicate counterpart stages in implementation of the New York state version of the Plan sketched above. That is no accident. Through the simple device of a master account and a system of (now local) Inclusive Value Accounts as sketched above, the locality can first P2P-transact with its own constituents much as do states in the New York State Inclusive Value Ledger (Stage 1), then enable P2P transactions among constituents *inter se*, also as in the State Inclusive Value Ledger (Stage 2). All that will differ in most cases will be the

²⁴ See again Hockett, *Rousseauvian Money*, supra note 1.

size of the plan in both dollar value and participant population terms, though of course large city plans will be larger than small state plans. Pictorially, then, things will look much as in *Figure 2*.

Figure 2: New York Community-Administered Inclusive Value Ledger System



IV. Local New York Plan ‘Compacts’

1. The smaller size of many community plans as just schematized might recommend use of a larger financial institution for purposes of administering the local Plan’s Master Account. This could be done, for example, by making use of a commercial bank trust department or other private sector fiduciary, with multiple municipalities banding together to bargain for optimal terms. Better still would be for municipal plans to participate in state plans, ‘plugging in,’ e.g., to New York’s State Master Account be it directly state-managed or state-delegated to commercial or public banks patterned after the Bank of North Dakota model.²⁵

2. By the same token – pun ratified if not originally intended – we can imagine New York localities forming *multi-community compacts*, and New York with other states forming *multi-state regional compacts* as well with a view to facilitating broader participation in a gradually growing interlocal and interstate public

²⁵ See again Bank of North Dakota Homepage, supra note 17.

payments platform and associated deepening economic integration.²⁶ In payments parlance, smaller ‘closed loop’ payment systems would steadily integrate into larger such systems, gradually edging-out and replacing the nation’s existing polyglot ‘open loop’ system – if ‘system’ is even the right word for the present welter of multiple rent-extractive arrangements.²⁷

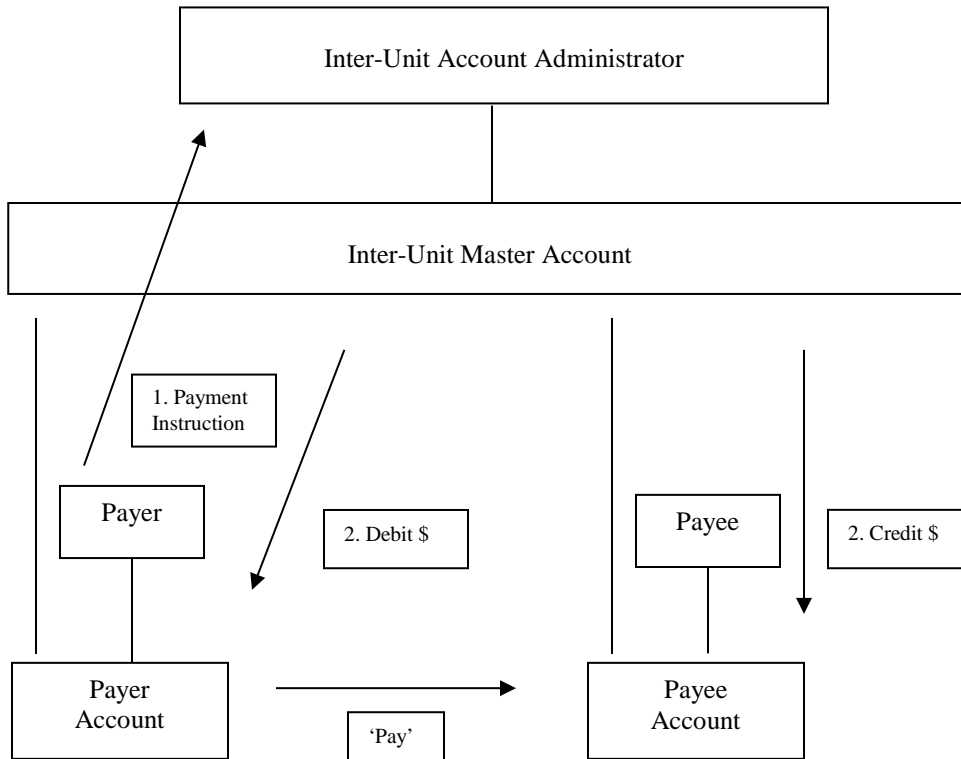
3. ‘Compacting’ of this sort will require no separate ‘Stage 1’ of its own. That Stage will already have been passed through by the participating units of government that have established P2P payment platforms for their constituents. All that will remain to be done is to join separate local or state master accounts into one intercommunity or interstate master account, then install the ‘wiring’ needed to enable mutual P2P crediting and debiting, including for purposes of ATM cash withdrawal, by all legal persons whose state or local governments join to form the relevant compact and associated payments platform. Thereupon state, local, or both kinds of governmental unit will continue to remit and receive P2P payments vis-à-vis one another and vis-à-vis constituents through Inclusive Value Accounts of their own in the Master Account, while their constituents will also be able to transact across state or local boundaries *inter se*.

4. These observations invite yet another diagram – *Figure 3*, the structural identity with *Figures 1* and *2* of which is again not accidental. All that changes is the word ‘State’ or ‘Community,’ along with the prospect that ‘Payer’ and ‘Payee’ need no longer be residents or sub-governmental units of the same state or locality.

²⁶ Ditto state members of the Eurozone, whose economic isolation within the Euro Area partly reflects the latter’s not being an ‘optimal currency area.’ See again Hockett, *Open the Marriage to Save It: A Complementary Digital Euro Plan*, supra note 3; and Hockett, *Money for the World: A Digital Clearing Union*, supra note 3.

²⁷ Broadly speaking, 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. In a ‘closed loop’ – alternatively, ‘peer-to-peer,’ or ‘P2P’ – system, by contrast, only a single payment platform and system administrator stand between payers and payees. See again Hockett, *Payment Polyphony and Monetary Hierarchy*, supra note 1. See also, e.g., INVESTOPEDIA, *Open Loop Card*, available at <https://www.investopedia.com/terms/o/open-loop-card.asp>; and Investopedia, *Closed Loop Card*, available at <https://www.investopedia.com/closed-loop-card-definition-4683996>.

Figure 3: Multiunit-Administered Inclusive Value Ledger System



V. The (Eventual) National Inclusive Value Ledger – A Preview

1. The intergovernmental ‘compacting’ just envisaged suggests the prospect of state and local payments platforms and associated digital currencies’ being ‘built out’ to embrace an ever-widening circle of citizens, businesses, and other residents of the US, all of whom will be progressively liberated both from the depredations of rent-extracting private sector ‘payment service’ firms and from the anti-productive economic stagnation that imperfectly-available non-digital national currency still permits notwithstanding its Fed-managed elasticity. Much as digital value-storage and payment media like Alipay and M-Pesa have enabled far greater value-expression and associated value-generation in historically ‘underbanked’ nations like China and Ethiopia, so will the Democratic Digital Dollars of the Inclusive Value Ledger enable the same in the US. The only difference will be that here this medium of value-storage and -transfer will be publicly afforded as the essential public infrastructure that it is, just like its predecessor payment technologies of US Mint-stamped coins, Fed-issued Dollar Bills, and Treasury-issued T-Bonds, T-Notes, and

T-Bills.²⁸ Having publically issued these money tokens while money has been primarily material, we shall continue to do so as money becomes primarily digital.²⁹

2. This steady expansion of digital value-storage and -transfer availability to all will be facilitated – indeed, it is all but guaranteed – by the structural simplicity of the Inclusive Value Ledger, which replicates that of a simple ledger or account book maintained among friends, family members, or multiple depositors holding accounts at the same bank. As straightforward as book-keeping, account-keeping, and the algebra from which accounting derives, the Inclusive Value Ledger bids fair to proliferate widely among units of political organization on the strength of its own ease of administration and its rent- and stagnation-ending fecundity. The likelihood of such intergovernmental payments system conglomeration through ‘compact’ suggests that ultimately our ‘highest’ level of government itself – our federal government, with its (that is, with *our*) plenary jurisdiction over all matters monetary and commercial within our national union – will do well ultimately to build and administer a *national* Plan that includes all state and local Plans. While the full such design is beyond the scope of this white paper, it might be encouraging to see just how readily the US could follow New York’s lead in developing such a plan in future, just as it did in following Governor Roosevelt’s New York under President Roosevelt during his and Labor Secretary Perkins’s New Deal.

3. It is straightforward, in light of the foregoing discussion, to envisage what at least the simplest rendition of such a national plan would look like. And it requires only a little more institutional knowledge and imagination to envisage the least simple rendition. The former rendition would be provided and administered by the US Treasury. The other rendition would be provided and administered by the Federal Reserve (‘Fed’). It will be helpful to sketch them now separately in turn.

A. The Treasury Rendition

4. The Treasury rendition of the Inclusive Value Ledger would, yet again, be structurally identical to the state and local renditions schematized above. All that would differ, also again, would be the scale and scope of the Plan as measured by (a) the number of participating legal persons, and (b) the number of kinds of Public/Private remittance that the new payments platform would facilitate.

5. With respect to (a), all persons within US jurisdiction who have occasion to transact with the federal fisc – citizens, residents, businesses – would now have P2P Inclusive Value Accounts of the kind sketched above, through which they would pay and be paid by other legal persons and governmental units with Accounts on the

²⁸ See again Hockett, *Rousseauvian Money*, supra note 1; Hockett, *Payment Polyphony and Monetary Hierarchy*, supra note 1; Hockett, *Money’s Past*, supra note 2; and Hockett, *The Capital Commons*, supra note 5. Also Robert Hockett, *Planning Document: Financing the Green New Deal* (2019).

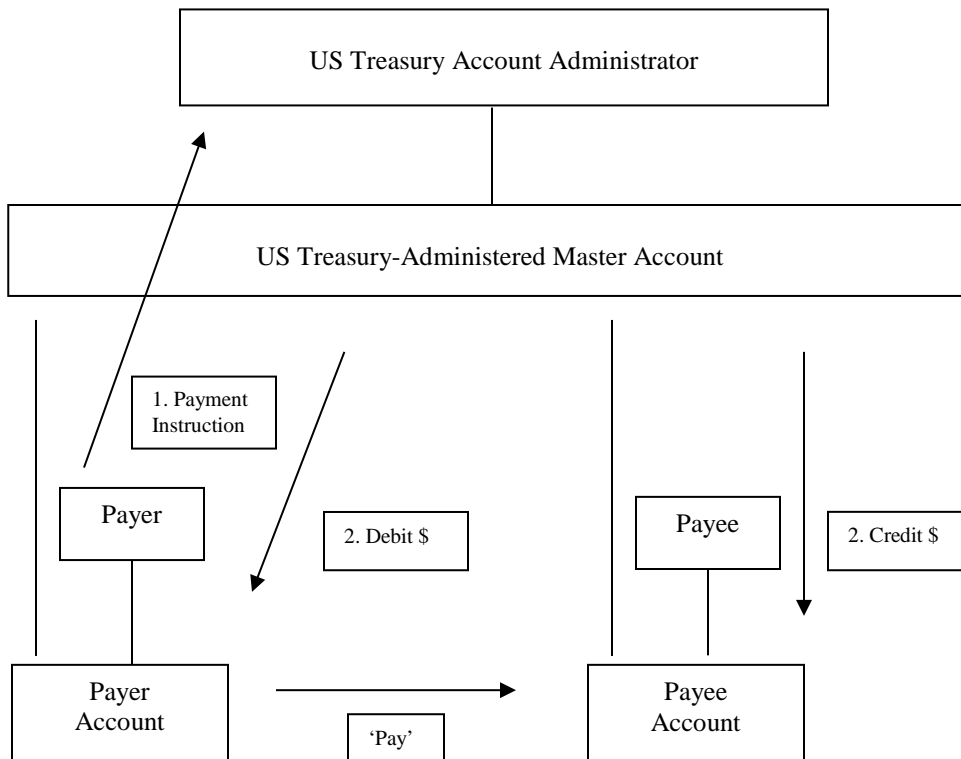
²⁹ Id.

platform. In effect, the 'Inter-Unit' Master Account and Account Administrator of *Figure 3* would simply become a Treasury Master Account and the Treasury Department, respectively.

6. With respect to (b), the number of kinds of Public/Private remittance facilitated now would include all forms to which federal instrumentalities are party in addition to those to which state and local governmental units are party. Hence federal benefits and credits like Social Security, Federal Farm Credit loans, Small Business Administration loans and the like; procurement payments such as by the Departments of Transportation, Defense, or the like; fines and penalties; and taxes or tax refunds and credits like EITC all would now flow through the national Inclusive Value Ledger pipeline.

7. The result would be a complete and fully integrated federal, state, and local P2P payment platform and associated Democratic Digital Dollar, with localities able to administer dollar-denominated community currency systems, states able to join and to integrate localities in that project of intrastate payment system completion, and the US Treasury providing the platform through which payments flow among household, business firm, municipal, state, *and* federal 'treasuries.' As with the state and local renditions sketched above, moreover, so here implementation would proceed in two stages, beginning with the establishment of individual accounts enabling remittances between Treasury and all holders, and proceeding thence to enabling payment flows among all account holders *inter se*, including for purposes of ATM access to cash. Pictorially, things would accordingly look as depicted in *Figure 4*.

Figure 4: US Treasury-Administered Inclusive Value Ledger System



B. The Fed Rendition

8. In theory, the Treasury could ‘borrow’ from account holders willing to credit Treasury through their Inclusive Value Accounts, even paying out a coupon on such credits in a manner rendering them functionally equivalent to Treasury Notes, Bills, and Bonds now traded on the capital markets. This would carry the Treasury well into the realm of central bank monetary operations, however, the implications of which exceed the scope of interest of the present document. The reader is accordingly asked simply to bear in mind that the functionalities of the Fed rendition of the Inclusive Value Ledger about to be sketched all could in theory be discharged by a single authority performing all of the functions now separately distributed over our artificially divided fiscal and monetary authorities.³⁰

9. If one day the US 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 effected as

³⁰ See again Hockett, *Rousseauvian Money*, supra note 1; Hockett, *Payment Polyphony and Monetary Hierarchy*, supra note 1; Hockett, *The Capital Commons*, supra note 5; and Hockett, *Financing the Green New Deal*, id.

it was in other eras of our nation's financial history.³¹ For the present, however, the Plan-sketching proceeds on the assumption that the nation retains separate fiscal and monetary authorities – that is, a Treasury and a Fed.

10. A Fed rendition of the Inclusive Value Ledger could either replicate the Treasury rendition and administer it as a separate functionality in parallel with the Fed's other functionalities, or could integrate it into a more ambitious plan that employs the Inclusive Value Ledger not only as a national payments platform, associated Democratic Digital Dollar, and 'public option' in respect of traditional retail banking – i.e., value storage and transfer as outlined above – but also as an architecture for a far more effective channel of monetary policy and national investment than we have now.³²

11. The present channel is subject to multiple leakages owing to its reliance upon profit-driven, rent-seeking, private sector financial institutions as 'middlemen' along the transmission belt. A payment platform enabling digital storage and transfer of value as the Inclusive Value Ledger does will show such institutions to be what they have been all along – superfluous value-extractive entities that do little more than gum up and leach value from production-enabling accumulations and transfers of purchasing power among productive units of the 'real' economy.³³

12. In the case of monetary policy, which central banks and monetary authorities conduct with a view to maintaining 'balance' between money aggregates and money-requiring productive potential as described in connection with the Community rendition of the Inclusive Value Ledger above, the Fed transacts with publicly favored 'dealer banks' and other privileged financial institutions to effect policy.³⁴ It buys or sells Treasury securities in such transactions to grow or shrink monetary aggregates, changes interbank lending charges to affect money rental rates and hence credit-money aggregates, or alters capital/leverage requirements to alter the quantum of credit that financial institutions can emit in monetized form.³⁵

13. 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, and that counterpart monetary tightening will similarly contract credit-

³¹ See, e.g., Hockett, *Money's Past is Fintech's Future*, supra note 1. Also Hockett, *Rousseauvian Money*, supra note 1, and Hockett, *Capital Commons*, supra note 5.

³² See again sources cited id. Professor Omarova and I will be developing a comprehensive design of this more ambitious sort, integrating it with our earlier proposal of a National Investment Authority, later this autumn. Hockett, *The Capital Commons*, supra note 5, provides a full historical-functional narrative indicating why plans of this sort can be seen as fulfillments of the teleology imminent in our nation's financial development to date.

³³ See again sources cited supra, note 30.

³⁴ Id.

³⁵ Id.

money aggregates and thereby slow inflationary spending activity.³⁶ The problem is that the hope sometimes goes 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 US.³⁷

14. 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.³⁸ Such individuals lack the means of collective agency required to ensure that 'all individuals' *do* engage in the requisite spending.³⁹ 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 burst and become busts.⁴⁰ Private sector lending institutions are as caught up in this individually rational, collectively irrational logic as are their prospective borrowers.⁴¹ A money-modulatory system that depends on the independently made decisions of such institutions will accordingly lack the means of collective agency required to conduct monetary policy efficiently.⁴²

15. A similar individually rational, collectively irrational logic afflicts national investment in productive industry and infrastructure. Many productive projects whose value-adds inure to the benefit large populations over lengthy temporal durations do not inure sufficiently to the benefit of individuals over short temporal durations to induce them to engage or invest in the productive activity in question.⁴³ Hence it is individually rational for disaggregated and uncoordinated persons simply to leave long-term value 'on the table,' as collectively irrational as that is. And, once again, what is true of individuals here is true of the disaggregated profit-seeking, private-sector institutions that lend to them. And this is not even to mention the rent-extractions and associated deadweight losses that these institutions are constantly imposing even when productive investment is underway.⁴⁴

16. These two collective action impediments to efficient money-fueled productive activity will be readily remedied by cutting disaggregated private sector

³⁶ Id.

³⁷ Id. Also Robert Hockett, *Recursive Collective Action Problems: The Structure of Procyclicality in Financial and Money Markets, Macroeconomies, and Formally Similar Contexts*, 3 JOURNAL OF FINANCIAL PERSPECTIVES 1 (2015), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2239849.

³⁸ Id.

³⁹ Id.

⁴⁰ Id.

⁴¹ Id.

⁴² Id.

⁴³ Id. See also Robert Hockett & Saule Omarova, *Private Wealth and Public Goods: A Case for a National Investment Authority*, 43 JOURNAL OF CORPORATION LAW 1 (2018).

⁴⁴ Id.

middleman institutions fully out of the monetary policy effectuation, and partly out of the productive investment, processes. And a Fed-administered rendition of the P2P Inclusive Value Ledger affords ready means of doing just that – means of enabling the Fed fully to discharge, without being held hostage by disaggregated middleman institutions, its essential role as our polity’s authorized collective agent in all matters monetary.⁴⁵ This is readily demonstrated in respect both of monetary policy and of investment policy.

17. The monetary policy case is the easiest to see in light of the foregoing schematization of P2P Inclusive Value Accounts and associated Digital Dollars. All that the Fed need do is (a) pay interest on Inclusive Value 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, and associated effectuality where expansionary and contractionary policy alike are concerned.⁴⁶

18. 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 document. It is nevertheless easy enough to provide quickly what is needed and then diagram the result. The key point to remember here is that the Fed, like any financial institution, maintains a large and complex balance sheet comprising many classes of asset and many classes of offsetting liabilities.⁴⁷

19. 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 banks themselves.⁴⁸ 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.⁴⁹ 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.⁵⁰

20. A Fed rendition of the Inclusive Value Ledger would simply alter the compositions of its own and private sector banks’ balance sheets in a few

⁴⁵ Id.

⁴⁶ See again Hockett, *Rousseauvian Money*, supra note 1; Hockett, *Payment Polyphony and Monetary Hierarchy*, supra note 1; Hockett, *The Capital Commons*, supra note 5; and Hockett, *Financing the Green New Deal*, supra note 28.

⁴⁷ Id.

⁴⁸ Id.

⁴⁹ Id.

⁵⁰ Id.

straightforward ways. First, the Inclusive Value Ledger ‘Master Account’ would simply be (a large portion of) the liability side of the Fed’s balance sheet. Insofar as individual Inclusive Value accounts subsumed within that Master Account were employed as transaction accounts by their holders as envisaged above, in turn, there would be a corresponding reduction in the sizes of private sector bank balance sheets – their deposit liabilities would simply migrate in substantial measure over to the Fed.⁵¹

21. Second, insofar as we wanted private sector banks to continue to ‘gate-keep’ in connection with at least some business and other forms of productive lending, we would permit them to do so either by extending such loans and then selling them on to the Fed (along with other federal entities, such as the GSEs, to which they sell such loans now), by borrowing from the Fed through its Discount Window and lending the proceeds, or both.⁵² In all such cases, the effect would be simply to substitute liabilities owed the Fed for liabilities owed individual depositors on bank balance sheets, and add these bank liabilities to the asset side of the Fed’s balance sheet, offsetting the new liabilities that it owes via individual Inclusive Value Accounts.⁵³

22. Requiring private sector banks to fund their investments through Fed Discount Window lending instead of privately maintained deposits would have as salutary an effect upon national *investment* policy as the Fed’s maintaining a system of P2P Inclusive Value Accounts for all legal persons would have upon national *monetary* policy.⁵⁴ For the Fed could now condition its lending expressly upon private sector banks’ lending for manifestly *productive* purposes in *primary* markets rather than *speculative* activity in *secondary and tertiary* markets. In effect, we would 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.⁵⁵

23. Diagrammatically, then, we would move from a banking system like that depicted in *Figure 5* to a banking system like that depicted in *Figure 6* where credit-money flows and associated assets and liabilities are concerned. Adding the payment platform of the previous diagrams to *Figure 6* yields a complete picture in the form of *Figure 7*, in connection with which one should remember that all entities represented above the Master Account box in the diagram are among the Account Holders, hence Payers and Payees, represented below that box in the diagram.

51 Id.

52 Id.

53 Id.

54 Id.

55 Id. Also Robert Hockett, *The Macroprudential Turn: From Individual Bank ‘Safety and Soundness’ to Systemic ‘Financial Stability’ in Financial Supervision*, 9 VIRGINIA LAW & BUSINESS REVIEW 1 (2015), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2206189.

Figure 5: Current Fed/Bank/Depositor/Issuer Arrangements & Financial Flows

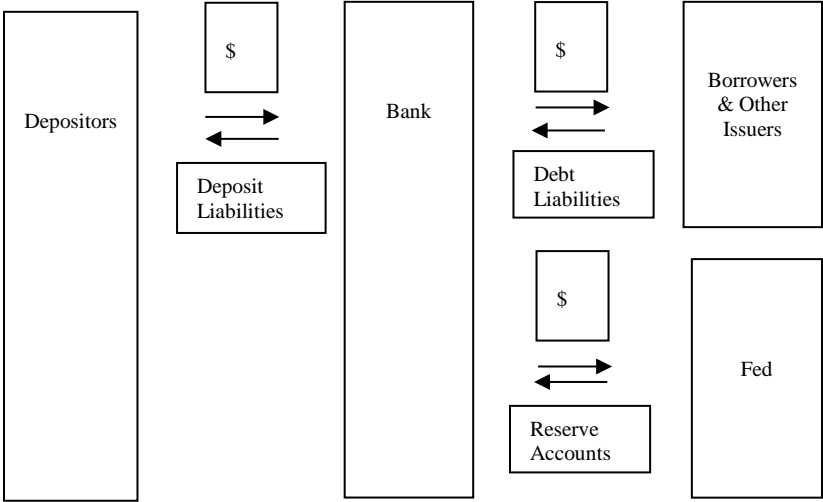


Figure 6: Reformed Fed/Bank/Depositor/Issuer Arrangements & Financial Flows

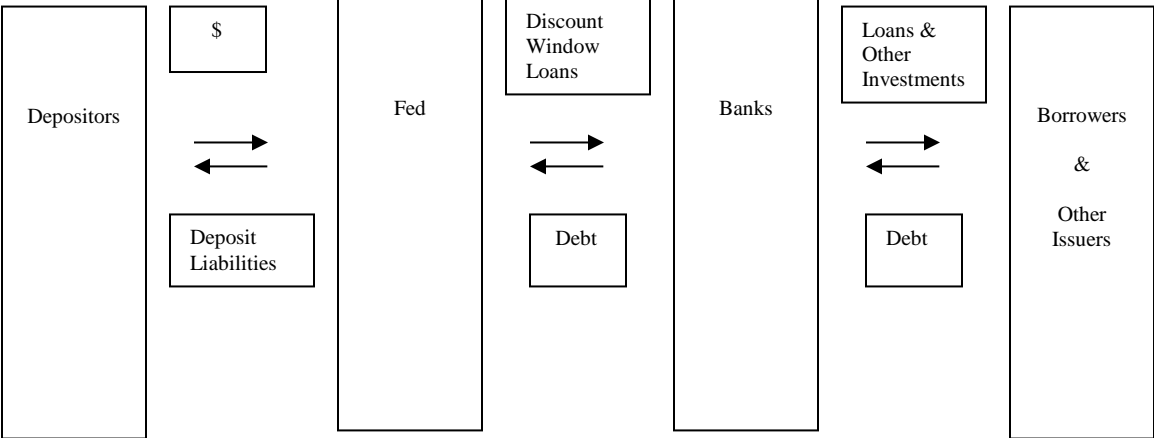
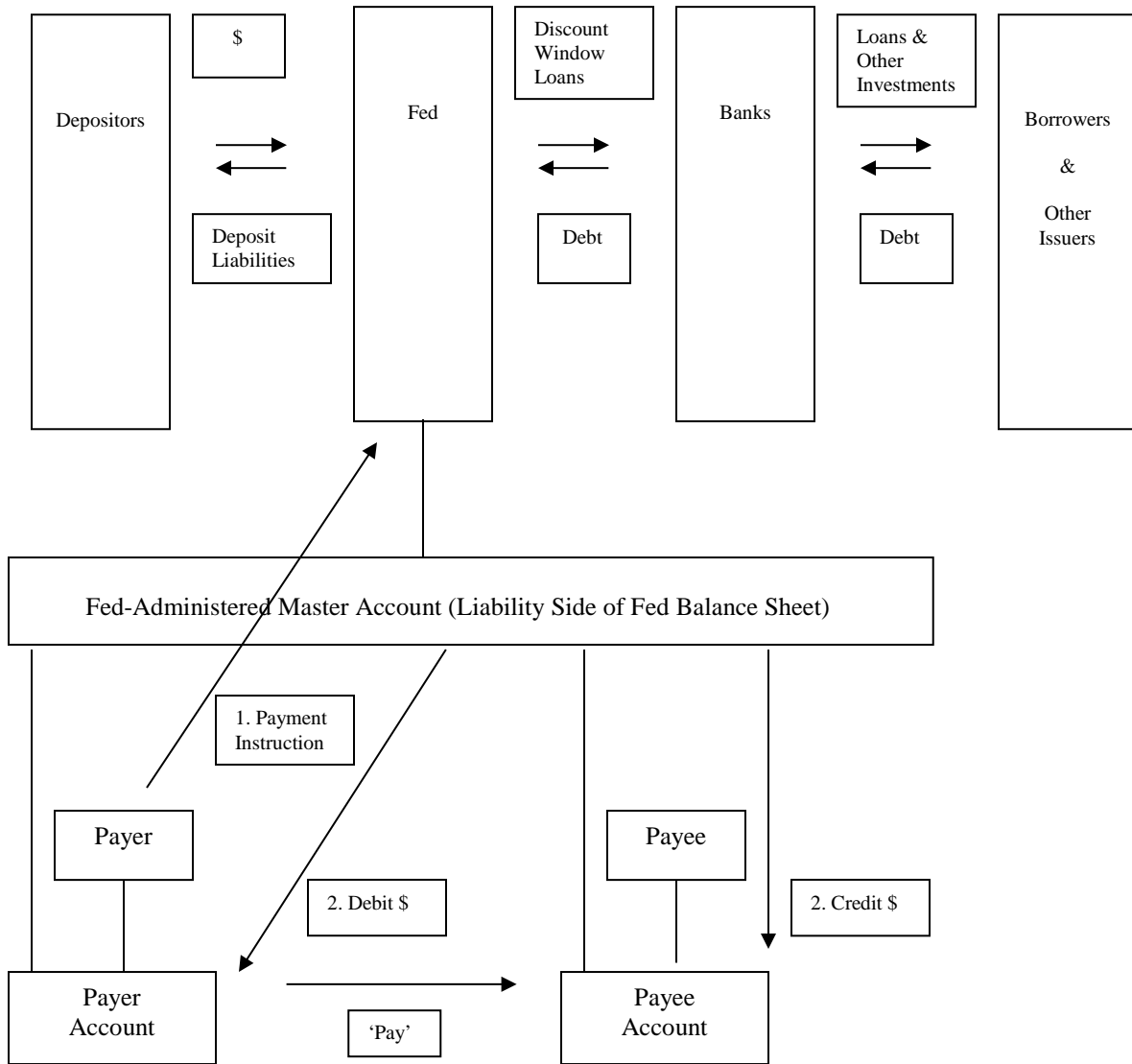


Figure 7: Reformed Fed/Bank/Depositor/Issuer Arrangements & Financial Flows, with Fed-Administered Payments Platform



Conclusion

As might by now be obvious, everything proposed in this document is so structurally simple and practically easy to effect that the wonder is that New York or even the US didn't adopt more rudimentary versions of the Inclusive Value Ledger decades ago. Paper currency and coin systems of value storage and transfer would not have lent themselves – pun again ratified if not quite initially intended – to use in the way here prescribed. Indeed, they seem historically to have been adopted precisely when populations of political units grew too large to track all transactions on single community ledgers. But with the coming of both computing power and electronic communication of crediting and debiting instructions nearly a century

ago, the possibility of restoring Inclusive community ledgers enabling the storage and transfer of value became live prospect.

In a sense, modern polities like New York and the US, and the financial institutions that operate under their jurisdiction, have been groping toward such a restoration ever since, with the development and spread of electronic banking, paying, and clearing and settling of transactions. The tentative moves have been made by banks, credit card companies, payment services like PayPal and Venmo and Apple Pay, and central banks and monetary authorities.

All that has been lacking is notice that the same developing technical capacities that render piecemeal groping toward restored public ledgers now possible also enable leapfrogging straight to the obvious endpoint of this evolution – publicly maintained digital ledgers-cum-payment-platforms on which literally everyone, be they citizen or business, is able costlessly to transact, hence to accumulate, store, and transfer value. If the plethora of privately-provided, profit-driven, rent-extracting and scarcely interoperable digital payment services now proliferating do nothing but remind us of this simple truth, they will have served their social purpose. It then will be time for their makers to move on to more productive pursuits.