



Central Bank Digital Currency and the Agenda of Monetary Devolution

Leonidas Zelmanovitz and Bruno Meyerhof Salama

1 INTRODUCTION

Calls for the Federal Reserve (Fed) to adopt a Central Bank Digital Currency (CBDC) that can be used by the public at large—or “retail” CBDCs—have become common in the United States. The idea first gained political attention in 2019 after the release of a white paper by Facebook proposing the creation of a stablecoin called *Libra* (subsequently rebranded as *Diem*, before the project was discontinued). Later, in the context of the response to the COVID-crisis, several proposals were introduced in the U.S. Congress for the creation of “Digital Dollars” and

For helpful comments, we thank Juliana B. Bolzani. All errors are ours.

L. Zelmanovitz

Liberty Fund, Carmel, IN, USA

e-mail: lzelmanovitz@libertyfund.org

B. M. Salama (✉)

UC Berkeley Law School, Berkeley, CA, USA

e-mail: salama@berkeley.edu

© The Author(s) 2024

M. Bodellini et al. (eds.), *Commercial Banking in Transition*, Palgrave Macmillan Studies in Banking and Financial Institutions,

https://doi.org/10.1007/978-3-031-45289-5_11

“FedAccounts”. The proposals failed, but that did not stop the Federal Reserve Bank of Boston from partnering with the *Digital Currency Initiative* at the Massachusetts Institute of Technology to explore the CBDC design space and gain a hands-on understanding of a CBDC’s technical challenges and opportunities. Despite occasional pushback from the commercial banking industry¹ and even from within the Fed,² CBDCs increasingly look like a question of “when”, not of “if”.³

And yet, create a CBDC with what purpose?

2 THE JUSTIFICATIONS FOR CREATING A CBDC

The question is daunting even for CBDC enthusiasts, and in the policy space there is no shortage of voices saying that CBDCs are *a solution looking for a problem*. Not that there aren’t justifications, which are indeed many: a Fed-issued digital currency is said to be necessary to secure American financial dominance, particularly in light of the impending coming about of China’s digital renminbi; to improve monetary policy, particularly in the implementation of stimulative measures; to promote financial inclusion or to address longstanding economic inequalities; to help spurt innovation in ways that the current system cannot; and to avoid fragmenting liquidity or to allow the United States to compete with private-sector money substitutes, specially stablecoins.

Clearly, some of these contentions rest on feebler grounds than others. For example, the idea that a CBDC is needed to increase financial inclusion begs the question of why not using instead simpler solutions that rely on basic commercial accounts, like the FedNow or the “Bank On” accounts initiative promoted by the Fed, or other solutions that have a proven track record, such as those involving telecommunication companies in Africa or payment platforms such as Brazil’s PIX.⁴ Similarly, the idea that a CBDC is needed to preserve the international status of the US Dollar seems to elevate form over substance and to heavily discount both

¹ See e.g. G. Baer, Central Bank Digital Currencies: Costs, Benefits and Major Implications for the U.S. Economic System, Bank Policy Institute, Staff Working Paper.

² R. K. Quarles, Parachute Pants and Central Bank Money, June 28, 2021, Speech delivered at the 113th Annual Utah Bankers Association Convention, Sun Valley, Idaho.

³ *Financial Times*, June 23, 2021. CBDCs now seem a matter of when not if.

⁴ A. Duarte et al., Central Banks, the Monetary System and Public Payment Infrastructures: Lessons from Brazil’s Pix, BIS BULLETIN NO. 52, March 23, 2022.

the strengths of the US Dollar—the size of the US economy, the depth of its financial markets, the absence of foreign exchange controls in the US, the country’s international military presence, inertia, and so on—as well as the US Dollars vulnerabilities—the US fiscal imbalances and internal political divisions, the reputational damage caused by the repeated use of the Dollar to sanction nations that fall in political disfavor, and, of course, the ascent of China.

To be sure, other justifications for the creation of CBDCs may be more persuasive. For example, a money that is programmable or that expires can in principle be more effective in stimulating demand—if or when such policies are to be pursued, something that is not our concern here. Moreover, it is not inconceivable that condoning (instead of opposing) the technological innovation that is housed within a CBDC could within time help spur innovation, probably in ways that at this point are not completely foreseeable. And in any case, certain inefficiencies of the commercial banking industry as it stands today should not be ignored. Even in the best case, of course, the adoption of CBDCs is not risk-free. Damage to privacy is a concern that is often remembered (since retail CBDCs can be a tool for the government to directly track people’s monetary outlays). Moreover, cyber-security and (especially in the case of retail FedAccounts) administrability also figure prominently.

Discussing the adoption of CBDCs from the perspective of tradeoffs, that is, of pros and cons, is however an incomplete enterprise. The precise risk is that of concealing the political economy that from immemorial times underpins the enterprise of money creation and money regulation. Once we turn to the political economy of money—or perhaps, to the *Law and Macroeconomics* of money, a phraseology that we suggested elsewhere—,⁵ a more fundamental interpretation of the creation of CBDCs can be formulated, one that finds a unified meaning in the myriad of policy goals and rationales that are enlisted to support their creation: retail CBDCs represent yet another step towards the devolution of monetary powers from commercial banks to the state. They are, to put it bluntly, a fiscal and monetary tool, and not simply a strategy to reduce transactions costs.

⁵ L. Zelmanovitz and B. Meyerhof Salama, *LawMacro and the Schism in Law and Economics*. Law and Liberty, 2020, available at <https://lawliberty.org/how-money-could-revive-law-and-economics/>.

We find the agenda of monetary devolution in the simple fact that retail CBDCs displace fractional reserve commercial banking and private money in favor of sovereign money. At the same time, as we explain, there is an alternative route to make use of the technological edge provided by CBDCs without going down the road of monetary devolution. To visualize it we must let go of the idea of adopting a retail CBDCs and focus instead on a CBDC available only to intermediaries. This wholesale CBDC, sometimes referred to as wCBDC, could ground the transition to a crypto-based monetary system where stablecoin issuers would adapt money creation to market needs, complementing and perhaps eventually replacing on-demand deposits. CBDCs would then be used as base money to settle transactions between the stablecoin issuers. The transition would have to be carefully managed, but the result could be one where the United States improves the technological footing of its banking and financial system without running into the problems of capital misallocation that inevitably come about when endogenous money cedes room to sovereign money.

The fiscal and monetary implications of CBDCs, however, mean that the push for monetary devolution—that is, the push for the creation of retail CBDCs and FedAccounts—does not come only from the attraction of the new technologies that underlie CBDCs. Its root cause lies elsewhere, especially in the structural deficits of the United States Treasury that result from a fundamental imbalance between government receipts and expenditures. These structural deficits place the Treasury in a position where it is constantly seeking for additional buyers of government debt—preferably at negative real rates, which is why, incidentally, the inflation that is not so hard to engineer with the current institutional setting comes in handy for the Treasury. Retail CBDCs are then appealing precisely because they increase the ability of the government both to create inflation (engineering the negative interest rates needed to reduce the public debt) and to use such CBDCs to make up for the decreased demand for Treasuries that can come when real interests are negative.

3 THE AGENDA OF MONETARY DEVOLUTION

Years ago, when we first wrote about the prospects for the adoption of retail CBDCs in the United States, we found that the devolution of monetary powers to the state was CBDCs’ “hidden agenda” (we did point out, however, that many among the CBDCs advocates were open about the

goal of tilting the current balance between private and sovereign money in favor of the latter).⁶ This agenda is now increasingly visible.

The motivations behind the push for sovereign money are many. To refer to only some of them, the strengthening of the ESG platform represents a call for the government to step in to finance the shift to a green economy; international geopolitical competition with China and the outburst of the COVID pandemic have led to renewed calls for industrial policy; political grievances animate calls for the incorporation of state-owned banks; and, last but not least, the deterioration of the United States fiscal situation generates pressure for greater financial repression to facilitate placement of public debt by the Treasury. These and possibly other considerations explain why the base case for the adoption of retail CBDCs in the United States continues to be one of devolution of monetary powers to the state to enable greater financial repression—that is, political allocation of money and credit—and monetary financing of the Treasury.

To see why, the starting point is to understand that CBDCs are a form of sovereign money. At its core, a CBDC is a digital payment instrument, denominated in the national unit of account that is a direct liability of the Fed. Like currency and reserve balances, it is denominated in Dollars and would be considered a part of the monetary base. Moreover, if available to the public, CBDCs would have the same legal tender privileges granted to cash and would be part of the money supply. But unlike currency, a CBDC can only exist in electronic form. The specific electronic form would depend on whether the CBDC is created as a “token” or as an “account”. Electronic tokens are designed to mimic paper money. They are like electronic prepaid debit cards or gift cards in that they are not connected to an account-relationship between the depository bank and the token holder. Depending on the institutional design that may be chosen, this depository entity could be the Fed or any other provider of a digital wallet.

Account-based CBDCs can be thought of as universal central bank accounts. They are designed to give retail customers access to online bank accounts directly with the Fed. Like electronic tokens—but unlike

⁶ See e.g. Morgan Ricks’ testimony before the United States House of Representatives Committee on Financial Services Task Force on Financial Technology, June 11, 2020, available online at <https://www.congress.gov/116/meeting/house/110778/witnesses/HHRG-116-BA00-Wstate-RicksM-20200611.pdf>.

bank deposits or e-money stored in prepaid cards—these accounts are liabilities of the central bank. They are reserve balances held at the Fed, except that they would be available to everyone, and not only to the 5000 or so depository institutions that maintain accounts at the Fed. Currently, the Fed provides those accounts to banks and governmental entities only. Extending them to individuals would require the enactment of new legislation.

The BIS (Bank of International Settlements), which is heavily involved in developing international standards, has advised countries to prefer account-based instead of token-based CBDCs.⁷ It also recommends including a privacy layer to curb fears of government surveillance.⁸ As such, CBDCs would still be a functional substitute for cash, even if operationally the units of Dollars would simply be identity-linked.

The important point, however, is that whether in the form of a token or of a bank account, a CBDC will be a form of money created by the US Federal Government through its monetary authority. This is why we refer to it as “sovereign money”. It follows that the proposals to create CBDCs should be accounted in practice for what they are in theory: an attempt to crowd out privately created money—and therefore, an invitation for a greater degree of government-directed credit, money creation, and financial repression (or political allocation of money) than what we already have today.

In addition, by crowding out private money and reducing the number of alternatives for retail payments, CBDCs could indirectly increase the demand for sovereign money. This is not an irrelevant consideration. One should remember that with higher inflation, the United States public debt is currently being placed with negative real interest rates. Thus, in its attempts to keep interests on public debt at bay, the United States may face a problem where the supply exceeds the demand for its securities at the given price.

⁷ BIS Annual Economic Report 2021, III. CBDCs—an opportunity for the monetary system, p. 82.

⁸ *Id.*, p. 74.

4 SOVEREIGN MONEY AND THE FRAGILITY OF PRIVATE MONEY

To make sense of the importance of the distinction between private and sovereign money, we have to go back in history. At least for the last three hundred years, in Western societies money has been supplied partly by the state, partly by the market. The state portion of the money supply has historically taken the form of coins and commodity money, and later fiat money with legal tender. The other part of the money supply has been provided by commercial banks: first in the form of banknotes redeemable in government-issued coins, and later in the form of bank credit payable in government-issued paper money—which is why these money-claims issued by banks are also referred to as money “substitutes”.

The supply of money by the government first depended on the availability of precious metals. The sovereign was forced to use real resources to invest in the mining of silver and gold or to purchase bullion from which it could mint coins. Except for the old trick of debasing the coinage and reducing its purchasing power, supplying money was costly. Thus, the quantity of coins with the previously expected purchasing power that a sovereign could mint was dependent of the allocation of real wealth. It was only much later that sovereign money was made possible solely on the will of the government (fiat money). In any case, the amount of the money supplied by the government is said to be determined “outside” the market. In this sense, “sovereign money” is also “external” money.

Banks, on the other hand, give credit by creating banknotes or credit bank account balances for their borrowers. The crucial point is that credit is created only when borrowers come with investment propositions that are likely to allow for a profit. Because the amount of money substitutes created by banks depends on the existence of profitable opportunities for lending in the market, that part of the money supply is called “inside money”. The beauty of this system is the supply of money adjusts “naturally” to the ever-changing demand for money.

This is the essence of what is now known as “modern finances”, that is, fractional reserve banking. This system came about in 1694 with the creation of the Bank of England and then spread worldwide. Instead of using real metal as a medium of exchange, people started to use the Bank’s promise to pay gold and silver as the instrument for their private exchanges. This promise was represented on the Bank of England’s balance sheet and took the form of banknotes.

The English commercial banks rapidly started to create more money substitutes than the counterpart of the amount of money originally borrowed by the UK Crown or the amount of reserves they kept in their vaults. The banks started to finance credit to commerce and later, farming and industry. These arrangements with “fractional” reserves financed the industrial revolution. They usually worked well when prudently managed under the rules of their creation—especially, that the government could not be financed by the bank with the issuance of banknotes.

However, in situations of emergency, usually because of the need to finance armed conflicts, said arrangements would end up being abused. At that point inflationary war finance would come about. Military crises would therefore reveal the “inherent” fragility of the arrangements under which banks issued more promises to pay in “external” money than the amount of base money in existence. Inflationary war finance would then lay bare the fragility that is inbuilt in fractional reserve banking: basically everywhere (and in fact, until today) banks were organized under a legal framework that allowed the sovereign to exercise its monetary prerogatives to force them to lend to the government in emergency cases.

A focus on this fragility should not obfuscate an underappreciated benefit of this system: it is geared towards directing funding to the most promising investment opportunities. This improves overall economic efficiency both directly and indirectly: directly, because capital is allocated in a productive fashion; and indirectly, by aligning the interests of bankers and depositors, since the search for profit by the former signals to the latter that their savings will be parked in a solvent institution.

This trust-based system can basically be broken in three situations: first, when the sovereign thinks that it is politically expedient to force the banks to lend money to the state (especially to finance war, as explained); second, when, in the absence of adverse clearing, the banks are perceived to have overextended themselves by creating more money substitutes than the amount of money people want to hold (leading to bank runs); and third, when bank lending is politically driven or poorly managed and systematically forgoes the most profitable opportunities. The ensuing evils include bank failures, inflation, and capital misallocation.

Devolution of Monetary Powers as a Response

It is because Western societies have been plagued by these evils for centuries that some politicians, policymakers, and academics have considered abolishing inside money altogether. A well-known example was the monetary reform proposal known as the Chicago Plan, which, in the 1930s, proposed a strict form of monetary devolution called “full reserve” or “narrow banking” where the government would take back the money monopoly. The idea was to separate the credit and monetary functions of the banking system completely by forcing commercial banks to operate under a 100% reserve requirement where deposits and other short-term liabilities would be backstopped with sovereign money on a 1:1 basis. Thus, at the cost of worsening capital allocation, this system would eliminate the risk that taxpayers would have to shoulder the costs of bank runs.

While typically falling short of proposing the complete abolition of inside money along the lines of the Chicago Plan, most CBDC proponents partake in the Chicago Plan authors’ concern with bank runs, and perhaps more importantly, they also dispute the ability of the banking system to efficiently allocate capital, whether due to shortsightedness or inability to factor broader societal goals into their decisions to price and extend credit. Hence, their optimism towards CBDCs expected a reduction of the role of inside money.

So far, the Chicago Plan represents the road not taken. In fact, despite private money’s fragility, the government actively promotes its creation. For instance, governments worldwide offer or promote “deposit insurance” and “lender of last resort” facilities to entice people to surrender money in exchange for deposits, propping up bank-issued money-claims. Besides that, governments offer the public money that anchors private money and is used to settle the obligations between the banks. These and other measures approximate bank deposits to the risk-free, sovereign money produced by the government.

There is however a flipside: the other side of the bargain is that banks may be forced to help finance the government directly (by having to buy Treasuries) or indirectly (by offering subsidized loans to protected segments). And beyond that, banks will have to lend themselves to extensive regulation. However, in comparison to regulation, retail CBDCs offer a more radical solution to the problem of fractional “fragility”: curbing the ability of banks to create money or further regulating its quantity,

depending on the particularities of each CBDC scheme. It is a kind of “devolution” to the government of money creation powers that, starting in the late seventeenth century England, were assigned to the private sector.

But to go back to our starting point—to return monetary powers to the government with what purpose? On the one hand, we could say, with the coming about of CBDCs the government will target the fragility of private money head-on by eliminating it. From this viewpoint, CBDCs are nothing but a tech-based variant of previous attacks on inside money such as the “Chicago Plan” or other proposals for full reserve banking. But instead of being simply a tool to deal with the risk of bank runs, retail CBDCs would represent more of the same, since in the end what they would do is make it possible for the government to increase its ability to do something that it already does today—that is, to gain access to real goods without imposing greater taxation in the present. From this viewpoint, retail CBDCs would be nothing but one more stance in which it is advocated that the liquid funds of the community should be politically allocated.

To see why, consider that retail CBDCs will stand in direct competition with bank deposits. Both CBDCs and demand deposits develop the same function and have similar features: they are both digital, they are assets that can be redeemed on demand at face value, and they are both used to make ordinary payments. But while demand deposits are a bank promise to repay the asset in sovereign money, CBDCs are sovereign money itself. From the perspective of the user, all else equal CBDCs are therefore superior in quality to demand deposits. As a result, the issuance of CBDCs tends to displace demand deposits, especially in times of financial stress. Expectedly, therefore, some deposits will be exchanged for CBDCs, a phenomenon often referred to as “disintermediation”.

As depositors move from storing liquidity in public rather than private money, demand deposits go down and the ability of commercial banks to further create money diminishes. To avoid a reduction in money supply, the government could set quantitative limits to the ability of depositors to migrate to CBDCs. However, such measure would hardly avoid the crowding out of inside money. It would also be a strange type of measure—if CBDCs are superior to bank deposits, why not allow CBDCs to their fullest extent possible? Besides that, quantitative limits could impose a premium on the circulation of commercial bank deposits, which would reduce their moneyness and potentially hurt financial stability.

Thus, the expected endgame of the coming about of retail CBDCs is one where the government assumes increasing responsibility for lending either directly or by becoming a regular source of funding for the banks.

The expected result would be those that traditionally fall under the rubric of *financial repression*. For one, credit would be allocated to the sorts of projects that the political process deems more worthy of receiving the funds (for example, the United Nations *sustainable development goals*, or SDGs) to a greater extent than today. Moreover, the crowding out of private by sovereign money would also, expectedly at least, assist the government in accelerating debt monetization. The increase in non-bank, or shadow bank, lending would just be another expected, even if unwanted, result.

5 THE MECHANICS

Let us see how any of that can be accomplished. As a first approximation, we can use the Chicago Plan model to illustrate the mechanics of FedAccounts. Suppose the Fed creates a ledger for all bank accounts in the country directly in its own balance sheet. The Fed then announces that depositors can choose between opening new accounts directly with the Fed or keeping their deposit accounts with their current commercial banks—but in the latter case, under the caveat that each commercial banks must transfer one hundred percent of deposits in real time to corresponding accounts held with the Fed by their customers.

Under such arrangements, the commercial banks will in practice be put in a regime of 100% reserve requirement and will not have money to lend to private borrowers from the floating of the deposits. In turn, the Fed will have as base money (bank reserves with the Fed) the entire liquidity of the country, including the other component of base money, paper currency—assuming, of course, that paper currency will continue to exist, something that some proposals for CBDC do not permit. Thus, all the demand for “cash” (paper money and bank deposits) becomes “Fed-accounts”. The money supply becomes a Fed liability, all of it. And the counterpart of those liabilities on the asset side of the Fed’s balance sheet are Treasuries and other bonds that are determined based on the Fed credit policies.

Now, under this regime of “full reserve” banking, if the banks wish to lend money, they first need to borrow from the Fed or borrow in the capital markets like any other business. Then, of course, the function

of commercial banks changes quite radically. Instead of creating inside money, banks focus on screening consumers, on-boarding, servicing, off-boarding them, as well as watching over and updating the technology platforms. To maintain the level of money supply, the government steps in. It could seem like a regulators' utopia—full devolution of the power to create money—, but the practical outcome can be quite different. The problem is that the repression of financial intermediation by commercial banks expectedly creates market incentives for other nonbank agents to step in and create money-like instruments to satisfy that demand. In other words, new forms of shadow banks will tend to come about.

The devolution of monetary powers to the state that comes up with the creation of retail CBDCs also helps undo the operational independence of central banks and the formal separation between monetary and fiscal policy. This separation was intended by early framers of the Fed and was reinforced in 1933 with the creation of the Federal Open Market Committee (FOMC) and in 1935 with a statutory limitation on monetary financing. Of course, this is not to deny that the separation has always worked best during peaceful times, since in times of war debt monetization tends to become the norm rather than the exception.⁹ Thus, during World War II, Congress amended the Federal Reserve Act to authorize the Fed to purchase securities directly from the Treasury—which it did, always under at low-interest rates.¹⁰ After the War, inflationary pressures pushed for the reinstatement of a prohibition against monetary financing—first, in a 1951 one-paragraph “Accord” between the Fed and the Treasury, and later with an amendment to the Federal Reserve

⁹ Although in the United States little money was created to fund the war efforts of World War I. See Richard Sutch, *Liberty Bonds*, RESERVE HISTORY, FED. RESERVE BANK ST. LOUIS, <https://www.federalreservehistory.org/essays/liberty-bonds> (“the [United States] federal government relied on a mix of one-third new taxes and two-thirds borrowing from the general population [...] The borrowing effort was called the “Liberty Loan” and was made operational through the sale of Liberty Bonds. These securities were issued by the Treasury, but the Federal Reserve and its member banks conducted the bond sales.”).

¹⁰ G. Richardson, *The Federal Reserve’s Role During WWII* FED. RESERVE HISTORY, FED. RESERVE BANK ST. LOUIS, <https://www.federalreservehistory.org/essays/feds-role-during-wwii>.

Act that allowed the Fed to buy and sell Treasury securities only in the secondary market.¹¹

The point to be noted is now there is a strong movement to undo this framework of separation of fiscal and monetary policy in times of peace. To be sure, any realistic assessment must acknowledge that the line between fiscal and monetary policy is already very much blurred. To respond to the 2008 financial debacle, the Fed set to purchase unprecedented quantities of government debt under its “quantitative easing” programs—a trait that was sometimes perceived as the Fed backstopping public debt.¹²

Besides that, the Cares Act enacted in response to the Covid-19 pandemic further expanded the Fed’s lending capabilities to non-bank entities by authorizing it to provide “liquidity to the financial system that supports lending to eligible business, States, or municipalities”.¹³ In particular, the Cares Act authorized the Secretary of the Treasury to use almost half a trillion dollars in programs with funds appropriated to a fund that belongs to the Treasury.¹⁴ Thus, upon obtaining prior approval of the Secretary of the Treasury—a requirement also established by the Dodd-Frank Act of 2010—the Fed put in place several lending facilities to finance chosen companies, businesses, and demographic cohorts. Given the Fed’s limited discretion in allocation, some scholars sustained the Fed was simply acting as a “conduit” for fiscal-policy implementation through the financial system.¹⁵ But this, in any case, is far from a rigid separation between monetary and fiscal authority.

As such, the adoption of CBDCs along the lines that we have described herein (representing a devolution of monetary powers to the state) can be framed simply as the normalization of a situation that heretofore is

¹¹ Federal Reserve Act § 14(2)(b), 12 U.S.C. § 355 (2018). For a summary of the evolution of the statutory limitations to monetary financing in the United States, *see* Marcelo Prates, *Money in the Twenty-First Century: From Rusty Coins to Digital Currencies*, 15 *Ohio State Business Law Journal* 164, 197–199 (2021).

¹² J. B. Bolzani, *Independent Central Banks and Independent Agencies: Is the Fed Super Independent?* 2022, 22 *Bus. L. Journal* 195, 228.

¹³ Cares Act, Section 4003(b).

¹⁴ *Id.*

¹⁵ *See* J. B. Bolzani, *Has the Cares Act Expanded the Fed’s Legal Mandate?* *The FinReg Blog*, October 26, 2020, at https://sites.law.duke.edu/thefinregblog/2020/10/26/has-the-cares-act-expanded-the-feds-legal-mandate/#_ftnref5.

being treated as exceptional. Theoretically, in normal times the Fed holds operational autonomy vis-à-vis the Treasury and the executive power. Base money is created for the purpose of facilitating monetary policy to keep inflation at bay and to permit the Fed to ease economic fluctuation within the business cycle. In practice, the expansion of the Fed mandate to backstop and ever-increasing number of non-bank agents creating money-claims within the shadow banking system has rendered the Fed's independence less relevant, and debt monetization has blurred the frontier between the Fed and the Treasury.

The coming about of retail CBDCs would accordingly be the coronation of this process, one where commercial banks progressively (or perhaps rapidly) are forced to renounce their ability to produce money in response to profitable opportunities and the accommodation of the economy's needs for liquidity is shifted to the government.

6 THE CHOICE AT HAND

Foes of private money may aspire for direct retail accounts with the Fed, or a "postal bank" associated with the Fed, and lending done directly by the Federal government and some of its agencies. In this scenario, the entire financial sector is nationalized, in one way or another. Leveraging and deleveraging of the private sector become increasingly a political matter and the incentives for efficient capital allocation are severely hurt. The system of market-driven allocation of capital is undone and with that the efficiency of wealth creation in society is reduced.¹⁶ All of that can be marshaled to justify caution in CBDCs.

A steadfast opposition to CBDCs is however a different story. It is a dangerous path, because it can accommodate a number of errors, especially self-deception in assuming that the current system, despite all its advantages, presents the endpoint of monetary history. Besides that, opposing CBDCs as a matter of principle can amount, perhaps, even to a form of neo-luddism, this time represented by oblivion to CBDCs' technological advantages and possibilities. More concretely, one should

¹⁶ Of course, not all proposals for the creation of CBDCs are that extreme. Some of the proposals for the creation of digital "token dollars", for instance, will only marginally (although no one can know for sure by how much) reduce private banking intermediation by inducing a greater portion of the liquid holdings to be kept in cash—now, in its digital form.

recognize that current commercial bank systems are expensive and that CBDCs can offer means to streamline payments, making them cheaper and faster, particularly in international payments.

An additional point is that, with or without CBDCs, the role of commercial banks is changing. Traditional commercial banks are now in competition not only among themselves, but also with non-banking institutions that thanks to new technologies found niches in financial markets and became fintechs. In fact, when we consider the vibrancy and quick development of electronic money issuers, the financial system looks not like the retreat of financial intermediation (or “desintermediation”, as discussed above) but rather like its expansion. Given the quick expansion of cryptocurrency markets, it becomes possible to envision a new payment system where CBDCs become the basis for a revamped systematic for financial intermediation.¹⁷

Among the different types of digital money currently being created, stablecoins seem to hold the most potential for wider adoption. Stablecoins are, in the words of the Financial Stability Board, “crypto-assets that aim to maintain a stable value”.¹⁸ They were designed as such to address the problem of extreme volatility which plagues most cryptocurrencies and harms their ability to serve as money. Stablecoins can be pegged to commodities, gold, or to other cryptocurrencies. More daringly, stablecoins can simply be backed by an algorithm that tries to keep the peg with a national currency through a complex system of arbitrage and governance tokens (this was famously the case of Terra USD, which collapsed in May of 2022). Stablecoins can also be tied to a currency basket (as intended, for example, by the Libra project advanced and then abandoned by Facebook and other companies).

Our interest here, however, lies on the stablecoins whose value is moderated with a depository receipt model, such that the stablecoin becomes a claim on a single currency. Under this model, stablecoins contain private liabilities that can be redeemable in base money, just like

¹⁷ See M. K. Brunnermeier, H. James, and J.-P. Landau, *The Digitalization of Money*, Working Paper, available online at <https://scholar.princeton.edu/markus/publications/digitalization-money>.

¹⁸ Fin. Stability Bd., *Addressing the Regulatory, Supervisory and Oversight Challenges Raised by “Global Stablecoin” Arrangements* 4, 2020, <https://www.fsb.org/wp-content/uploads/P140420-1.pdf>

bank deposits.¹⁹ That is as much as a traditional form of financial intermediation done through fintechs as it is possible to conceive, except that they have been offered by entities that are considered so far as non-financial institutions.

Importantly, stablecoins are a form of credit money, that is, currency that is redeemable in something else. Here, the contrast with Bitcoin is striking, because stablecoins are an “I owe you something” form of money, whereas Bitcoin is an “I owe you nothing” form of money. Because stablecoins are a form of credit money, they can be leveraged by the issuance of more debt than what they will hold in liquid reserves. As such, they can become a source of risk of financial instability, as the recent run on Terra USD has shown.²⁰

Here is not the place to discuss whether prudent management of individual issuers of money substitutes would suffice to keep the financial system stable. What should be clear is that in the presence of governmental regulation, if it is for stablecoins to be incorporated in the financial system, most likely, the issuers of stablecoins will eventually be put under the umbrella of liquidity facilities provided by the central bank, becoming “Payment Interface Processors” (PIPs) in the terminology adopted by the Bank of England, or “Currency Connectors” (CCs) as some have suggested.²¹ Stablecoins would therefore create money in response to profitable business opportunities, in much the same way that is typically done by commercial banks and trustees of mutual funds.

If we endorse the entry of stablecoins into the financial system, wouldn’t we simply trade six of one for half a dozen of the other?

¹⁹ For a good description of stablecoins, see Larry White’s “Should we fear stablecoins?” (White, 2021).

²⁰ See “Digital Currency and the Next Financial Crisis,” posted by P. H. Kupiec on the Law & Liberty website on August 30, 2021, available online at <https://lawliberty.org/digital-currency-and-the-next-financial-crisis>. On the collapse of TerraUSD, see Stablecoins: The Collapse of TerraUSD and the Road Ahead for the “Less-Risky” Form of Cryptocurrency, from May 19, 2022, available online at https://www.mayerbrown.com/en/perspectives-events/publications/2022/05/stablecoins-the-collapse-of-terrausd-and-the-road-ahead-for-the-less-risky-form-of-cryptocurrency?utm_source=Mondaq&utm_medium=syndication&utm_campaign=LinkedIn-integration.

²¹ See D. G. W. Birch “When The CBDC Revolution Comes, It Won’t Be on the Blockchain,” posted on August 3, 2022, at Forbes.com and available at <https://www.forbes.com/sites/davidbirch/2022/08/03/when-the-cbdc-revolution-comes-it-wont-be-on-the-blockchain/?sh=7649877483af>.

Wouldn't we simply replicate the same sort of fragility held by commercial banks, but now with new players and uncharted technological waters? This is a legitimate concern. As stablecoins grow and competition intensifies, stablecoin issuers will probably move to adopt more aggressive practices in their money-creating strategies. With that, runs from private to sovereign money become at some point simply expectable. To allow for more stringent regulation, one possibility would be to require these stablecoin issuers to obtain a bank charter.²²

But to even consider extending bank charters to stablecoin issuers, we have to first understand what the issuers of stablecoins bring to the table. A good way to do that is to start by considering the role of new technologies in bringing institutional change in the payments systems. Think about the introduction of banknotes at a time when most transactions were cleared by coins or the compensation of primitive forms of debt. Coins are risky to carry around, uncertain in their value due to clipping, falsification, and debasement. Despite that, they were used for clearance because primitive forms of debt like bills of exchange from private merchants were not easily accepted outside of narrow circles of business associates. That was the situation up until the coming of the technology of security printing. With that, the institutional environment rapidly adapted to permit the creation of money substitutes in the form of banknotes. Clearance with coins progressively declined, and basically came to an end in the early 1970s with the demise of the Bretton Woods system.

Today, the clearance of commercial and financial transactions is done through by the clearing mechanisms put in place or closely monitored and regulated by central banks and other financial authorities. In the United States, dollar wholesale payments are cleared and settled through systems such as the Fedwire, Real-Time Payments systems (or RTP), and the Clearing House Interbank Payment System (or CHIPS, which is used for cross-border payments). Consumer and commercial payments occur through the Automated Clearing House System, or ACH.

The clearing of payments has over time been encumbered by an increasing number of regulations that attach political goals to that of settling monetary obligations. Chiefly among them are Anti-Money Laundering/Combating the Financing of Terrorism (AML/

²² For a detailed articulation of this proposal, see M. Ricks, *The Money Problem: Rethinking Financial Regulation*, 2016.

CFT) and the economic sanctions by the Financial Crimes Enforcement Network (FinCEN). Taken together, these measures have led to a sharp decrease of correspondent banking networks and thwarted efforts to streamline cross-border payment systems. European privacy laws have been blamed for complicating the transmission of data cross-border. These policies are put in place within the systems for clearance of transactions in sovereign money and regulated money substitutes.

But just like the printing press and the evolution of communication technologies eventually led to the demise of settlement in coins, the coming about of distributed ledger may also lead to changes in the architectures for settlement of transactions. Here, stablecoins, such as USDC powered by the Ethereum blockchain, represent a new form of money substitute that may force the regulators and existing financial intermediaries to rethink their political priorities.²³ The process is not fundamentally different from ride-sharing apps such as Uber and Lyft forcing entrenched interests in the taxi business and urban transportation authorities at the local level to rethink their procedures and goals.

It is at this point that CBDCs may play a role by offering the money base to settle payments between stablecoin. To be clear, the CBDCs, here, would be wholesale, not retail, since they would not be available to the public at large. With a wholesale CBDC, the Fed would just provide an Application Programming Interface (API) for all the issuers of stablecoins and their correspondent digital wallets to be cleared in this digital form of sovereign money. Naturally, their implementation would require overcoming technological hurdles. Nevertheless, the use of wholesale CBDCs would bypass the need for correspondent banking. This would be particularly efficient in cross-border payments, where settlement currently requires a web of correspondent banking networks.

Wholesale CBDCs could also be employed at the domestic level. The roadmap we envisage here would be one where the Fed would eventually allow the issuers of stablecoins to access to its ordinary clearing mechanisms. A first step in that direction was recently taken by the Office of the Comptroller of the Currency with the enactment of several Interpretive Letters allowing national banks to use Dollar-based stablecoins as a settlement infrastructure in the US payment system. The Interpretive Letter

²³ See “Visa Becomes First Major Payments Network to Settle Transactions in USD Coin (USDC),” available online at <https://usa.visa.com/about-visa/newsroom/press-releases.releaseId.17821.html>.

issued in October of 2020 authorized national banks to hold stablecoin reserves as a type of service to their clients.²⁴ That would allow the stablecoin issuers to provide assurance to the public that they hold sufficient assets to back their stablecoins. Another Interpretive Letter, issued in January of 2021, authorized national banks to serve as independent nodes to validate transactions performed on stablecoin DLT ledgers.²⁵

After the change of administration, the OCC enacted a new Interpretive Letter confirming that national banks can engage with Dollar-based stablecoins but will be subject to heightened scrutiny and will need a supervisor's letter of non-objection before they can start offering the services.²⁶ The topic is still surrounded by uncertainties, but a fruitful path has been established. The provision of services by national banks to issuers of stablecoins will create a communication channel between fintechs' private currency creation and the Fed. Expectedly, when facing liquidity or solvency problems, these national banks may end up discounting (i.e. selling) the stablecoin issuers' reserve assets to the Fed. It is, as we see it, a likely sequencing.

7 POLITICS IN THE ORIGIN

It is difficult to imagine that the design of new digital monies, public or private, could achieve simultaneously both goals of becoming instruments for more efficient payments (like stablecoins premised by wholesale CBDCs, as outlined above) and instruments for financial repression (as most proposals for retail CBDCs suggest). CBDCs could probably assist in the implementation of either of these agendas, but hardly in the implementation of both at the same time. The choice is therefore essentially political.

Which way will politics point to? National indebtedness and the specter of climate change, alongside other pressures for public expenditure have been forcing US monetary authorities to accommodate the increased demand for borrowed funds by national governments—including, of course, the US government. As the process continues and fiscal deficits grow, we can expect that the Fed may be tempted to increase the

²⁴ Interpretative letter # 1172, October 2020.

²⁵ Interpretative letter # 1174, January 2021.

²⁶ Interpretative letter # 1179, November 2021.

crowding out of private productive investment by increasing financial repression not only in favor of the political allocation of credit to favored sectors, but above all to attend the direct fiscal needs of the Treasury.

The alternative path is nevertheless worth contemplating: CBDCs could be used to (in part, at least) disintermediate commercial banks, and to re-intermediate credit with stablecoins. For that to work, stablecoins would be privately issued but settled with wholesale CBDCs that serve as base money. The issuer of the stablecoins would extend credit in stablecoins and these credits would not be fully backed, allowing for their leverage, in the same way that commercial banks have always operated with fractional reserves.

8 CONCLUSION

In the old days, at the time of the gold standard, there were gold reserves in the form of bars in bank vaults, gold and silver coins issued by governments, bank notes issued by banks redeemable in coins (or bars, by other banks) and account credits to be honored with the notes issued by the banks themselves. What we contemplate here is a similar architecture with digital technology where wholesale CBDCs or tokens play a role partly similar to that of gold and silver bars and coins.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

