

# SHOULD THE STATE OR THE MARKET PROVIDE DIGITAL CURRENCY?

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## Some Basics of Currency Provision

Private commercial banks have been providing trusted money to the public for hundreds of years, in the form of banknotes (where allowed) and transferable deposit balances, as an integral part of their business model.<sup>1</sup> Economically, money balances are a *private good*: they are rival in consumption (you and I can't both simultaneously spend a given banknote or deposit balance) and excludable in supply (you and your bank can stop me from spending the funds in your wallet or account) (White 1999: 89).<sup>2</sup> Accordingly, the market does not inherently fail to provide money efficiently.

The profit motive incentivizes private issuers of payment products to include features that their customers value, including easy access, convenient transferability, and security. Banks have historically offered money that is denominated in a common nonproprietary unit

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<sup>1</sup> Here I follow the ex-cathedra format (but amend the substance) of the executive summary of the recent report on “Central Bank Digital Currencies: Foundational Principles and Core Features” (BIS 2020).

<sup>2</sup> It is therefore a mystery what Benoît Cœuré (2020), Head of the BIS Innovation Hub, means when he says that central bank digital currencies might “provide a new form of global public good.”

of account and that serves as a commonly accepted medium of exchange for the sale of goods and services. Where governments have allowed it, a peer-to-peer circulating currency for public use has been an important banking product (Dowd 1992). Basic money, used as a medium of redemption and financial settlement, once consisted of silver or gold coins, but today is fiat money.

The fact that the historical development of payment systems has been driven by private initiative, not state action, is often overlooked. The financial historian Harold James was quite mistaken when he wrote that money “has almost always been an expression of sovereignty . . . , and private currencies have been very rare” (James 2018).<sup>3</sup> To say, with the BIS (2020: 1) report, that “central banks have been providing trusted money to the public for hundreds of years,” while omitting mention of privately issued money, and omitting mention of untrustworthy central bank monies, is a misleadingly one-sided summary of the relevant monetary and banking history.

The long history of debasements by ancient and medieval government mints, and the regrettable history of fiat money inflations by modern central banks, show us that governments have often been untrustworthy issuers. Sovereigns have frequently abused rather than rewarded trust in their currencies, culminating in the 20th-century defaults by all central banks on their obligations to redeem their liabilities in gold or silver. A key service that first attracted medieval merchants to private bankers was their more trustworthy payment alternative to the variously debased government-issued coins—namely, a ledger-based system where transferable account balances were denominated in units of unchanging silver content. Historians later called these stable private accounting units “ghost monies,” because they were not embodied in any of the debased contemporary coins from the government mints. Account balances recorded as digits on the banker’s ledger were the first intangible or digital money.

During the 18th and 19th centuries, in the most advanced economies, redeemable bank-issued paper currency (banknotes) became more popular than coins. The majority of paper currency in circulation in most countries consisted of privately issued banknotes. More than 60 economies have allowed competitive private note-issue

<sup>3</sup>For extended criticism, see White (2018b).

(McBride and Schuler 2012). Private currencies have thus been far from a “very rare” experience. Transferable deposits at reputable commercial banks have long dominated high-value payments. Soon after the arrival of the electric telegraph—“the Victorian internet” à la Standage (1998)—banks and other payment firms began sending coded telegraphic payment messages, making long-distance money transfers instantaneously.<sup>4</sup> With the arrival of the internet and smartphones, banks and other payment firms have introduced new ways of holding and transferring money. As the BIS report (2020:1) notes, “Commercially provided, fast and convenient digital payments have grown enormously in volume and diversity.” Examples include Paypal, Venmo, Zelle, Alipay, WeChat Pay, PayTM, M-Pesa, Transferwise, and stablecoins, not to mention bitcoin and other blockchain systems that transfer their own native crypto assets.

Central banks have lately begun to display a fear of missing out. Christine Lagarde (2020), president of the European Central Bank, has taken to Twitter to solicit the eurozone public’s input on whether the ECB should issue a “digital euro.” Many central banks have announced plans to study or conduct trials of retail digital payment systems, so-called central bank digital currencies (CBDCs). I say so-called because most proposed projects follow an account-balance transfer model, not a peer-to-peer *currency* model. The difference is simple: a proper currency can be used without having an account.

Is there any good reason to think that central bank digital currencies will improve consumer welfare over private alternatives?

## The Myth of the Entrepreneurial State

Proposals for central bank expansion from wholesale into retail payments often appear to subscribe to what Dierdre McCloskey and Alberto Mingardi (2020) call “the myth of the entrepreneurial state.” McCloskey and Mingardi conclude from economic history that dynamic economic growth—during and since the Industrial Revolution—is disproportionately founded on bottom-up innovation and competition. Top-down direction and state-owned enterprises,

<sup>4</sup>Western Union began offering retail telegraph money orders in 1871 (see Western Union 1873). Banks were already “wiring money” via encrypted telegrams in the 1860s (see Anonymous 1869: 248).

because they need not make profits to continue, more often do harm than good. Even cherry-picked examples of state entrepreneurship can fall apart on inspection. It is a myth that Al Gore invented the internet. It is likewise a myth that DARPA (the Defense Advanced Research Projects Agency) invented the internet: it funded data lines and packet-switching research, but it did not intend or anticipate that innovative users and private entrepreneurs would develop email, let alone e-commerce. It is a myth that the Pony Express is an example of technological innovation by the U.S. Post Office (it was a private firm, not under contract to the Post Office). The reason for the disproportionate success of private enterprise at finding gains from trade is the incentive provided by profit and loss. McCloskey and Mingardi (2020: 74) write: “Political decision-making is less directly aimed at human welfare than is market decision-making” because “a market profit comes only when other humans find themselves better off when they purchase a product.” Survival of a subsidized state-owned enterprise does not require a market profit.

It would not be necessary to make these elementary points if those who call for central bankers to provide retail payment services would address the elementary question posed by McCloskey and Mingardi (2020: 74): “Why would someone with no skin in the game do better than people who have plenty of such skin?” Why would you expect good retail service from people who have no experience at providing it, and who have little to gain (or lose) by doing a good (or poor) job? Ignoring this question leads to the error they call “vindicating bureaucracies over market forces.”

In a recent paper, Markus K. Brunnermeier and Dirk Niepelt (2019: 27) ask, “When does a swap between private and public money leave the equilibrium allocation and price system unchanged?” They conclude: “Our results imply that CBDC coupled with central bank pass-through funding need not imply a credit crunch nor undermine financial stability” (p. 27). By “pass-through funding,” they mean that the central bank automatically lends to commercial banks all the funds it gains by the migration of commercial bank deposits into CBDC. Requiring that a CBDC incorporate such a mechanism can be motivated by recognizing that financial intermediation would be less efficient in the hands of a state monopoly than in a competitive private market. Accordingly, the authors write: “By funding the banks rather than purchasing bank assets, the central bank avoids interfering

directly with the credit allocation mechanism—only banks screen and monitor investment projects” (p. 29). But leaving the volume of commercial bank intermediation unchanged is only one side of the balance sheet. The authors regrettably do not explicitly consider the inefficiency of a state-owned monopoly at providing retail payments.<sup>5</sup>

## Wishful Thinking on State-Owned Enterprises

Proposals for a central bank bureaucracy to provide cutting-edge digital retail payments bring to mind the *U.S. Post Office’s* E-COM, a money-losing venture into printing out and physically delivering emails during 1982 to 1985 (Leonard 2016), and still earlier proposals in the 19th century to have the U.S. Post Office take over and run the telegraphs. Many of the earlier concerns raised about nationalizing the telegraphs remain relevant to CBDC. In a speech to the National Board of Trade, George H. Thurston (1869), president of the Pacific and Atlantic Telegraph Company, warned that having government in charge of the telegraphs would raise the cost of service, because public-sector employees receive higher salaries (today we would add: and benefits). He also worried that it might endanger the confidentiality of messages, and might even subject messages to partisan censorship, concerns I return to below.

The standard case for CBDC rests on the claims that it will (1) make payments clear faster than present-day deposit transfers, and (2) provide equally convenient service at lower cost. Criticisms of these claims, which I have made elsewhere (White 2018a, 2018d, 2020a, 2020b), can be summarized as follows:

1. The first priority to speed up the clearing and settlement of deposit transfers in the United States is for the Federal Reserve to expand the operating hours of the settlement services it provides to commercial banks, a move favored by the National Automated Clearing House Association (Selgin 2019).
2. A central bank retail-account system, open to individuals and firms, will have to equal or exceed the costs of commercial

<sup>5</sup>They do note (p. 29) that a “key assumption” for allocational equivalence between public and private provision “is that public and private liquidity creation generates the same social costs.” It is reasonable to expect that a bureaucratic central bank would have higher costs of providing retail payment services than competing private banks.

banks to provide the level of service that account holders currently receive from banks, unless a central bank pays less for labor (it doesn't) or somehow attains higher factor productivity (there is no reason to expect that it will). The Fed today deals with commercial banks, the U.S. Treasury, and other central banks. It knows how to process payments at the wholesale level. It does not do retail payments. To match the level of service provided by commercial banks, the Fed would need to invest in branch offices, ATMs, websites, and phone apps. It would have to match the literally hundreds of thousands of tellers and service representatives employed by banks to process account applications, answer customer questions, and more. We should not expect the Federal Reserve System, a government bureau without profit-seeking residual claimants, to execute these tasks more efficiently than the private sector.

The more likely outcome would be a system that falls short on customer service or loses money at taxpayers' expense—or both. This is the outcome we have seen at public monopolies like state-owned liquor stores and the U.S. Postal Service, and at “public option” state-owned retail enterprises like Petro-Canada.<sup>6</sup> Retail payments will not become more efficient by moving them out of competitive profit-seeking private-sector institutions and into a bureaucratic public-sector agency. Note that the central bank of Ecuador launched a retail payment system in 2015, but the project failed to attract users due to poor design, poor marketing, and lack of public trust in the system. It was terminated after three years (White 2018c).

3. CBDC threatens to reduce the efficiency of financial intermediation. Moving retail deposit accounts to the Fed would diminish the deposits collected by commercial banks, shrinking the volume of small-business loans they can make. The Fed rather than competing commercial banks would decide which businesses get to borrow.

<sup>6</sup>Neil Reynolds (2006) calls Petro-Canada a “sorry 1970s experiment in state-owned oil companies” that upon reprivatization left Canadian taxpayers with more than \$80 billion in debt. He estimates that the state-owned enterprise had “twice as many” employees as it needed.

Federal Reserve Chairman Jerome Powell recognized the disintermediation of commercial banks as a problem in his June 17, 2020, testimony before the U.S. Senate Committee on Banking, Housing, and Urban Affairs (as quoted by American Bankers Association 2020). Asked about the Fed offering digital deposit accounts to the public, he replied:

I think that would be a very dramatic change in the landscape of banking and I would worry about what would happen to the rest of our private system of banking because an awful lot of people would opt to keep their money at the Fed and then who would do the lending? It could hurt our intermediation process.

In principle, shrinkage of commercial bank loan funding could be avoided if the Fed agreed to auction all of its retail funds back to the banks with no strings attached. A commitment to returning the funds to commercial banks (“pass-through funding”) would mitigate the political misallocation problem *if* the pass-through comes with no strings attached—but this is politically unlikely. Socially proactive commitments (lending mandates) could be and likely would be required of commercial banks that receive funding from the Fed. Congress, after all, imposed “affordable housing” quotas on Fannie Mae and Freddie Mac, requiring that 30 percent and later more than 50 percent of their mortgage loans go to below-median-income borrowers (Roberts 2010: 25). Legislation introduced into Congress in August 2020 (“The Federal Reserve Racial and Economic Equity Act”) would enlarge the Fed’s mandate to include a duty “to minimize and eliminate racial disparities in employment, wages, wealth, and access to affordable credit” (Long 2020). Pass-through funding would likely become another channel for the Fed to alter the allocation of credit in politically favored directions.

Today the Fed borrows trillions from commercial banks (by paying interest on reserves) so that it can engage in credit allocation by holding an immense portfolio of Treasuries and mortgage-backed securities. It is wishful thinking to imagine that the Fed would agree to (or be allowed to) intermediate its new liabilities into loans to commercial banks without strings attached. Congress would presumably impose conditions on how banks are to relend the funds, whether for the sake of housing or community development or

perceived equity, further politicizing the allocation of credit. The track records of the Congress and the Fed suggest that the Fed would not maintain a strict neutrality in the allocation of “pass-through” credit.

## Privacy

The Chinese government’s digital currency project has already undergone testing and is expected to launch soon. It is clear that the Chinese Communist Party’s motivation for the project is not the desire to add consumer benefits by improving over the efficiency of digital payment services provided by private enterprises. As Izabella Kaminska (2020) observes in *The Financial Times*, “when it comes to efficiency, WeChat and Alipay were already providing a seamless and frictionless service to users all across China.”

The Chinese system, known in the English-language press as DC/EP (Digital Currency/Electronic Payment), is chilling to anyone who values privacy. Beyond front-end transactional features, Kaminska notes, there is the question of the back-end record-keeping: “The bigger issue about who controls the related data and what they do with it must not be lost sight of. The existential risks to liberty are real and very concerning.” She quotes the Australian Strategic Policy Institute’s warning that the structure of DC/EP would “create unprecedented opportunities for surveillance” by enabling “unconstrained data collection and the creation of powerful new tools for social control and economic coercion.”

Other countries’ governments have greater regard for liberty and privacy than the Chinese Communist Party, of course. But a test of how much greater is just how completely they block their central banks from building a financial panopticon.

There is less danger of a panopticon where digital money balances are issued by a plurality of profit-seeking competing banks and other private firms. Competing banks do not deny access to certain customers based on suspicions about those customers’ loyalty to the bank.<sup>7</sup> Unless a customer requests it, banks do not share client account information with rival firms. Where there is suspicion of a

<sup>7</sup>Granted, U.S. banks are nowadays required to turn away customers lacking proper papers and customers considered at risk for illicit activity under rules promulgated by the Financial Crimes Enforcement Network.



crime, banks may be compelled to share information with the police. A household in the West who finds any digital money service unwelcoming, or insufficiently jealous of its privacy, can turn to rival services, or as a last resort, to analog currency. In contrast, Kaminska (2020) notes:

In a CBDC world—especially a Chinese CBDC world—there are no such privacy or exclusion guarantees. A user can be frozen out of the system entirely, left to starve because they can't access payments for food, at the whim of a warrantless government directive.

CBDCs, because they are cash, are the literal last resort already. And since they do pose an existential threat to the funding mechanisms that allow competitive “secret-keeping” banks to exist at all, we need to think long and hard about the powers we bestow upon the [central banking] institutions battling to issue them.

Proposals for CBDC raise the same privacy and exclusion issues raised by proposals to abolish analog currency, or restrict it to small denominations, in order to combat black-market trade. Sometimes the two proposals are combined: some who advocate CBDC offer it as providing consumers with a close substitute for the analog currency that they wish to see abolished. The combined proposal doubles the problem of protecting privacy. Fortunately, the Bank for International Settlements and seven leading central banks, in their recent report, have announced that “All the contributing central banks commit to continue providing cash as long as there is public demand.” They say that a CBDC is not to be viewed as a replacement for paper currency but, at most, as a “complementary central bank money” (BIS 2020: 1).

## Illicit Trade and Economic Welfare

What is the problem with living in a financial panopticon, given a liberal system of government that otherwise respects its citizens' privacy? Who has anything to fear other than financial criminals? How does it harm the welfare of ordinary citizens?

First, avoiding the abuse of power by financial regulators remains a problem even in a liberal democracy. Consider how, under “Operation Choke Point” in 2013, FDIC officials secretly and successfully pressured U.S. commercial banks to refuse checking

accounts to perfectly legal businesses that the FDIC officials disliked, particularly payday lending businesses (Shaul 2018).

Second, for the purpose of economic welfare analysis, we need to distinguish between two very different sets of “financial criminals”: (1) those who distribute the proceeds of violating personal and property rights (scammers, thieves and fences, kidnappers, extortionists, terrorists); and (2) those who peacefully trade in illicit goods and services (drug dealers, sex workers, employers of the undocumented).

The first group generates negative-sum outcomes. Impeding their activities is beneficial to the rest of society. But the second group generates positive-sum outcomes—mutual gains from trade—from the point of view of its participants. Absent third-party victims, the standard approach in modern welfare economics is to adopt the subjective point of view of the participants in trade. The principle of gains from trade—gains from capitalist acts between consenting adults—applies equally to drug sales, sex work, and hiring the undocumented, despite their illicit status in many jurisdictions. Jeffrey Hummel (2017: 140–41) has emphasized this point:

[T]he only reason that drug cartels generate such huge profits is that they provide products that supply something that consumers demand. [The economic analyst] as an individual may paternalistically disapprove of such preferences, but . . . as an economist should at least include in his welfare analysis the lost consumer surplus from any further hindrance to serving those preferences.

It therefore biases an estimate of overall welfare effects of further limiting financial privacy to assume, as Kenneth Rogoff (2016) and others do, that the welfare of people who use untracked money for victimless but illicit purposes *doesn't count*, that we should only count the welfare associated with licit transactions. One's evaluation of the financial panopticon thus has a lot to do with one's evaluation of illicit payments connected with victimless crimes. Raising barriers to victimless black-market trades reduces the economic welfare of the participants in those markets, viewed in a nonpaternalistic manner. A policy to suppress the use of untracked money in victimless markets is thereby harmful rather than beneficial.

Most economists recognize the inefficiency of tariffs and nontariff barriers that block potential gains from trade. Many fail to extend the logic to domestic victimless crime laws that block potential gains from trade. When a law blocks Pareto-improving trades, whether international or domestic trades among consenting adults, I invite my fellow economists to stop offering clever ways of enforcing the law more effectively, and to focus instead on changing the law to allow freer trade.

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