

## PREDICTING THE FUTURE: A BYTE OF DIGITAL CURRENCY

*Leslie Liu\**

As the Covid-19 pandemic propels us into the uncharted realm of a cashless society,<sup>1</sup> many have begun to look towards a future of digital currencies, whether issued by private parties or central banks. But in order to critically explore and compare the various lands—or nodes—of digital currencies, it is enlightening to first examine how we arrived at the modern hardwiring of paper money. How did we get to where we are now? Was it a series of fortuitous accidents, or was it something much more structured—an immense, architectural project that has spanned the globe across several centuries?

After a brief synopsis of modern money in our capitalist system, I will examine the three most prominent forms of digital currency, presenting their current status as well as their future prospects: cryptocurrencies, of which Bitcoin is the seminal example; corporate currencies such as Facebook’s newly rechristened Diem; and central bank digital currencies (CBDCs). The first two forms of digital currency entail numerous drawbacks, chief among them unaccountable policymaking and aggravated inequality. On the other hand, with CBDCs gaining traction in numerous countries,<sup>2</sup> they appear to be the most promising form of digital currency. If adopted and made widely available to the public, they could help to alleviate inequity by providing easier access to the unbanked. However, CBDCs might also condense, or even eliminate, the fissure separating the central bank and commercial banks, thereby giving rise to macroeconomic as well as legal challenges.

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\* JD Candidate 2022, Harvard Law School

<sup>1</sup> Christian Bruna, *Cashless Payment is Booming, Thanks to Coronavirus. So is Financial Surveillance*, THE CONVERSATION (Sept. 9, 2020, 4:06 PM), <https://theconversation.com/cashless-payment-is-booming-thanks-to-coronavirus-so-is-financial-surveillance-145179>.

<sup>2</sup> Anita Hawser, *When Machines Makes Money*, GLOB. FIN. (Oct. 8, 2020), <https://www.gfmag.com/topics/blogs/central-bank-digital-currencies> (“Central banks in countries like Sweden, China, the UK, Uruguay, West Africa, Japan, Singapore, and France, to name but a few, are piloting or experimenting with CBDCs.”).

## I. Historical Underpinnings of Capitalist Money

In popular discourse, paper money has long been imagined as “neutral,” as if it were a mere lubricant facilitating exchange, an arbitrary medium that prior generations had coincidentally settled upon.<sup>3</sup> In reality, however, making money is the ultimate “constitutional endeavor,”<sup>4</sup> fraught with economic, political, and legal consequences. Although often imagined as a neutral veil, money is in actuality an “institutional fact” with “constitutive rules.”<sup>5</sup>

Money is “contrived by a group to measure, collect, and redistribute resources.”<sup>6</sup> While the archetypal community that springs to mind is the nation-state, it can also be any “collective organized along lines of loyalty, religion, or affinity to which people make recurring contributions of labor or goods.”<sup>7</sup> The identity of the organizing force of the community—“king, church, democratic government, mining company, blockchain, community group, multinational coffee chain”—has enormous political ramifications.<sup>8</sup> Far from an impartial object operating on the periphery, the design of money is centrally “constitutive of the community in which that money circulates.”<sup>9</sup> Money draws the boundaries of community and, along with the market, defines that community.

Unlike the medieval world where the amount of credit was confined to the amount of money in circulation, capitalist money creation operates by lending money into circulation. The monetary institutional structure unique to capitalism refers to the process “whereby private debts are routinely monetized by the linkages between the state’s debt and the

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<sup>3</sup> See, e.g., CHRISTINE DESAN, MAKING MONEY: COIN, CURRENCY, AND THE COMING OF CAPITALISM 27-28 (2014).

<sup>4</sup> *Id.* at 1.

<sup>5</sup> GEOFFREY INGHAM, THE NATURE OF MONEY 70-71 (2004).

<sup>6</sup> *Id.* at 6.

<sup>7</sup> *Id.*

<sup>8</sup> Lana Swartz, *Starbucks, Libra, and the Boring Future of Money*, JUST MONEY (Mar. 4, 2020), <https://justmoney.org/l-swartz-starbucks-libra-and-the-boring-future-of-money/>.

<sup>9</sup> *Id.*

banking system, as mediated by the central bank.”<sup>10</sup> The two central elements are thus debt creation and bank participation. The very “essence of capitalism lies in the elastic creation of money by means of readily transferable debt,”<sup>11</sup> grounding money centrally in the credit-debt relationship. As the public becomes tied to the credit system, it voluntarily enters this relationship by using credit to offset existing debt.

Money as debt ensures the state’s primordial position in the financial architecture: indeed, capitalist credit-money developed in tandem with the rise of the modern state.<sup>12</sup> The emerging English nation-state in the sixteenth century “became the basis for the impersonal trust that eventually enabled the forms of credit-money to become established outside the interpersonal banking and exchange networks which, hitherto, they had been contained.”<sup>13</sup> As promises to pay, the “credibility of the promises forms a hierarchy of moneys that have degrees of acceptability,” with the state’s sovereign issue of liabilities usually occupying the top position.<sup>14</sup> As the “largest makers and receivers of payments, and [by] declaring what was acceptable as payment of taxes,” states established themselves as the ultimate arbiters.<sup>15</sup>

In the capitalist system, the state and commercial banks “share the creation of money”<sup>16</sup> and, as a result, private banks possess an outstanding level of sovereignty. When England decided to entrust money-making powers to a cohort of private investors in a “major creative enterprise,”<sup>17</sup> thereby creating the Bank of England, money had already flouted the previous disjunction between public and private.<sup>18</sup> Most remarkable was the development of commercial bank currencies, which were “promises-to-pay circulated as private parties

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<sup>10</sup> INGHAM, *supra* note 5, at 202.

<sup>11</sup> *Id.* at 108.

<sup>12</sup> *See id.* at 131.

<sup>13</sup> *Id.* at 124.

<sup>14</sup> *Id.* at 198.

<sup>15</sup> *Id.* at 122.

<sup>16</sup> *Id.* at 42.

<sup>17</sup> DESAN, *supra* note 3, at 339.

<sup>18</sup> *See, e.g., id.* at 303-05.

extended credit, denominated in the public unit of account.”<sup>19</sup> “Making money” thus depended directly on the decisions of a consortium of investors, who issued notes at a profit.<sup>20</sup>

The modern architecture of money creation bears striking resemblance to the English model, where commercial banking “dominate[s] . . . money creation.”<sup>21</sup> By the twentieth century, in a conscious imitation of the British model, Congress had “endorsed commercial banks as the vehicle for amplifying sovereign base money” while designating the Federal Reserve as the “lender of last resort.”<sup>22</sup> At the first level, the Treasury would give long-term bonds to the Federal Reserve in exchange for money. Commercial banks then mimic this logic by accepting debts from individuals and issuing checking deposits, thereby expanding the amount of immediately usable credit in the system.

The state-bank partnership characteristic of modern capitalism generated a frail and inequitable system. Although bank currencies carried enormous capacity to nourish growth, they also “imported a startling fragility into the money supply.”<sup>23</sup> As money consists in debt, “disequilibria are to be expected.”<sup>24</sup> The system works beautifully as long as the banks could roll over their short-term liabilities, but it ran into trouble if those holding such promises wanted to cash them in collectively.<sup>25</sup> The faults of the financial system were painfully apparent in the aftermath of the 2008 Financial Crisis,<sup>26</sup> as it exposed the “inherent structural

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<sup>19</sup> *Id.*

<sup>20</sup> *Id.* at 329.

<sup>21</sup> *Id.* at 397-98. (“The English system of money-making thus developed ‘as a three-tiered structure.’ The Bank of England anchored the system, producing Bank notes and holding most of the gold reserve. The London money market operated within the Bank’s ambit. . . . In turn, the country banks depended on the London money market. They kept their reserves there and depended on that market for credit when necessary.”).

<sup>22</sup> Christine Desan & Nadav Orian Peer, *The Constitution and the Fed after COVID-19*, JUST MONEY (Sept. 4, 2020), <https://justmoney.org/the-constitution-and-the-fed-after-the-covid-19-crisis-2/>.

<sup>23</sup> DESAN, *supra* note 3, at 361.

<sup>24</sup> INGHAM, *supra* note 5, at 152.

<sup>25</sup> *Id.*

<sup>26</sup> See, e.g., MICHAEL S. BARR, HOWELL E. JACKSON & MARGARET TAHYAR, FINANCIAL REGULATION: LAW AND POLICY 60-72 (2018).

inequalities in the credit market.”<sup>27</sup> The sovereign power accorded to private banks meant that these institutions were free to decide forms of acceptable credit: such unbridled discretion has led to unspeakable tragedies, chief among them the promotion of the slave economy in antebellum American, where human bodies were used as collateral.

Alternative forms of money created by communities are nothing new, especially in extraordinary periods such as war or economic catastrophe. While warfare prompts governments to seek new ways of finance, recessions incite the public to reconsider the existing infrastructure. In colonial America, provincial assemblies quickly discovered that the power to create debt—and thus money—imbued them with enormous political leverage. After the state-bank partnership was established, two periods of global economic recession in the twentieth century gave rise to “local self-help schemes and local moneys.”<sup>28</sup> Even a national currency is something of a recent anomaly. Before the Civil War, America witnessed a crescendo of monetary experimentation, giving rise to a “monetary [tower of] Babel.”<sup>29</sup> Multiple media of exchange were common, as “privately-issued banknotes were used simultaneously with government-backed fiat and commodity-backed currency.”<sup>30</sup>

At the turn of the twenty-first century, scholars had already portended that existing monetary policy would “give way to the more technically neutral regulation of the integrity of the computer systems that verify the creditworthiness of the counterparties’ assets.”<sup>31</sup> With the development of decentralizing technologies such as blockchain, some have predicted a future where fiat, paper money would be replaced by cryptocurrencies.

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<sup>27</sup> INGHAM, *supra* note 5, at 138.

<sup>28</sup> *Id.* at 183.

<sup>29</sup> BARR, JACKSON & TAHYAR, *supra* note 26, at 804.

<sup>30</sup> Dirk G. Baur, KiHoon Hong & Adrian D. Lee, *Bitcoin: Medium of Exchange or Speculative Assets?*, 54 J. INT’L FIN. MARKETS INST. MONEY 177, 178 (2018) (“More recently, numerous examples of dual currency economies are observed in developing and emerging economies including Liberia, Cuba and many Latin American states. Switzerland is an example of an advanced industrial country where the foreign currency euro is accepted in most parts despite the global acceptance of the Swiss franc.”).

<sup>31</sup> INGHAM, *supra* note 5, at 178.

## II. “Magic Internet Money”: Bitcoin and Other Cryptocurrencies

First reports of Bitcoin labeled it “magic internet money,” which later evolved into “virtual money” and eventually “cryptocurrency.”<sup>32</sup> While the early frenzy may have subsided, cryptocurrency’s popularity continues to increase, with 101 million cryptocurrency users worldwide.<sup>33</sup> As Bitcoin embodies archetypal features of most cryptocurrencies and holds the most potential to metamorphose into a widely circulated currency, this section will focus on Bitcoin. I will first present a brief overview of Bitcoin, examining its technological innovations and current usage. Then, I will provide a summary of its advantages and drawbacks, including an evaluation of how a cryptocurrency as fiat money will affect the current economic and political structure.

### A. What is Bitcoin?

A “cryptocurrency” is a digital currency in which encryption techniques are used to regulate the generation of units of currency and verify the execution of payment transactions on a decentralized network.<sup>34</sup> Cryptocurrency manufacturing is “based on blockchain technology—a distributed ledger enforced by a disparate network of computers.”<sup>35</sup> According to some, blockchain technology has “transformed cryptocurrencies to a more secure way of monetary transactions without the interference of a centralized regulatory system.”<sup>36</sup>

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<sup>32</sup> Jean-Pierre Buntinx, *Is Bitcoin a Digital Currency or a Virtual Currency?*, BITCOIN (Jul. 19, 2015), <https://news.bitcoin.com/is-bitcoin-a-digital-currency-or-a/>.

<sup>33</sup> Jamie Redman, *Cambridge University’s Third Crypto Study Records 101 Million Cryptocurrency Users Worldwide*, BITCOIN (Sept. 25, 2020) <https://news.bitcoin.com/cambridge-universitys-third-crypto-study-records-101-million-cryptocurrency-users-worldwide/>.

<sup>34</sup> Benjamin Geva, *Payment in Virtual Currency*, JUST MONEY (Apr. 22, 2020), <https://justmoney.org/b-geva-payment-in-virtual-currency/>.

<sup>35</sup> J.S. Nelson, *Cryptocommunity Currencies*, 105 CORNELL L. REV. 909, 913 (2020).

<sup>36</sup> Tithi Roy, *Digital Currency: Survival Strategy of Late-Capitalism?*, GROUND XERO (June 17, 2020), <https://www.groundxero.in/2020/06/17/digital-currency-survival-strategy-of-late-capitalism/>.

Various jurisdictions have taken different approaches to classifying Bitcoin. From a taxation perspective, the United States treats Bitcoin as property.<sup>37</sup> The German Bundesbank has opined that Bitcoin is “neither a virtual currency nor digital money” because it lacks the “exciting thing about money,” namely “trustworthiness and stability and consistently and repeatedly upholding and ensuring these aspects.”<sup>38</sup> The broadest inclusion of Bitcoin into the financial infrastructure so far is Switzerland: beginning in 2021, taxes in the Swiss Canton of Zug can be satisfied using Bitcoin.<sup>39</sup> Despite the conversion of cryptocurrencies into tax-receivable value, they do not appear to be replacing public money, with the new channel instead serving as a convenience mechanism. Ultimate payments will need to be converted into fiat currency and local authorities have stated “we always receive [taxes] in Swiss francs, even if payment is made in [B]itcoin.”<sup>40</sup>

Unlike conventional forms of money such as bank notes and deposits, Bitcoins are not liabilities of a sovereign entity.<sup>41</sup> From the outset, no parties are owed Bitcoin, meaning that it does not act as a form of financial debt.<sup>42</sup> Bitcoin’s value thus does not depend on the social credit-debt relation that is fundamental to capitalist money, instead relying on the transformation of “the relations between people into the execution of a programming

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<sup>37</sup> Anne H. Dyrber, Sean Foley & Jiri Svec, *How Investible is Bitcoin?*, 171 *ECON. LETTERS* 140, 140 (2018); see also Nelson, *supra* note 35, at 931-32 (According to the IRS, “[i]n some environments,” cryptocurrency “operates like ‘real’ currency—i.e., the coin and paper money of the United States or of any other country that is designated as legal tender, circulates, and is customarily used and accepted as a medium of exchange in the country of issuance.”); see also Tara Siegel Bernard, *When Trading in Bitcoin, Keep the Tax Man in Mind*, N.Y. TIMES (Jan. 18, 2018), <https://www.nytimes.com/2018/01/18/your-money/bitcoin-irs-taxes.html>.

<sup>38</sup> *Bitcoin is Not a Virtual Currency*, DEUTSCHE BUNDESBANK (Feb. 20, 2018), <https://www.bundesbank.de/en/tasks/topics/-bitcoin-is-not-a-virtual-currency--667600#:~:text=%22Bitcoin%20is%20not%20a%20virtual%20currency%2C%22%20Mr%20Schrade%20said,the%20term%20'crypto%20token>.

<sup>39</sup> Bruno Maçães, *The Cypto State?*, CITY J. (Oct. 4, 2020), <https://www.city-journal.org/technological-developments-new-systems-of-governance>.

<sup>40</sup> Kevin Helms, *Bitcoin Will Be Accepted for Tax Payments in Swiss Canton of Zug Next Year*, BITCOIN (Sept. 4, 2020), <https://news.bitcoin.com/bitcoin-accepted-tax-swiss-canton-zug/>.

<sup>41</sup> BANK OF ENGLAND, *The Economics of Digital Currencies*, <https://www.bankofengland.co.uk/-/media/boe/files/digital-currencies/the-economics-of-digital-currencies>.

<sup>42</sup> Alan Daniel, *The Difference Between a Capitalist and a Crypto Capitalist*, UNBLOCK (June 4, 2018), <https://unblock.net/capitalist-vs-crypto-capitalist/>.

language.”<sup>43</sup> Significantly, most cryptocurrencies, like Bitcoin, are initially programmed to have a limited supply.<sup>44</sup> By excluding the state from money creation, if Bitcoin becomes money with “its own ‘unit of account,’ like the dollar, the euro, . . . or the yuan,”<sup>45</sup> it would fundamentally disrupt the capitalist monetary infrastructure.

## B. Bitcoin’s Promises

Rising from the ashes of the Financial Crisis, Bitcoin prides itself as the inauguration of a new regime, an irrefutable response “both to the excesses of financial markets and to the unlimited power of the state.”<sup>46</sup> A key benefit cited by Bitcoin adherents is decentralization of money creation. Because Bitcoin functions through an electronic payment system “based on cryptographic proof instead of trust, [it allows] any two willing parties to transact directly with each other without the need for a trusted third party.”<sup>47</sup> Advocates contend that transferring control and management of money from “socially and legally organized institutions” to “a mathematically and electronically controlled process” insulates money from the “domain of . . . the law and its associated politics.”<sup>48</sup> Compared with the risks of hyperinflation, sovereign default, and forgery, Bitcoin is allegedly protected from “monetary abuse by authorities”<sup>49</sup> and highly difficult to counterfeit. As the record on the ledger grows,

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<sup>43</sup> Franco Berardi, *Is There Life Beyond Money?*, in MONEYLAB READER: AN INTERVENTION IN DIGITAL ECONOMY 43 (Geert Lovink et al., 2015).

<sup>44</sup> CRYPTO LIST, <https://cryptoli.st/lists/limited-supply> (last visited Oct. 13, 2020).

<sup>45</sup> Lev Menand, *Regulate Virtual Currencies as Currency*, JUST MONEY (Feb. 14, 2020), <https://justmoney.org/lev-menand-regulate-virtual-currencies-as-currency/>.

<sup>46</sup> Mações, *supra* note 39.

<sup>47</sup> Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, 1 (Oct. 31, 2008).

<sup>48</sup> Marcelo de Castro Filho & Susan Silbey, *What Lies Behind the Apparent Trust in Cryptocurrencies?*, JUST MONEY (Apr. 15, 2020), <https://justmoney.org/m-de-castro-cunha-filho-s-silbey-what-lies-behind-the-apparent-trust-in-cryptocurrencies/>.

<sup>49</sup> Jimmy Song, *Bitcoin: A Declaration of Monetary Independence*, Medium (Jul. 3, 2020), <https://medium.com/@jimmysong/bitcoin-a-declaration-of-monetary-independence-63dee34bdf9>. Other scholars are more skeptical, noting that a majoritarian could change the rules governing Bitcoin. See Nelson, *supra* note 35, at 922. (“[T]he ledger system (blockchain) that underlies many cryptocurrencies is based on a majority-rule system, so it can be taken over by any actor who accumulates over 50% of its hashing power.”)

“any attempt to redo the earlier work becomes harder . . . as it would also require redoing all the blocks chained after it.”<sup>50</sup>

Bitcoin could potentially make the financial system more accessible to the unbanked.<sup>51</sup> The current need for mediation through financial institutions drives up “transaction costs, limiting the minimum practical transaction size, and thus cutting off the possibility for small, casual transactions.”<sup>52</sup> Bitcoin could increase the speed of domestic and cross-border transactions, eventually broadening “access to the financial system by poor and rural households.”<sup>53</sup> Low transaction fees would also help to make electronic payments and microlending more appealing, tearing down previously formidable barriers of entry.<sup>54</sup>

### C. Concerns and Contradictions

The promise of Bitcoin as the harbinger of a new era reminds one of the agrarian populist advocates for financial reform in the post-Reconstruction era, and in particular of the movement’s spectacular efforts to construct a more equitable credit system.<sup>55</sup> But are we really poised at the edge of a shattering, seismic revolution? Or is cryptocurrency instead “the fruit of a potentially highly dangerous utopia”?<sup>56</sup>

Despite their purported virtues, contradictions embodied by cryptocurrencies abound, notably in their crucial dependence on existing infrastructure. While cryptocurrencies

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<sup>50</sup> Mações, *supra* note 39.

<sup>51</sup> See MICHAEL S. BARR, HOWELL E. JACKSON & MARGARET TAHYAR, FINANCIAL REGULATION: LAW AND POLICY 840 (3d ed., forthcoming).

<sup>52</sup> Mações, *supra* note 39.

<sup>53</sup> Vivien Lee & David Wessel, *Digital Currencies: Five Big Implications for Central Banks*, BROOKINGS (May 21, 2018), <https://www.brookings.edu/blog/up-front/2018/05/21/digital-currencies-five-big-implications-for-central-banks/>.

<sup>54</sup> BANK OF ENGLAND, *The Economics of Digital Currencies*, <https://www.bankofengland.co.uk/-/media/boe/files/digital-currencies/the-economics-of-digital-currencies>; Nick Spanos, *For World’s ‘Unbanked,’ Bitcoin is the Future*, THE HILL (Mar. 24, 2018, 4:00 PM), <https://thehill.com/opinion/technology/380115-for-worlds-unbanked-bitcoin-is-the-future>.

<sup>55</sup> See, e.g., A POPULIST READER 88-89 (George Brown Tindall eds.).

<sup>56</sup> Olivier Klein, *Les cryptomonnaies, une utopie anarcho-capitaliste*, L’ECHO (Oct. 7, 2018, 10:00), <https://www.lesechos.fr/idees-debats/cercle/les-cryptomonnaies-une-utopie-anarcho-capitaliste-141086>.

promise to “remove trust from money,” verifications by a trusted intermediary “is only a small part of the role played by [financial institutions] in lending credibility to the [dollar] and enabling its wide use and acceptance.”<sup>57</sup> Thus, cryptocurrency users continue to “invok[e] state authority to regulate cryptocurrencies’ internal governance.”<sup>58</sup> Somewhat ironically, “the law, financial regulations and the State are . . . interpreted as essential conditions for the organization of the market and therefore for establishing the circumstances under which cryptocurrencies generate public confidence.”<sup>59</sup> In particular, cryptocurrency users confess a need for “the coercive and symbolic dimension of [the] law” to instill the full functions of money into Bitcoin.<sup>60</sup>

Perhaps in reaction to such concerns, Bitcoin has been busy engaging in state-building and institutionalization. Bitcoin has constructed “established exchanges, the backing for those exchanges, . . . the rules for how to add or withdraw from those exchanges”<sup>61</sup> as well as “its own chamber of commerce.”<sup>62</sup> Bitcoin is becoming increasingly centralized, as evidenced by the dominance of “its own central bank,”<sup>63</sup> through which the institution can vary supply pursuant to a majoritarian process.<sup>64</sup> A decoupling of duties, such as “between custody, clearing and settlement responsibilities . . . may lead to greater resemblance with [the] traditional financial market infrastructure.”<sup>65</sup> Cryptocurrencies’ move towards central control is not limited to Bitcoin<sup>66</sup>: tellingly, it is “increasingly the qualities of the infrastructure and

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<sup>57</sup> *Before the Senate Committee on Banking, Housing and Community Affairs*, 116th Cong. 10 (2019) (statement of Mehrsa Baradaran, Professor of Law, University of California Irvine School of Law) [hereinafter Baradaran Testimony] (“Trust in money requires a strong and reliable government infrastructure—as failed historical experiments with private notes issued by banks and private deposit insurance schemes have made clear.”).

<sup>58</sup> Castro Filho & Silbey, *supra* note 48.

<sup>59</sup> *Id.*

<sup>60</sup> *Id.*

<sup>61</sup> Nelson, *supra* note 35, at 950.

<sup>62</sup> *Id.* at 946.

<sup>63</sup> *Id.* at 944.

<sup>64</sup> Allison Nathan, *Interview with Eric Posner*, GOLDMAN SACHS: TOP MIND 4 (Mar. 11, 2014), <https://www.paymentlawadvisor.com/files/2014/01/Goldman-Sachs-Bit-Coin.pdf>.

<sup>65</sup> UNIVERSITY OF CAMBRIDGE, 3<sup>RD</sup> GLOBAL CRYPTOASSET BENCHMARKING STUDY 13 (2020).

<sup>66</sup> Nelson, *supra* note 35, at 944.

administration of cryptocurrencies that, just as in the world of fiat currencies issued by sovereigns, separate the value of one cryptocurrency from another.”<sup>67</sup>

Bitcoin’s attempts at institutionalization raises its own concerns. Despite the rallying calls for equality, Bitcoin’s governing body is disconcertingly clandestine and opaque. While Bitcoin’s design structure implies that its supply “is a function of what the majority of [its controllers] think at any given time,” the parties controlling Bitcoin “are not economists or monetary experts, but technology and programming experts, and entrepreneurs.”<sup>68</sup> Further, cryptocurrencies’ algorithms reflect “the decisions, choices and even arbitrariness built into the algorithms as they were first created” by a limited cast of obscure characters.<sup>69</sup>

On a more elemental level, scholars attack the very characterization of Bitcoin as “money.”<sup>70</sup> Indeed, any cryptocurrency is antithetical to the definition of money as anticipations of political obligation in the form of a circulating token with material value. Bitcoin lacks the two primary features making up elemental money: fiscal value through government spending and taxing, as well as a cash premium with the quality of circulation enhanced by private transactions. Fiat money is invariably backed by states’ sovereign credit and the promise of future taxation, thereby circulating as debt with fiscal value. Cash has the additional attribute of being easily transferable, endowing sovereign debt with a cash premium. While credit-money is transparently backed by the credit of the state, Bitcoin lurks behind a permanent cloak of secrecy. Apart from the technological hurdles that prevent easy circulation, Bitcoin is particularly fragile as money since it is “not backed by any revenue stream and lack[s] any tangible value as a commodity.”<sup>71</sup>

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<sup>67</sup> *Id.* at 948.

<sup>68</sup> *Id.* at 944, 948.

<sup>69</sup> Castro Filho & Silbey, *supra* note 48.

<sup>70</sup> See, e.g., David Golumbia, *Cryptocurrency is Garbage. So is Blockchain*. MEDIUM (Jun. 27, 2020), <https://medium.com/@davidgolumbia/cryptocurrency-is-garbage-so-is-blockchain-3e80078e77fe>.

<sup>71</sup> Hilary J. Allen, *Cryptocurrencies as Privately-Issued Moneys*, JUST MONEY (Feb. 26, 2020), <https://justmoney.org/cryptocurrencies-as-privately-issued-moneys/>.

If Bitcoin does not partake of the conventional capitalist mold, how does it hold value? While multiple theories abound,<sup>72</sup> the most convincing one analogizes the cryptocurrency to gold, as both are “speculative financial asset[s] that can be used as a medium of exchange.”<sup>73</sup> Given its price fluctuations, most Bitcoin transactions are between speculative investors, and only a minority are used for purchases of goods and services.<sup>74</sup> Indeed, reports have provocatively named Bitcoin the “New Gold,”<sup>75</sup> with figures from the political far right advocating for Bitcoin adoption through “a return to the Gold Standard” in a pursuit of “absolute economic freedom.”<sup>76</sup>

However, both Bitcoin’s analogy to gold and the depiction of the Gold Standard as exogenous are highly problematic. Unlike gold, Bitcoin has “no fundamental value from alternative uses that could anchor its price,”<sup>77</sup> thereby leaving the currency vulnerable to manipulation, both by speculators and “traditional sovereign governments playing in the cryptocurrency space.”<sup>78</sup> Moreover, the transient Gold Standard in the late nineteenth century left deep scars on the economy. Recurring attempts of naturalizing money and erasing its public nature have proven time and again that gold is far from an external medium: as with every other commodity, the price of gold rises with the amount of money in the system. In *Perry v. United States*,<sup>79</sup> the Supreme Court noted pointedly that there is no market for gold except that created by Congress. The Gold Standard both failed to free the market from the

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<sup>72</sup> See, e.g., Joseph Young, *Does Bitcoin Have Intrinsic Value Or Is It Based on Thin Air?*, COIN TELEGRAPH (Mar. 20, 2020), <https://cointelegraph.com/news/does-bitcoin-have-intrinsic-value-or-is-it-based-on-thin-air>.

<sup>73</sup> Dominic Wilson & Jose Ursua, GOLDMAN SACHS: TOP MIND 4 (Mar. 11, 2014), <https://www.paymentlawadvisor.com/files/2014/01/Goldman-Sachs-Bit-Coin.pdf>.

<sup>74</sup> See, e.g., Dyhrber, Foley & Svec, *supra* note 37, at 140; see also Dirk G. Baur, KiHoon Hong & Adrian D. Lee, *Bitcoin: Medium of Exchange or Speculative Assets?*, 54 J. INT’L FIN. MARKETS INST. MONEY 177, 178 (2018). Bitcoin returns are “essentially uncorrelated with all major asset classes in normal and extreme times which offers large diversification benefits.” *Id.*

<sup>75</sup> See, e.g., Panos Mourdoukoutas, *Bitcoin is the New Gold: Study*, FORBES (Jan. 15, 2020, 8:43 PM), <https://www.forbes.com/sites/panosmourdoukoutas/2020/01/15/bitcoin-is-the-new-gold-study/#52b99de946e0>.

<sup>76</sup> David Golumbia, *Bitcoin as Politics: Distributed Right-Wing Extremism*, in MONEYLAB READER: AN INTERVENTION IN DIGITAL ECONOMY 123 (Geert Lovink et al., 2015).

<sup>77</sup> Wilson & Ursua, *supra* note 73.

<sup>78</sup> Nelson, *supra* note 35, at 921-23.

<sup>79</sup> 294 U.S. 330 (1935).

political control of the state and proved to be a yoke bearing down on economic viability with catastrophic consequences, including financial destruction, the abandonment of Reconstruction, and rising inequality. With intense, chronic deflation, the Gold Standard imposed racial and regional hierarchies—a feature that could well haunt Bitcoin’s future.

In fact, Bitcoin tends to exacerbate existing disparities. Far from bridging the wealth gap, Bitcoin inequality is “more aggressive” because rich investors can afford to buy more of a limited supply of coins.<sup>80</sup> While advocates cite Bitcoin’s potential to ameliorate inequality by “opt[ing] out as an owner of assets from [the] fiat system,”<sup>81</sup> such statements are more an acceptance of defeat than a viable solution. Individuals with more existing wealth to draw from would undoubtedly be better poised to take advantage of Bitcoin, as “many in the lower and middle classes can’t afford to own [B]itcoin.”<sup>82</sup> The interconnectedness of the financial system makes it so that initial endowments cannot simply be assumed away: as demonstrated by the failure of black banking, segregated banks could not “help the black community hold and multiply capital without changing the structure of property ownership first.”<sup>83</sup>

Finally, cryptocurrencies raise global security concerns, particularly regarding fraud, money laundering, and terrorism financing. Compared to the myriad of regulations safeguarding consumer transactions through traditional financial intermediaries, it is “stunningly easy to permanently lose money put into cryptocurrencies,”<sup>84</sup> with compromised systems leading to losses totaling millions.<sup>85</sup> Bitcoin allows “unmonitored movement of large

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<sup>80</sup> Anatol Antonovici, *How Does Bitcoin Distribution Compare to Wealth Inequality?*, BITCOINIST (Feb. 19, 2020), <https://bitcoinist.com/how-does-bitcoin-distribution-compare-to-wealth-inequality/#:~:text=Bitcoin%20has%20always%20seen%20a,in%20the%20traditional%20financial%20world>.

<sup>81</sup> Weng Cheong, *Here Are All the Ways Bitcoin Could Help Address Income Inequality in the 2020s*, Business Insider (Dec. 20, 2019, 2:08 PM), <https://www.businessinsider.com/this-is-how-bitcoin-can-end-income-inequality-in-2020>.

<sup>82</sup> *Id.*

<sup>83</sup> MEHRSA BARADARAN, *THE COLOR OF MONEY: BLACK BANKS AND THE RACIAL WEALTH GAP* 95 (2017).

<sup>84</sup> Golumbia, *supra* note 70.

<sup>85</sup> Michael MacDonald, *Investigation of Quadriga cryptocurrency debacle turns up only \$28 million in assets*, FIN. POST (May 13, 2019), <https://business.financialpost.com/technology/blockchain/investigation-of-quadrigacx-cryptocurrency-debacle-turns-up-28-million-in-assets>.

sums of money on decentralized networks,”<sup>86</sup> thereby serving as a “a useful tool for money laundering”<sup>87</sup> and possibly terrorism financing.<sup>88</sup> Bitcoin exacerbates macroeconomic problems with “reduced economic control, lost seigniorage . . . regulatory arbitrage, and financial instability.”<sup>89</sup> By undermining the conventional role of banks, cryptocurrencies threaten the ability of central banks to maintain financial stability,<sup>90</sup> while intensifying “contagion from one market to another.”<sup>91</sup>

### III. From Libra to Diem<sup>92</sup>: *Balance Ascendant Balance*

Despite the paradigm-shifting discourse that often accompanies Bitcoin and its many cousins, cryptocurrencies have presented “few realistic threats to state control over money.”<sup>93</sup> However, central bankers “fret that [Facebook’s] Libra could reach billions and quickly erode sovereignty over monetary policy.”<sup>94</sup> As early as 2017, Mark Zuckerberg has called Facebook the “social infrastructure” for the community, the very term used to define the state.<sup>95</sup> With Facebook’s presence on billions of phones worldwide, it has “the unique power to coerce users into adopting a new form of currency.”<sup>96</sup>

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<sup>86</sup> Clea Simon, *Cryptocurrency and National Security*, HARV. GAZETTE (Nov. 20, 2019), <https://news.harvard.edu/gazette/story/2019/11/crisis-simulation-maps-national-security-risks-of-digital-currency/>.

<sup>87</sup> *Gold-backed Digital Currency Based on Blockchain Technology*, SEEKING ALPHA (Jul. 31, 2020, 2:41 PM), <https://seekingalpha.com/article/4363035-gold-backed-digital-currency-based-on-blockchain-technology>.

<sup>88</sup> EUROPOL, *Internet Organised Crime Threat Assessment (IOCTA) 2018*, EUROPOL (2019), at 53 (2018), <https://www.europol.europa.eu/activities-services/main-reports/internet-organised-crime-threat-assessment-iocta-2018>.

<sup>89</sup> Menand, *supra* note 45.

<sup>90</sup> Baradaran Testimony, *supra* note 57, at 7.

<sup>91</sup> Lee & Wessel, *supra* note 53.

<sup>92</sup> John P. Mello Jr., *Facebook’s Digital Currency Renamed Diem*, TECH NEWS WORLD (Dec. 2, 2020, 9:03 AM), <https://www.technewsworld.com/story/86938.html>.

<sup>93</sup> Tom Wilson, *Explainer: Central Bank Digital Currencies – Moving Towards Reality?*, REUTERS (Jan. 24, 2020, 12:42 AM), <https://www.reuters.com/article/us-cenbank-digital-currencies-explainer/explainer-central-bank-digital-currencies-moving-towards-reality-idUSKBN1ZM2JH>.

<sup>94</sup> *Id.*

<sup>95</sup> Mações, *supra* note 39.

<sup>96</sup> Swartz, *supra* note 8 (noting that coercion, rather than trust, is “fundamental to some versions of money’s origin story.”).

Indeed, both states and banks—the two key players in modern money creation—are tightly intertwined with corporations and the legal norms governing them. Relying on laws governing corporations, states in early America succeeded in regaining monetary power through corporate entities. With the help of the judiciary, states have shed their sovereignty through a corporate shell<sup>97</sup> and succeeded in divesting themselves of responsibility through the corporate form.<sup>98</sup> While corporations proliferated in tandem with the rise of capitalist money, banks—the only class of corporations endowed with sovereign power—gradually constructed our current monetary infrastructure.

In spite of, or perhaps precisely because of, its ambitions, Libra was met with swift, global backlash,<sup>99</sup> and it is easy to understand why. Libra relies on a basket of existing moneys while posing as a universal currency<sup>100</sup>: bluntly put, it leads a parasitic existence atop national currencies while threatening to debunk its hosts. Implicit in the Libra Association’s proposal is that “user confidence will be derivative of the efforts that national governments and central banks expend on maintaining the sovereign currencies that make up the Libra reserve.”<sup>101</sup> By design, Libra “cannibalize[s] the market for sovereign currencies and . . . erode[s] the ability of national authorities to earn their own seignorage.”<sup>102</sup>

Apart from its apparent desire of “have your cake and eat it too,” Libra carries many concerns. First, apprehensions of Facebook’s monopoly and the rise of a “surveillance

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<sup>97</sup> See, e.g., *Bank of United States v. Planters’ Bank of Georgia*, 22 U.S. 9 Wheat. 904 (1824).

<sup>98</sup> See, e.g., *Briscoe v. Bank of Kentucky* 36 U.S. 257 (1837).

<sup>99</sup> See, e.g., *G7 Set to Oppose Facebook Libra Over Lack of Regulations*, PYMNTS (Oct. 13, 2020), <https://www.pymnts.com/cryptocurrency/2020/g7-set-to-oppose-facebook-libra-over-lack-of-regulations/>.

<sup>100</sup> Menand, *supra* note 45.

<sup>101</sup> Allen, *supra* note 71.

<sup>102</sup> *Id.*

capitalism” abound.<sup>103</sup> Libra will likely be “hyper-controlled by Facebook,”<sup>104</sup> as Facebook’s initial white paper on Libra explained that its “Libra Reserve” will act “as a ‘buyer of last resort.’”<sup>105</sup> With the Libra Association exerting absolute control over Libra’s infrastructure and monetary policy, Libra would likely exacerbate the unfairness of the current system.<sup>106</sup> Corporate coins would “privatize the returns from money issuance, transferring wealth from the government to corporations and their shareholders.”<sup>107</sup> Unlike heavily regulated banks, putting monetary policy into the hands of a single corporation would give it full discretion to “decide how and to what extent to augment the money supply and who would benefit from monetary expansion.”<sup>108</sup>

Such unaccountable and possibly inexperienced governance would entail global harm in a macroeconomic crisis. Similar to Bitcoin’s inherent instability owing to the lack of a baseline public demand for privately issued money, Libra “is less likely than sovereign-issued money to continue to function as a means of exchange and reliable store of value during and after a panic.”<sup>109</sup> A Libra panic could “result in a fire sale of assets, crippling the financial markets.”<sup>110</sup> Given Libra’s proposed scale, the impact of such a panic would likely be global, and there would be intense pressure on national authorities to bail out Libra.<sup>111</sup>

Faced with intense regulatory pushback from numerous countries, Facebook has retreated considerably from its early vision, taking pains to clarify that Libra will operate as

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<sup>103</sup> John Naughton, ‘*The Goal is to Automate Us*’: *Welcome to the Age of Surveillance Capitalism*, THE GUARDIAN (Jan. 20, 2019, 2:00), <https://www.theguardian.com/technology/2019/jan/20/shoshana-zuboff-age-of-surveillance-capitalism-google-facebook>; see also Catherine Malabou, *Cryptocurrencies: Anarchist Turn or Strengthening of Surveillance Capitalism? From Bitcoin to Libra*, 66 AUSTRALIAN HUMANS REV. 144, 152. (“Libra is indeed a currency that lies outside of states’ powers, but it is accompanied by a surveillance apparatus that allows Facebook to track the behaviour of its users.”).

<sup>104</sup> Malabou, *supra* note 103, at 152.

<sup>105</sup> Nelson, *supra* note 35, at 953.

<sup>106</sup> Swartz, *supra* note 8 (“This is not a ‘peer-to-peer’ technology; rather, it bestows a peerage.”).

<sup>107</sup> Menand, *supra* note 45.

<sup>108</sup> *Id.*

<sup>109</sup> Allen, *supra* note 71.

<sup>110</sup> *Id.*

<sup>111</sup> *Id.*

“a complement to, not a replacement for, domestic currencies.”<sup>112</sup> In addition to a singular Libra coin, the project now also plans to support single-currency stablecoins tied to fiat currencies such as the dollar and the euro,<sup>113</sup> likely initiating the launch with “a single coin backed one-for-one by the dollar.”<sup>114</sup> It would appear that Facebook no longer aspires to become a “state above states,”<sup>115</sup> instead relegating itself to the lesser, unobtrusive form of a corporation. While Libra continues to seek “financial inclusion,”<sup>116</sup> the project will no longer be a harbinger for radical change in the financial infrastructure, instead emphasizing a “global payment system”<sup>117</sup> that “would not result in new net money creation.”<sup>118</sup> By relying upon the faith and credit of existing sovereign entities, Libra may ultimately transpire to be not a novel form of money, but merely a balancing mechanism that ironically will remain faithful only to its namesake.

#### **IV. Central Bank Digital Currency: Centralized Czars of a Decentralized Future?**

As opposed to the deconstructive project envisioned by cryptocurrency proponents, it is perhaps more practical to reform the current system to promote financial inclusion and fairness.<sup>119</sup> As if on cue, central banks around the world are looking to create their own digital currencies,<sup>120</sup> and they might have the best chance of succeeding.

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<sup>112</sup> *The Libra Reserve and Protections*, <https://libra.org/en-US/economics-and-the-reserve/#overview> (last visited Feb 1, 2021).

<sup>113</sup> *Libra*, [https://libra.org/en-US/vision/#how\\_it\\_works](https://libra.org/en-US/vision/#how_it_works) (last visited Feb 1, 2021).

<sup>114</sup> Hannah Murphy, *Facebook’s Libra Currency to Launch Next Year in Limited Format*, FIN. TIMES (Nov. 26, 2020), <https://www.ft.com/content/cfe4ca11-139a-4d4e-8a65-b3be3a0166be>.

<sup>115</sup> Simon Brunfaut, *Quand Facebook devient un État*, L’ECHO (June 24, 2019, 7:46), <https://www.lecho.be/entreprises/technologie/quand-facebook-devient-un-etat/10139091.html> (Facebook “apparaît de plus en plus comme un État au-dessus des États”).

<sup>116</sup> *Libra*, <https://libra.org/en-US/vision/>.

<sup>117</sup> *Id.*

<sup>118</sup> *Economics and the Libra Reserve*, <https://libra.org/en-US/white-paper/#the-libra-blockchain>.

<sup>119</sup> Baradaran Testimony, *supra* note 57, at 6.

<sup>120</sup> *See, e.g.,* Wilson, *supra* note 93.

While still a rather novel, and consequently ill-defined, term, a central bank digital currency (CBDC) generally refers to “a central bank liability, denominated in an existing unit of account, which serves both as a medium of exchange and a store of value.”<sup>121</sup> As they are currently described, they will use “private, permissioned blockchains — if they use blockchain technology at all.”<sup>122</sup> Although similar in certain respects, CBDCs and cryptocurrencies are not inexorably linked. “It is far more reasonable to see CBDC projects as iterative evolutions of digital tools for managing traditional money, . . . tools that would have come to pass . . . regardless of whether Bitcoin had ever happened.”<sup>123</sup> Some jurisdictions have explicitly clarified that their CBDC is “not a cryptocurrency.”<sup>124</sup>

CBDCs are highly dependent upon existing financial infrastructure. As central banks already provide digital money in the form of reserves or settlement account balances held by commercial banks and certain other financial institutions, CBDCs “would be an innovation for general purpose users but not for wholesale entities.”<sup>125</sup> Certain jurisdictions envision the creation and distribution of CBDCs as being entirely up to the central bank, rather than being distributed among private intermediaries.<sup>126</sup>

While central banks already wield enormous power in the current framework, positioning the central bank at the epicenter could drastically alter the core structure of modern money. The majority of money today consists of money made by private, commercial banks, not the central bank. Even after the *Gold Clause Cases*<sup>127</sup> placed Congress at the helm of money issuance, commercial banks remained irreplaceable money creators through direct interactions with the public. Without the flexibility of private intermediaries

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<sup>121</sup> BANK FOR INT’L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES, 3 (2018).

<sup>122</sup> Golumbia, *supra* note 70.

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

<sup>125</sup> BANK FOR INT’L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES, 3 (2018).

<sup>126</sup> Golumbia, *supra* note 70.

<sup>127</sup> *Norman v. Baltimore & Ohio R. Co.*; *United States v. Bankers Trust Co.*; *Nortz v. United States*; *Perry v. United States*, 294 U.S. 240 (1935).

who are privy to local knowledge, a breathing money supply runs the risk of losing its elasticity.<sup>128</sup>

Further, as the only institution charged with maintaining financial stability in the American economy,<sup>129</sup> the Federal Reserve relies on close collaboration with a host of private actors to stabilize markets in times of financial stress. The government's delegation to commercial banks restrains its own direct agency, a restriction that could be considerably loosened if the Federal Reserve were to directly issue digital currency. Pushing the Fed, perhaps along with the Treasury, to the forefront of the monetary framework could also raise constitutional concerns of separations of powers and make the central bank more prone to short-term political influence.<sup>130</sup> Internationally, CBDCs have the potential to disrupt financial hegemonies, as borders of economic influence will no longer "be contained by political borders."<sup>131</sup>

Faced with potential transformations to the status quo, many countries are initiating international collaborations to grapple with basic design questions. The Bank for International Settlement has reported that central banks "collectively representing a fifth of the world's population are likely to issue a general purpose [CBDC] in the next three years."<sup>132</sup> Perhaps surprisingly, Ecuador's central bank was the first to launch a CBDC in 2014, although the program was hastily aborted four years later. Recently, experts from the ECB and "19 national central banks of the eurozone" noted the need for a "Europe-wide,

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<sup>128</sup> See BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES, 2 (2018).

<sup>129</sup> See James Politi & Colby Smith, *Janet Yellen Prepares for Second Act at Pinnacle of US Economic Policymaking*, FIN. TIMES (Nov. 24, 2020, 6:50 AM), <https://www.ft.com/content/adc85a72-7fae-41bc-ae64-f624f1649cf7?sha>.

<sup>130</sup> See BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES, 2 (2018).

<sup>131</sup> Karen Yeung, *China Not Among Major Central Banks in Talks on Global Digital Currency Principals*, SOUTH CHINA MORNING POST (Oct. 9, 2020, 7:00 PM), <https://www.scmp.com/economy/china-economy/article/3104905/china-not-among-major-central-banks-talks-global-digital>.

<sup>132</sup> Brian Cheung, *Central Banks See 'Impending Arrival' of Their Own Digital Currencies*, YAHOO FIN. (Jan. 23, 2020), <https://finance.yahoo.com/news/central-banks-see-impending-arrival-of-their-own-digital-currencies-161505273.html>.

risk-free digital system.”<sup>133</sup> For the ECB, a digital euro must “avoid being . . . considered a cryptocurrency,” and should “be used primarily as a form of payment to avoid fluctuations in price.”<sup>134</sup> The private sector would be intimately involved by developing ways “for the currency to be used in practice by consumers.”<sup>135</sup> The central banks of Britain, the euro zone, Japan, Sweden, and Switzerland have also commented that “they will share experiences in a group assisted by the [Bank for International Settlements] as they examine the case for issuing CBDCs.”<sup>136</sup> While the Federal Reserve was notably absent from this initiative,<sup>137</sup> recent events may have stimulated American legislatures to be more open to the possibility.<sup>138</sup>

One of the main advantages to a central bank of issuing its own digital currency is enabling the government to have more direct control and understanding of the financial system.<sup>139</sup> The 2008 Financial Crisis came as unpredictably as it did partly because the Fed had less control over the capital layer of the market than commercial banks, which forced it into the uncomfortable position of acting as “dealer of last resort” in the crisis.<sup>140</sup> With faster, traceable payments, a digital currency would “permit better intervention in response to the business cycle.”<sup>141</sup> By providing digital records, a non-anonymous CBDC could improve the application of rules aimed at anti-money laundering and counter-terrorism financing.<sup>142</sup> At the individual level, a CBDC, like cash, is “not only a mechanism to exit a bank in trouble

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<sup>133</sup> *Europe’s Central Bank Moves Toward Introducing Digital Euro*, DUNYA NEWS (Oct. 4, 2020, 9:14 AM), <https://dunyaenews.tv/en/Technology/566938-Europes-central-bank-moves-toward-introducing-digital-euro>.

<sup>134</sup> Emilia David, *ECB to Consider Further Digital Euro Study in 2021*, COIN TELEGRAPH (Oct. 4, 2020), <https://cointelegraph.com/news/ecb-to-consider-further-digital-euro-study-in-2021>.

<sup>135</sup> DUNYA NEWS, *supra* note 133.

<sup>136</sup> Wilson, *supra* note 93.

<sup>137</sup> *Id.*

<sup>138</sup> *See e.g., Fed, Central Banks Frame Criteria for Digital Currency*, PYMNTS (Oct. 9, 2020), <https://www.pymnts.com/news/digital-banking/2020/fed-central-banks-frame-criteria-for-digital-currency/>.

<sup>139</sup> Max Raskin & David Yermack, *Digital Currencies, Decentralized Ledgers, and the Future of Central Banking* 12 (Nat’l Bureau of Econ. Rsch., Working Paper No. 22238, 2016).

<sup>140</sup> *See* Marshall Auerback, *Central Bankers as ‘Dealers of Last Resort,’* ASIA TIMES (Sept. 13, 2018), <https://asiatimes.com/2018/09/central-bankers-as-dealers-of-last-resort/>

<sup>141</sup> Raskin & Yermack, *supra* note 139, at 12.

<sup>142</sup> BANK FOR INT’L SETTLEMENTS, *CENTRAL BANK DIGITAL CURRENCIES*, 1 (2018).

but also a method of exiting the entire banking system, which is particularly important during a system-wide financial crisis.”<sup>143</sup> A CBDC thus serves as another line of defense to “help maintain confidence in the banking system.”<sup>144</sup>

CBDCs could also promote financial inclusion.<sup>145</sup> Practically speaking, it is “much easier to expand the current Federal Reserve payments system to include the unbanked” rather than create a wholly new currency atop a new technological platform and “make sure the unbanked are using it.”<sup>146</sup> Indeed, CBDCs could engender enhanced financial accessibility “by providing citizens with access to a safe form of money in the fast-changing digital world.”<sup>147</sup> If individuals could maintain an account directly at the central bank, universal access to transaction accounts might become more feasible.<sup>148</sup>

To provide a fuller flavor of international experiments, in what follows, I will first examine Ecuador’s short-lived experiment with CBDCs. Then, I will explore the cases of Sweden and China, both of whom launched pilot programs of CBDCs earlier this year. Finally, I will turn to debates within the United States to examine several proposals that would propel the Federal Reserve into everyday transactions, and then plunge briefly into practical challenges a digital dollar would face.

#### A. Ecuador’s Misplaced Enthusiasm

After officially banning Bitcoin in 2014, Ecuador introduced its own digital currency project, the *Sistema de Dinero Electrónico* (electronic money system), that same year.

Modeled on private providers of mobile money, users would “keep account balances on the

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<sup>143</sup> Hanna Armelius, Carl Andreas Claussen & Scott Hendry, *Is Central Bank Currency Fundamental to the Monetary System?*, 2 SVERIGES RIKSBANK ECON. REV. 19, 30 (2020).

<sup>144</sup> *Id.*

<sup>145</sup> Ben Dyson & Graham Hodgson, *Why Central Banks Should Start Issuing Electronic Money*, POSITIVE MONEY (Jan. 2016), <http://www.positivemoney.org>.

<sup>146</sup> Baradaran Testimony, *supra* note 57, at 6.

<sup>147</sup> Emilia David, *ECB to Consider Further Digital Euro Study in 2021*, COIN TELEGRAPH (Oct. 4, 2020), <https://cointelegraph.com/news/ecb-to-consider-further-digital-euro-study-in-2021>.

<sup>148</sup> See Morgan Ricks, *Money as Infrastructure*, 3 COLUM. BUS. L. REV. 757, 776 (2018).

central bank's own balance sheet and transfer them using a mobile app."<sup>149</sup> While Ecuador's experiment with CBDC was accompanied with great fanfare, its use was disappointingly limited. The CDBC peaked at only \$11.3 million in account balances, compared to the country's narrow money stock of \$24.5 billion.<sup>150</sup> Financial institutions were not obliged to use the CDBC, and its use corresponded to "less than 0.003% of the monetary liabilities of the Ecuadorian financial system."<sup>151</sup> It was eventually discontinued in 2018.

Widespread distrust of the central bank seems to be at the root of consumers' reluctance to embrace CBDCs. Due to previous defaults on sovereign dollar-denominated bonds, it was reasonable for an informed Ecuadorian citizen to believe that "that dollars on deposit at a private commercial bank in Ecuador were *less* risky than dollars on deposit at the central bank."<sup>152</sup> Private banks were also policed by the judiciary, while the central bank was privileged with sovereign immunity.<sup>153</sup> The enabling legislation specified no limit on the volume of electronic dollars the central bank could create and, importantly, no prudential requirement that the central bank hold adequate assets to redeem them.<sup>154</sup> Ecuador has since tried to revive some form of the project, although the new currency, BiMo, differs significantly from its initial ambition.<sup>155</sup> Not only will BiMo be operated by a private commercial bank,<sup>156</sup> it will also require transaction fees when converting from the digital currency to the dollar.<sup>157</sup>

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<sup>149</sup> Lawrence H. White, *The World's First Central Bank Digital Money Has Come – And Gone: Ecuador, 2014-2018*, CATO INST. (Apr. 2, 2018, 9:31 AM), <https://www.cato.org/blog/worlds-first-central-bank-electronic-money-has-come-gone-ecuador-2014-2018>.

<sup>150</sup> *Id.*

<sup>151</sup> *Id.*

<sup>152</sup> *Id.*

<sup>153</sup> *Id.*

<sup>154</sup> *Id.*

<sup>155</sup> *Del Dinero electrónico a BiMo...y ahora...deuna!*, OBSERVATORIO DE LA DOLARIZACIÓN (May 1, 2020), <https://dolarizacion.ec/2020/05/01/del-dinero-electronico-a-bimo-y-ahora-deuna/>.

<sup>156</sup> *Id.*; see also *El regreso del dinero electrónico? Lastimosamente, no parece*, OBSERVATORIO DE LA DOLARIZACIÓN (AUG. 16, 2019), <https://dolarizacion.ec/2019/08/16/el-regreso-del-dinero-electronico-lastimosamente-no-parece/>.

<sup>157</sup> *El regreso del dinero electrónico? Lastimosamente, no parece*, OBSERVATORIO DE LA DOLARIZACIÓN (AUG. 16, 2019), <https://dolarizacion.ec/2019/08/16/el-regreso-del-dinero-electronico-lastimosamente-no-parece/>.

Ecuador's experience demonstrates that the extent of a CBCD's development ultimately still depend on the state and social infrastructures. In the era of pure credit-money, money's credibility "resides in governments' and central banks' transparent maintenance of sound money practice."<sup>158</sup> Good governance, legal constraints, and trust remain crucial to a well-functioning money, no matter it be created by a private entity or a central bank.

### B. The Experimenters: Sweden and China

Both Sweden and China explicitly prohibit the use of cryptocurrency as money, citing various concerns including fraud and capital controls.<sup>159</sup> In March 2018, the Swedish Central Bank announced that "[B]itcoins are not money," noting their unstable value and lack of guarantee by a national bank.<sup>160</sup> China has banned cryptocurrency as legal tender, although it continues to recognize such currencies as virtual commodities.<sup>161</sup> Competition from corporate coins also looms large in the background: among Sweden's rationales for developing a e-krona was the concern that "successful penetration . . . by a multinational digital currency" such as Libra would cause it to "lose the ability to adjust monetary policy to domestic conditions."<sup>162</sup>

Strikingly, both nations' enthusiasm towards CBDCs stemmed from popular demand. Sweden's initiative was borne out of broad social discussion that reflected how a significant decline in cash transactions was developing "pernicious social effects."<sup>163</sup> Only 2% of the

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<sup>158</sup> INGHAM, *supra* note 5, at 83.

<sup>159</sup> See, e.g., Emily Parker, *Can China Contain Bitcoin?*, MIT TECH. REV. (Dec. 11, 2017), <https://www.technologyreview.com/2017/12/11/146816/can-china-contain-bitcoin/>.

<sup>160</sup> Press Release, Sveriges Riksbank, *Bitcoin är inte pengar [Bitcoin Is Not Money]* (Mar. 14, 2018), <https://www.riksbank.se/sv/press-och-publicerat/nyheter-och-pessmeddelanden/nyheter/2018/bitcoin-ar-inte-pengar/>.

<sup>161</sup> Helen Partz, *China Didn't Ban Bitcoin Entirely, Says Beijing Arbitration Commission*, COIN TELEGRAPH (Jul. 20, 2020), <https://cointelegraph.com/news/china-didnt-ban-bitcoin-entirely-says-beijing-arbitration-commission>.

<sup>162</sup> Hanna Armelius, Gabriela Guibourg, Andrew T. Levin & Gabriel Söderberg, *The Rationale for Issuing E-krona in the Digital Era*, 2 SVERIGES RIKSBANK ECON. REV. 6, 13 (2020).

<sup>163</sup> Izabella Kaminska, *CBDCs Give Libertarians the Heebie-jeebies*, FIN. TIMES (Sept. 28, 2020), <https://www.ft.com/content/40f00764-fae1-47e4-9e78-10dc450c052a>.

money used for payments in Sweden is currently in cash,<sup>164</sup> and a mere 1% of Swedish GDP existed in banknotes in 2018.<sup>165</sup> As more bank branches become cashless, the Swedish public has found it increasingly difficult to access central bank money.<sup>166</sup> Similarly, China's swift uptake of digital currencies started due to the widely popularized e-payment systems of WeChat and Alipay.<sup>167</sup> Currently, around 92% of the population in China's largest cities use the two apps as their primary means of payment.<sup>168</sup> Given the "already extensive acquaintance of the Chinese people with online and mobile payments," some scholars suggest that the Chinese CBDC could be widely and easily promoted.<sup>169</sup>

The two national experiments appear to be running on parallel tracks, with both allocating a notable degree of power to private firms.<sup>170</sup> The Swedish Riksbank program is now in its technical pilot stage,<sup>171</sup> with Accenture as its "technology partner."<sup>172</sup> China's CBDC, officially named "Digital Currency, Electronic Payment" (DCEP), has been on a trial run in four cities, with four major banks as well as Tencent and Alibaba involved in the process.<sup>173</sup> On March 24, 2020, the People's Bank of China completed the development of

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<sup>164</sup> Armelius, Guibourg, Levin & Gabriel Söderberg, *supra* note 162, at 9.

<sup>165</sup> Colm Fulton, *Sweden Starts Testing World's First Central Bank Digital Currency*, REUTERS (Feb. 20, 2020, 12:28 PM), <https://www.reuters.com/article/us-cenbank-digital-sweden/sweden-starts-testing-worlds-first-central-bank-digital-currency-idUSKBN20E26G>.

<sup>166</sup> Walter Engert & Ben S.C. Fung, *Central Bank Digital Currency: Motivations and Implications*, BANK OF CANADA 2 (2017).

<sup>167</sup> Kaminska, *supra* note 163.

<sup>168</sup> *Market Share of Mobile Payments in China from 2011 to 2018*, STATISTA, <https://www.statista.com/statistics/1050151/china-market-share-of-mobile-payments/> (last visited Feb. 1, 2021).

<sup>169</sup> Juan J. Duque, *State Involvement in Cryptocurrencies. A Potential World Money?*, 46 JAPANESE POL. ECON. 65, 78 (2020).

<sup>170</sup> This allocation builds on the idea of how "central banks amplify the efforts of private sector innovators, by giving them a solid base to build on." See Agustín Carstens, *The Future of Money and the Payment System: What Role for Central Banks?*, BANK FOR INT'L SETTLEMENTS 2 (Dec. 5, 2019).

<sup>171</sup> Kaminska, *supra* note 163.

<sup>172</sup> *Accenture Wins Central Bank Deal for Digital Swedish Krona Trial*, LEDGER INSIGHTS (Jan. 9, 2020), <https://www.ledgerinsights.com/accenture-wins-central-bank-deal-for-digital-swedish-krona-trial/>.

<sup>173</sup> *Gold-Backed Digital Currency Based on Blockchain Technology*, SEEKING ALPHA (Jul. 31, 2020, 2:41 PM), <https://seekingalpha.com/article/4363035-gold-backed-digital-currency-based-on-blockchain-technology>. At the same time, "[e]cosystem stickiness . . . online spending credit offered and poor usability of existing digital wallets by banks" might "keep consumers loyal to Alipay and WeChat Pay wallets even when they are transacting with digital yuan." Soon Chen Kang, *Digital Yuan Poses Threat to Alipay-WeChat Online Payment Duopoly*, S&P GLOBAL (Oct. 12, 2020), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/digital-yuan-poses-threat-to-alipay-wechat-online-payments-duopoly-60459079>. Some users have reported that the digital yuan is functionally identical to WeChat and Alipay. See Wang Tianyu, *How*

the currency's basic functions and began drafting laws for its implementation.<sup>174</sup> In Suzhou, government employees are already receiving a portion of their salaries in the digital yuan through a smartphone app<sup>175</sup>: a classic rendition of the government spending new currency into circulation. The pilot program has since expanded into fast-food and beverage companies, including McDonald's and Starbucks.<sup>176</sup> So far, more than "113,300 personal digital wallets and about 8,800 corporate digital wallets have been opened as part of the pilot [programs]."<sup>177</sup>

Both jurisdictions seem to be wary of disrupting the current financial structure, and are treading lightly on large-scale, design modifications. Riksbank proposal for a "synthetic e-krona" highly resembles the current system where "the role of the central bank is to be an actor in the middle of the payment system with the private market acting as a secondary layer serving customers."<sup>178</sup> Similarly, China's CBDC is "structured to be distributed through a two-tiered system, where the [People's Bank of China] will issue the e-currency to commercial banks, which then will provide the currency to individuals."<sup>179</sup> Each digital yuan is created, signed and issued by China's central bank, "exactly like cash."<sup>180</sup> Commercial banks distribute the currency to "customers, who can download the currency from their bank

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*China's Digital Currency Different From Widely Used E-payments* [sic], CGTN (Oct. 17, 2020, 22:59), <https://news.cgtn.com/news/2020-10-17/Explainer-How-China-s-digital-currency-different-from-e-payments--UFRMHEDYsw/index.html>.

<sup>174</sup> Marie Huillet, *China's Digital Yuan Reportedly to Test in Four Cities*, COIN TELEGRAPH (Apr. 15, 2020), <https://cointelegraph.com/news/chinas-digital-yuan-reportedly-to-test-in-four-cities>.

<sup>175</sup> Jane Whitmoore, *China Will Expand Digital Yuan's Testing*, CRYPTO BROWSER (Aug. 14, 2020), <https://cryptobrowser.io/news/china-will-expand-digital-yuans-testing/>.

<sup>176</sup> Anthony Lehrman, *China's Digital Yuan Undergoes Credit Card Payments Pilot Project*, Crypto Browser (Sept. 24, 2020), <https://cryptobrowser.io/news/chinas-digital-yuan-undergoes-credit-card-payments-pilot-project/>.

<sup>177</sup> Chad Bray & Alison Tudor-Ackroyd, *People's Bank of China's Digital Currency Already Used for Pilot Transactions Worth 1.1Billion Yuan*, YAHOO (Oct. 5, 2020), <https://finance.yahoo.com/news/peoples-bank-chinas-digital-currency-093000335.html>.

<sup>178</sup> Sebastian Sinclair, *World's Oldest Central Bank Reviews Possible Digital Currency with Mixed Results*, COIN DESK (Jun. 24, 2020, 9:00), <https://www.coindesk.com/riksbank-worlds-oldest-central-bank-study-digital-currency-results>.

<sup>179</sup> BARR, JACKSON & TAHYAR, *supra* note 26, at 844.

<sup>180</sup> Kristie Pladson, *China Leads in Race for Digital Currency*, DEUTSCHE WELLE, (May 10, 2020), <https://www.dw.com/en/china-digital-currency-yuan-bitcoin/a-55134692>.

accounts into digital wallets or apps, akin to taking cash out at an ATM.”<sup>181</sup> While the People’s Bank of China has plans to substitute CBDC for cash in circulation, it emphasized the change would not “replac[e] other aspects of China’s monetary supply.”<sup>182</sup>

### C. America’s Waning Skepticism: All Things Fed

Amid the Covid-19 pandemic, there was renewed urgency in the United States to facilitate easier, faster, and safer methods of payment, with many of them involving digital currencies. One proposal was for the creation of “Fedcoin,” a “decentralized, flexible, and well-backed payments system that grants . . . the Fed[] a set of special privileges and responsibilities.”<sup>183</sup> Unlike Bitcoin, the price of Fedcoin would be anchored by implementing a two-way convertibility system between cash and Fedcoin.<sup>184</sup> The Fed’s blockchain would be overseen by “a trusted third party – the central bank – which would have the exclusive right to add or modify entries.”<sup>185</sup> In addition, a central bank’s blockchain would “be kept hidden . . . to preserve the privacy of citizens and the competitive secrets of businesses.”<sup>186</sup> While some are skeptical,<sup>187</sup> the Federal Reserve Board of Governors and several Federal Reserve Banks are “actively working on the digital dollar.”<sup>188</sup> Proposed legislation involves Americans each having “an account at the Fed in which digital dollars could be deposited, as liabilities of the Federal Reserve Banks, which could be used for emergency payments.”<sup>189</sup>

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<sup>181</sup> *Id.*

<sup>182</sup> Whitmoore, *supra* note 175.

<sup>183</sup> JP Koning, *Fedcoin*, MONEYNESSESS BLOG (Oct. 19, 2014), <http://jpkoning.blogspot.com/2014/10/fedcoin.html>; *see also* Raskin & Yermack, *supra* note 139, at 10-11.

<sup>184</sup> Koning, *supra* note 183 (“The outcome of this rule would be that Fedcoin could only be created at the same time that an equivalent reserve or paper note was destroyed and, vice versa, Fedcoin could only be destroyed upon the creation of a new paper note or reserve entry.”).

<sup>185</sup> Raskin & Yermack, *supra* note 139, at 11.

<sup>186</sup> *Id.*

<sup>187</sup> *See, e.g., id.* at 14.

<sup>188</sup> Kevin Helms, *US Federal Reserve Actively Working on Digital Dollar*, BITCOIN (Sept. 26, 2020), <https://news.bitcoin.com/federal-reserve-digital-dollar/>.

<sup>189</sup> *Id.*

A similar proposal, FedAccount, would give the general public “the option to have a bank account at the Federal Reserve,” offering all the functionality of ordinary bank accounts with the exception of overdraft coverage.<sup>190</sup> Similar to Fedcoin’s de-emphasis on technologies underlying Bitcoin, FedAccount’s creators stress that the Federal Reserve should not rely on distributed ledger technology<sup>191</sup>: central banks should not “be eager to facilitate anonymous transfers, which can be used for terrorist financing, money laundering, tax evasion, and other illicit activities.”<sup>192</sup> Indeed, “[w]hen it comes to money and payments, integration and interoperability are demonstrably better than fragmentation and balkanization.”<sup>193</sup> In addition, distributed ledger technology remains “extremely slow and inefficient compared to centralized ledger systems.”<sup>194</sup> Instead, the Federal Reserve should simply expand “access to a desirable, proven product that [it] already offers: bank accounts at the central bank.”<sup>195</sup>

If adopted on a large scale, FedAccounts has the potential to bring about “profound, systemic changes.”<sup>196</sup> Financial stability would be enhanced as FedAccounts would “crowd out unstable, privately issued deposit substitutes, which are one of the driving forces behind financial instability.”<sup>197</sup> Monetary control and monetary policy transmission would improve as current problems with pass-through policy rates would diminish or disappear.<sup>198</sup>

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<sup>190</sup> Morgan Ricks, John Crawford & Lev Menand, *Central Banking for All: A Public Option for Bank Accounts*, GREAT DEMOCRACY INITIATIVE (June 2018), <https://greatdemocracyinitiative.org/document/central-banking-for-all/>.

<sup>191</sup> Morgan Ricks, John Crawford & Lev Menand, *FedAccounts: Digital Dollars*, JUST MONEY (Aug. 10, 2020), <https://justmoney.org/m-ricks-j-crawford-l-menand-fedaccounts-digital-dollars/?print=print>.

<sup>192</sup> *Id.*

<sup>193</sup> *Id.*

<sup>194</sup> *Id.*

<sup>195</sup> *Id.*

<sup>196</sup> *Id.* (emphasis omitted).

<sup>197</sup> *Id.*

<sup>198</sup> *Id.*

FedAccounts would also “generate revenue for the federal government while imposing minimal or potentially zero user fees.”<sup>199</sup>

Despite the compounding possibilities of a digital dollar, whether the Fed has the legal authority to issue a CBDC is a questionable point. While some claim that “the digital dollar would be fully covered by existing regulations guiding issuance and circulation of Federal Reserve monies,”<sup>200</sup> Fed Governor Lael Brainard has noted it is “unclear if [the Fed] has the authority to issue a digital currency and digital wallets for use by the public”<sup>201</sup> without legislative approval. Related debates within the Federal Reserve Banks have revolved around whether a digital dollar would be privileged with legal tender status,<sup>202</sup> and whether it “can[] be refused in the discharge of any dollar-denominated debts.”<sup>203</sup>

Legalizing a digital dollar will likely be a fraught political battle requiring both congressional blessings and judicial approval. As the Treasury currently defines the dollar as “[t]he coin and paper money of the United States . . . that is designated as legal tender”<sup>204</sup> and the constitution has authorized only Congress to “change the laws and institutions related to currency,”<sup>205</sup> any digital addition will likely require congressional authorization. As both a public and private creation, money is also indisputably a legal institution shaped by judicial decisions. The Supreme Court has historically granted the federal government abundant latitude in governing money and could well do so again. As early as the nineteenth century,

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<sup>199</sup> Morgan Ricks, John Crawford & Lev Menand, *Central Banking for All: A Public Option for Bank Accounts*, GREAT DEMOCRACY INITIATIVE (June 2018), <https://greatdemocracyinitiative.org/document/central-banking-for-all/>.

<sup>200</sup> U.S. DIGITAL DOLLAR PROJECT FAQs, <https://www.digitaldollarproject.org/faq#:~:text=An%20effective%20digital%20dollar%20should,obligation%20of%20the%20United%20States>.

<sup>201</sup> Cheung, *supra* note 132.

<sup>202</sup> Jason Brett, *Federal Reserve Reveals Research Plans for Digital Dollar*, FORBES (Aug. 13, 2020, 7:20 PM), <https://www.forbes.com/sites/jasonbrett/2020/08/13/federal-reserve-reveals-research-plans-for-digital-dollar/#7ffbd4e15946>.

<sup>203</sup> Lawrence H. White, *Should the U.S. Government Create a Token-Based Digital Dollar?*, CATO INSTITUTE (June 2, 2020, 4:50 PM), <https://www.cato.org/blog/should-us-government-create-token-based-digital-dollar>.

<sup>204</sup> 31 C.F.R. § 1010.100(m) (2018).

<sup>205</sup> Baradaran Testimony, *supra* note 57, at 2.

in *Julliard v. Greenman*,<sup>206</sup> the Supreme Court rejected money as having externally defined “intrinsic value,” stressing that the national government’s power to issue sovereign debt was a broad power directly found in the Constitution. The *Gold Clause Cases* presented potent illustrations of Congress’s virtually unlimited power in shaping the monetary market: in *Norman v. Baltimore & Ohio Railroad Co.*,<sup>207</sup> the Court acknowledged the federal government’s unique and capacious monetary authority.

At the practical level, implementing a digital currency is a formidable challenge. While there was clear congressional desire to create a bill that would allow American to create her “her own government-run digital currency” during debates over the first coronavirus stimulus deal earlier this year,<sup>208</sup> whether the public will accept such a dollar is an entirely different matter. Sweden and China boast strong public markets teeming with digital payments, but there is no such commensurate familiarity among American consumers.<sup>209</sup> Absent widespread knowledge of a digital dollar based on public consensus, we will likely see sluggish, haphazard, and potentially destabilizing uptake.

## V. Conclusion

When we talk about money, we are talking about the very world we live in, permeated by centuries of experiments and innovations. We are talking about an enormously powerful medium that is both *formative* of the political community and constructive of relations *within* the polity. We are talking about a collective institutional history that is fundamental to our existence as social beings. But we are also talking of systemic inequities, devastating

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<sup>206</sup> 110 U.S. 421 (1884).

<sup>207</sup> 294 U.S. 240 (1935).

<sup>208</sup> Andy Snyder, *The Future, as Told by China*, MANWARD PRESS (May 4, 2020), <https://manwardpress.com/topics/know-how/chinas-digital-currency-is-a-glimpse-into-the-future/>.

<sup>209</sup> Kate Rooney, *Mobile payments have barely caught up in the US, despite the rise of smartphones*, CNBC (Aug. 29, 2019, 12:51 PM), <https://www.cnbc.com/2019/08/29/why-mobile-payments-have-barely-caught-on-in-the-us.html>.

fragilities, and tumultuous, built-in cycles of boom-and-bust that have the capacity to eviscerate millions of lives at the drop of a dime.<sup>210</sup> We are talking about a way of life that is composed, contentious, and capable of enormous, divisive destruction.

The Covid-19 pandemic has once again laid bare the deficiencies of the current architecture.<sup>211</sup> In such extraordinary junctures, the public is liable to be reminded of the constructed nature of money on multiple fronts: socially, legally, and politically. While such realization instigates fierce political battles, it also raises unique opportunities for radical reform.<sup>212</sup> Much like the numerous, innovative experiments that flourished like spring mushrooms in colonial America, perhaps we are once again poised at the advent of a new era, with fantastic opportunities brimming on the horizon.

Even as digital currencies issued by private parties weave beguiling accounts of financial independence, both Bitcoin and Libra portend dystopian futures of exacerbated inequality and unaccountable monetary policies. The lack of transparency, stability, and experience that plague these private organizations put their currencies at a severe disadvantage compared to digital currencies issued by a sovereign entity. Indeed, even as issuers of Bitcoin and Libra preoccupy themselves with state-building, private currencies will likely intensify existing equality, as actors within the ecosystem seek to build up their virtual property through extant wealth.

While it is still premature to assess the impacts of CBDCs on the larger economy, digital currencies issued by sovereign entities hold the most promise both of becoming a wide-spread unit of account and of reducing economic disparities. As CBDCs do not require

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<sup>210</sup> See, e.g., ANDREW JACKSON & BEN DYSON, MODERNISING MONEY: WHY OUR MONETARY SYSTEM IS BROKEN AND HOW IT CAN BE FIXED 139 (2014) (“[T]he financial sector is perfectly capable of destroying itself and the rest of the economy on a periodic basis.” *Id.* at 145).

<sup>211</sup> See, e.g., BARR, JACKSON & TAHYAR, *supra* note 51, at 834.

<sup>212</sup> Bruce G. Carruthers & Sarah Babb, *The Color of Money and the Nature of Value: Greenbacks and Gold in Postbellum America*, 101 AM. J. SOCIOLOGY 1556, 1559 (1996) (“Once the perception that economic reality is socially *constructed* takes hold, the potential for radical *reconstruction* becomes much greater.” *Id.* at 1580).

connection to a bank account, the unbanked will become integrated into the online economy simply through a mobile device, thereby promoting financial inclusion as well as efficient credit allocation. While pitfalls of public banking concentrating in the central bank could represent challenges, early experimenters have alleviated this concern by involving a number of private corporations in the piloting process.<sup>213</sup> Indeed, in the test runs of a digital RMB, policymakers have extended their traditional partnership with commercial banks to include dominant technology companies.<sup>214</sup> At this early stage of CBDC development, it would appear that policymakers are keen to preserve the current financial architecture and are seeking to promote digital currencies through cooperation with private parties.

Whatever the future's paradigm evolves into, successful changes will not take place without corresponding transformations in social institutions and in the legal system.<sup>215</sup> Modern money, after all, evolved from a long and continuing series of constitutional dramas. At the same time, public awareness and participation in the erection of a fresh monetary architecture is also direly necessary. Voluminous narratives of monetary history have taught us money's formidable ability to frame enduring social institutions as well as transient daily interactions. It is thus with hope that we wade into the realms of digital currency, keenly cognizant of the challenges that lie ahead, but also harboring great confidence on the potential of human ingenuity.

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<sup>213</sup> See, e.g., Zhou Xiaochuan, *How China Leads in Evolution of Digital-Era Money, Payments*, CHINA DAILY GLOB. (Dec. 21, 2020), [epaper.chinadaily.com.cn/a/202012/21/WS5fdfe9d1a31099a234352b2c.html](http://epaper.chinadaily.com.cn/a/202012/21/WS5fdfe9d1a31099a234352b2c.html).

<sup>214</sup> *Id.*

<sup>215</sup> See J. Bradford Delong & Lawrence H. Summers, *The "New Economy": Background, Historical Perspective, Questions, and Speculations*, FED. RES. OF KANSAS CITY ECON. REV. 29, 40-43 (2001).