

**SPRING 2020**

## **Virtual Currencies and the State**

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### **Prompt for Discussion**

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On October 10<sup>th</sup>, 2019, the SEC brought suit against Telegram, asserting that its \$1.7 billion offering of Gram “tokens” violated federal securities laws. The same week, five large investors including Visa, Mastercard, Stripe, eBay, and Mercado Pago pulled out of Facebook’s virtual currency Libra, apparently taken aback by the fierce criticism leveled at Libra by politicians and regulators. These events were striking, occurring as they did against a baseline of official inaction, ambivalence, or accommodation of virtual currencies. It is an opportune moment to ask: What are virtual currencies – money, securities, or speculative assets? How do they relate to modern political communities and to the financial architecture that those states support? Why at this moment have governments chosen to crack down on virtual currencies?

The movement towards virtual currencies took off in 2008, when an anonymous person or group introduced Bitcoin. In the decade that followed, Ethereum, Peercoin, and others offered similar products: digital assets created and maintained by a decentralized set of participants that can be traded for goods and services. Many users praised virtual currencies on the

ground that they eliminated the role of law, the government, and/or the financial industry. According to the Bitcoin model, rules intended to operate mechanically control the production of virtual currencies and limit the quantity of virtual currency ultimately created. Exchange occurs according to a technology that Marco Iansite and Karim Lakhani describe as “an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.” (Harvard Business Review, 18 January 2017.) The same description suggests the theory underlying virtual currencies: as a community of independent users opts in and confirms the transfer of digital assets, it makes unnecessary both public payment systems and commercial banks as financial agents.

Within the virtual currency family, differences in technology, industry location, and ideology have emerged. While Libra claims the mantle of virtual currencies, for example, it does not use a blockchain nor, at least in its initial version, a decentralized network of users to confirm transfers. See FT Alphaville. And rather than aiming at avoiding governmental oversight, it offers a vision of financial inclusion.

In this roundtable, we invite participants to comment on the questions recently raised by the difficulties faced by Telegram and Libra. What are virtual currencies and how do they relate to public moneys? What is the theory of value that virtual currencies offer and are those theories supported historically? Are these monetary systems that are working outside the state – or payments systems derivative of state power? How do the differences between Libra and more traditional cryptocurrencies explain the governmental response? Are virtual currencies meant to fix problems with the current monetary or payments systems, and if so, what problems? Or are virtual currencies meant to evade those systems?

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# **D. Golumbia, Why Do We Keep Taking the Cryptocurrency/Blockchain Scam Seriously?**

July 3, 2020

***David Golumbia, Virginia Commonwealth University***

*Author's Note: this is a companion piece to one that explores the facts around cryptocurrency and blockchain fraud called "Cryptocurrency Is Garbage. So Is Blockchain" (copies are available on Medium, SSRN, and Academia.edu). That piece was originally composed for this forum but grew beyond its limits. Some of what is discussed here presumes facts and arguments described in that piece.*

In the longer piece on which this one follows, I do what I can to show that nearly all of the claims for cryptocurrency and blockchain are false, and most are based on outright fraud.

If this is correct, it leaves us with a glaring question: why does the crypto-blockchain story persist, and why does it attract so much attention, despite its being false and/or fraudulent?

Some of the answers are obvious. Clearly, the fact that a lot of people have made a lot of money on Bitcoin and other cryptocurrencies is a big part of it. Of course, in every way, that money was earned via get-rich-schemes and other scams. Even those have an obvious attraction for many of us.

A slightly less obvious answer is ironic. Crypto advocates love to say that blockchain technology is “censorship-resistant,” a claim that has driven development of blockchain and cryptocurrency from the fever dreams of far-right cypherpunks. In their minds, software must be allowed to run, preferably anywhere, regardless of what governments—democratic or otherwise—say about it. Not just software as written code, but the running of code itself, is speech, they say, and so any attempts to regulate what software can do is “censorship.” (This claim, like so much that animates cryptocurrency, is entirely fraudulent, based on a fantastic misrepresentation of case law advocated by “digital rights” organizations up to and including the cypherpunk-founded Electronic Frontier Foundation.)

One of the true technological innovations in blockchain is that it is, indeed, very hard to shut down. No matter how much energy it wastes, as long as there are processors to run it, energy to power the processors, and network connectivity to share transaction data, it is hard to imagine how it could be shut down entirely. (To many critics, that is not a good thing.)

This makes for a truly interesting phenomenon. I've argued at length, following the work of legal scholars, that running software is not and must not be viewed as speech. According to that reasoning, it is false to say that blockchain is *uncensorable*; stopping it would not be censorship. But practically speaking, at least so far, it is apparently *unstoppable*, or at least difficult to stop. And because it is unstoppable, people keep talking about it: and so in practical terms, blockchain itself might not be uncensorable, but talk *about* blockchain does appear to be uncensorable.

This kind of paradox or double truth is found everywhere when we contemplate the guiding question of this essay. Blockchain works, but it doesn't; cryptocurrency isn't money, currency, cash, or securities, but it is continually called that, and many people treat it as if it is, and so on.

This has created a powerful cognitive dissonance that haunts all aspects of blockchain discussion. Blockchain is used for almost no real-world purposes, and almost none (and maybe none) of the purposes claimed for it, while people talk about it incessantly. Yet many technologies are used for those purposes, often ones that pundits claim blockchain will replace, and virtually nobody talks about those. Why is it so much more interesting to talk about blockchains that don't do very much, than it is to talk about the flavors of SQL, iterations of HTML, spreadsheets, relational databases, existing encryption schemes used by banks, and so on? In reality, implementations of these software products and packages dwarf implementations of blockchain to such a degree that, if drawn on a graph, blockchain would not be visible at all. These technologies really have changed the world. They interest almost nobody, at least not in the breathless, "revolutionary" manner that blockchain does, particularly with regard to culture in general.

The stark disconnect between those revolutionary cultural claims and the facts of what the software does has always

seemed to me the real story of cryptocurrency and blockchain. As time goes on, this only comes to seem more and more true.

One of the most interesting notions in discussions of digital technology (and all technology) is the idea that when a technology is really useful, it becomes invisible. The sentiment is sometimes associated with Steve Jobs talking about the technology used by Pixar for animating *Toy Story* around 1995, and sometimes with Dev Mukherjee, who in 2003 was a Vice President for Strategy at IBM and in a speech at a business conference stated that “technology becomes truly useful when it becomes invisible.”

Technologies like SQL, HTML, relational databases, the iPhone as a whole, and so on have become “invisible” in this sense: they serve hundreds of thousands or millions of users, frequently at enormous scale, and yet most of those users could not tell you a thing about how they work, if they know they exist at all.

That doesn't mean the iPhone is invisible: it means that the iPhone itself is made up of thousands of technologies synthesized together, and that outside of development circles, and even inside of them, virtually nobody knows how they do what they do. They work: that's the important thing.

Blockchain is the opposite of invisible. It isn't just visible, it's *ultravisible*. It's visible even when it isn't actually doing anything. In not a few corners of the internet, it's basically the only technology anyone talks about, and they talk about it a lot.

Yet it hardly does anything. Blockchains run, to be sure: but do they do anything at all for consumers, companies (other than those in the blockchain space itself), or other users the way SQL or accelerometers do? It's not even a fair question: it is hard to find *any* credible examples of blockchain working that way.

This also isn't to praise invisibility per se. Those of us who study technologies, culture and cultural systems are often committed to exposing exactly how things work that go almost entirely unnoticed. I would love to see more thick cultural criticism about things like the movement and position sensors in iPhones and the cultural affordances of relational database models. And, as the work of the scholars of money contributing to and organizing this forum suggests, money itself, which remains in far too many ways not just invisible but resistant to rigorous analysis.

Many of us are drawn to proven, clear, or at least plausible stories of achievement and advancement. Some, arguably fewer than those, are drawn to stories that are at best unlikely and more often altogether implausible. Much as a considerable portion of the current Republican base is drawn to stories about climate change, abortion, evolution, and the conduct of prior Democratic administrations that make their lack of contact with reality central pillars of their appeal, far too many are drawn to blockchain and to cryptocurrency precisely because its promises are implausible. They promise to "stick it to the man," even if we have no good idea who "the man" is or why we are "sticking it to him" by proclaiming that the US dollar has lost 95% of its purchasing power in 100 years, or that the Earth is flat. And the blockchain story is similarly resistant to fact-checking—indeed, it seems to benefit, like climate change and Flat Earth stories, from the certainty with which it can be disproven. Try arguing with a cryptocurrency devotee over not whether what cost 5 cents in 1920 costs \$1 today (which is true enough), but about what that *means* (almost nothing, since the price of everything, including labor, has risen at about the same rate, so that if you had 5 cents in 1920, you are also likely to have \$1 today) and you'll encounter just the kind of dramatic cognitive dissonance I'm gesturing at.

Blockchain and cryptocurrency attract those who find

simplistic explanations superior to complex ones, and to people who (consciously or unconsciously) identify with the perpetrator and not the victim of fraud. This is part of why the project is so inextricably bound up with right-wing politics: no matter how much rhetoric it uses of “helping” the “disadvantaged,” the blockchain proponent or software developer nearly always depicts him- or herself in the position of power. Frequently they engage in a version of rhetorical three-card monte, pointing at (often simplistic, but sometimes accurate) problems with world financial systems as “proof” that the world needs cryptocurrencies including Bitcoin, despite having not only no evidence that Bitcoin addresses those problems, but having to engage in significant deception about the ways that Bitcoin usually only offers to make those problems worse, sometimes much worse.

Despite the fact that blockchains will undoubtedly continue to run, until and unless they start to be adopted with anything like the scale and influence that technologies like the iPhone and SQL are, it would behoove informed commentators to refrain from speaking as if they are anything but a very specialized and new form of “vaporware”—technology that exists, but that does not do what is claimed for it. Further, if and when blockchain does start to do any of the things claimed for it, discussions of its role must remain grounded in well-informed analyses of the other technologies and systems within which it is embedded, and must be able to answer the question: why are we paying attention to this, instead of something else?

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# G. Vidan, Decentralization: The Rise of a Hazardous Spec

June 12, 2020

*Gili Vidan, Harvard University*

In 2017, Americans wanted to know “what is Bitcoin?” In a report to the US Congress, the Joint Economic Committee dubbed 2017 as “The Year of Cryptocurrencies,” citing a surge in Google searches for the terms “Bitcoin,” “blockchain,” and “Ethereum.” And internet users weren’t just googling the near-decade old creation. Individuals and companies around the globe were purchasing cryptocurrencies and experimenting with blockchains, resulting in record-high prices for individual coins and an influx of investments in anything blockchain. Governments, too, engaged in crypto enthusiasm for the blockchain as a technology that the state should adopt.

The same Joint Economic Report focused on the potential of cryptocurrencies and other applications of blockchain technologies to respond to a variety of digital threats to the economy, offering the prospect of a future secured by protected private property and contract integrity. The bipartisan Congressional Blockchain Caucus also formed in “The Year of Cryptocurrencies,” as 17 lawmakers coalesced around “using math and cryptography” to produce a “record of authenticity that is verifiable by a user community increasing transparency and reducing fraud.” More recently, members of the caucus urged Treasury Secretary Mnuchin to utilize blockchain technology “to support the necessary functions of government” in disbursing payments authorized by the CARES Act.

Recent attempts by regulators to control virtual currencies and the withdrawal of several key members from the Facebook-

backed Libra Association have led some to forecast a moment of reckoning. The initial embrace of virtual currencies as silver-bullet responses to the challenges of a digital economy might follow in the footsteps of the broader “tech-lash” and disenchantment with the promises of Silicon Valley.

Yet this reckoning is not outright rejection. It is worth reflecting on the ways certain key features and promises of early blockchain discourse successfully captured the imagination of policymakers, technologists, and citizens alike. So much so that such touted features of the technology have now become new standards for the efficacy of the state’s apparatus writ large. Lev Menand outlined the significance of distinguishing between the different kinds of virtual currencies, which often don’t even share similar technological basis, let alone governance structures and regulatory frameworks. In this essay, however, I wish to focus on the family resemblance that connects what Menand defined as “utopian currencies” and the broader discourse around blockchain technologies and the ongoing digitization of the payment system through focusing on the pursuit of decentralization.

The early conversation about virtual currencies centered around their relationship to the state’s backing of money, as the trusted authority that issues currency. But, as political economist Michael Beggs argued, states not only make money, they are also themselves remade through the challenges encountered by trying to manage money itself.[i] In the case of virtual currencies, salient, often promissory, features of non- and even anti-statist innovations emerged as new demands on the state and a measure of its capacity to govern.

The call to decentralize existing market and government institutions is invoked as a multifaceted critique of the failures of large bureaucracies. It captures a geographical metaphor promising greater access, a political critique of concentrated unchecked power, and a technological

specification for the secure management of information networks. In the context of blockchain technologies, decentralization appears as a novel, mathematically-enforced way out of the bind of modern political economies: an uneasy reliance on the delegation of power to state institutions for necessary coordination and enforcement. It is both a political and a technical virtue. Its prominence in critiques of the state's management of money often precedes other calls for reform, by positioning decentralization as both a measure of the technological know-how and the democratic justness of the state.

Critics of the state's control over money have long appealed to the challenges posed by novel technology. For example, in the 1980s, when the rise of desktop-publishing electronics such as color printers and scanners posed the threat of casual counterfeiting of banknotes at home or the office, then-congressman Ron Paul argued that the acceleration of new electronic technologies meant the state should get out of the money-making business entirely. [ii] Paul's view was motivated by more than a longstanding libertarian position against state involvement in the payment system. The very potential for new technologies to upend the security features of state-issued money provided a definitive argument against state involvement in the entire enterprise—the state would just never be up to the technological task. The state, in this view, was always lagging behind the onward march of technology and inherently inept in responding to it. At a time when consumer electronic marketing claimed to empower individuals with a set of new tools, money as a technological object became a new prism through which the state's investment in public infrastructure could be negotiated and assessed.

The conversation around virtual currencies and technology such as the blockchain has not only echoed these concerns over the state's ability to regulate the digital economy but has also set a new yardstick against which good governance is measured.

Christine Desan has described money as a constitutional project.[iii] This view argues that the design of money and its management are constitutive of the structure of the political economy—they make the market. Money is constitutional because it is not merely an instrument facilitating individual exchanges but fundamentally arbitrating who wins and who loses from the payment system and who gets to participate in it, forming the boundaries of what Lana Swartz has called “transactional communities.”[iv] Following this work on the material and political infrastructure of money, I argue that such analysis should be read alongside work on science and technology’s own constitutional position in today’s political order. Such work pays special attention to claims of expertise, competency, and legitimacy in the distribution of political power. Tracking claims that the state’s money problems are either the result of an inability to keep up with new technology or solvable through the adoption of new technology reveals how attributes of technical utility and desirable political outcomes are constructed in tandem.

This has been the case with the rise of “decentralization” as a necessary feature of the digital economy. Many virtual currencies do not rely on cryptographic authentication or decentralized architectures. Yet the union of supposed cryptographic certainty and decentralized record keeping has animated visions for both the adoption of blockchain technologies to fix the state’s woes as well as the claims that blockchain could supplant it altogether.[v] As Lana Swartz noted, these visions often reflected a nostalgic yearning for the early days of the internet and its promise to empower individuals and diminish the salience of state power. Even the recent reckoning with the darker sides of the digital age breathed new life into the hope for a truly decentralized web as a solution for its various failures.

Historians of US politics have recently considered the

politics of decentralization as characterizing a retreat from the governmental provision of services and divestment from social welfare projects. While some describe this tendency as a longstanding feature of American governance through public and private associations, others argue that decentralization captures a more specific policy agenda of late 20<sup>th</sup>-century US, which was malleable enough to emerge as a non-partisan mode of governance, advancing deregulation and privatization.[vi]

But there is also a parallel history of decentralization as a technical specification of communication systems. In 1964, Paul Baran, an electrical engineer who had recently joined the RAND Corporation, published a memorandum describing how different architectures of the US telecommunication network could potentially withstand aerial bombing. [vii] The diagrams provided three possible schematic networks: centralized, decentralized, and distributed (see p. 16 of this PDF). In this tripartite scheme, decentralization emerged as an architectural principle that provided network resilience in the face of an external attack and individual autonomy in the face of internal attempts to subvert the network. It is this focus on the “by design” promises of decentralized architectures that spurred blockchain advocates to associate its adoption with increased transparency and verifiability of record keeping. Features of trust and verification required for maintaining the payment system, enthusiasts claim, could have far wider applications.[viii]

The Baran diagrams have since circulated broadly as self-explanatory manifestos for the decentralized digital age. Their Cold War military planning origins are often forgotten in favor of a view of the interconnected nodes as a more democratic topography of power and a more secure technological design of communication.

That history is not the only thing that these diagrams tend to obfuscate. Vitalik Buterin, a co-founder of the cryptocurrency

Ethereum, went so far as to describe them as “completely unhelpful” in understanding *what* should be decentralized in the design of a blockchain application. The flatness of the diagrams does not capture the layered material and political arrangements that comprise today’s network society. Buterin, therefore, calls for a more elaborate mapping of decentralization, one that distinguishes infrastructure from political power. But the slippery nature of decentralization cannot simply be solved with the introduction of more precise taxonomies. Decentralization enjoys the position of a technical and political virtue because it successfully paves over the messy work of negotiating conflicting interests and articulating just outcomes. Two genealogies of decentralization—the political economy and the technical architecture—converged over the past five decades to form a powerful vocabulary for describing how digital networks could both resist centralized control from the state and also supplant it as a new political mode of self-governing. This convergence allowed decentralization to find its way into the visions of crypto-utopians and congressional representatives alike. In the process, it appears as a panacea for the inefficiencies of state bureaucracy and the uncertainty of political action.

Historian Leo Marx warned that the power of such technological concepts to appear to sidestep politics is hazardous. The term “technology” itself, he argued, transitioned in the early 20<sup>th</sup> century from describing a field of study and a skillset to existing as an autonomous proper noun. Imbuing the term “technology” with a magical agency is perilous because it “relieves the citizenry of onerous decision-making obligations and intensifies their gathering sense of political impotence.”[ix]

By becoming the new measure of a successful redesign of money-making, decentralization similarly runs the risk of taking the sting out of a call for more democratic money.

Decentralization is a hazardous goal for the redesign project not because it has so many different meanings, but because it overtakes the richness of democratic imaginings of the political economy. Last year, at a senate hearing on digital currencies and the blockchain, legal scholar Mehrsa Baradaran argued that the case in favor of cryptocurrencies as means for increasing financial inclusion ignores the existing public institutions tasked with this mission, including the Federal Reserve. If the Fed is currently failing to achieve this mission, our political attention should focus on expanding its services rather than framing its very existence as the source of the problem. Baradaran's reimagining does not begin with the technological specification of a decentralized system or stipulate that it must necessarily be a frictionless digital one. Instead, it proceeds from the vision of inclusion. Likewise, Bill Maurer has suggested this may be a time to solve money's problems with "more democracy rather than more technology."

In rising to this call, we ought to be wary of fixing in place what "more democratic" may mean in technology's image.

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[i] Michael Beggs, "Money and Its Ideas: Between Technocracy and Democracy," in *A Cultural History of Money in the Modern Age*, eds. Taylor Nelms and David Pedersen (2019), 53-82.

[ii] US Congress, Committee on Banking, Finance, and Urban Affairs, *The Currency Redesign Act: Hearings before the Subcommittee on Consumer Affairs and Coinage*, 98<sup>th</sup> Congress, 2nd Session, 1984, 5-6.

[iii] Christine Desan, *Making Money: Coin, Currency, and the Coming of Capitalism*, (Oxford: Oxford University Press, 2014), 37-45.

[iv] Lana Swartz, *New Money: How Payment Became Social Media*,

(Yale University Press, 2020).

[v] For a more detailed analysis of how the early days of Bitcoin espoused the promise of decentralization despite repeated occurrences of recentralization of both computational and governing power see: Gili Vidan and Vili Lehdonvirta, "Mine the Gap: Bitcoin and the Maintenance of Trustlessness," *New Media & Society*, 21, no. 1 (January 2019): 42–59. doi: 10.1177/1461444818786220.

[vi] See: Amy C. Offner, *Sorting Out the Mixed Economy: The Rise and Fall of Welfare and Developmental States in the Americas*, (Princeton University Press, 2019); Brian Balogh, *The Associational State: American Governance in the Twentieth Century*, (Philadelphia: University of Pennsylvania Press, 2015); Daniel T. Rodgers, *Age of Fracture*, (Cambridge, Mass.: Belknap Press of Harvard University Press, 2011).

[vii] Peter Galison, "War against the Center," *Grey Room* 1, no. 4 (2001): 6-33.

[viii] For recent examples arguing for the power of blockchain decentralization to remake large bureaucratic systems see: Kevin Werbach, *The Blockchain and the New Architecture of Trust*, (Cambridge, Mass.: MIT Press, 2018); Michael Casey and Paul Vigna, *The Truth Machine: The Blockchain and the Future of Everything*, (New York: St. Martin's Press, 2018); Rachel Botsman, *Who Can You Trust? How Technology Brought Us Together and Why It Might Drive Us Apart*, (New York: Public Affairs, 2017).

[ix] Leo Marx, "Technology: The Emergence of a Hazardous Concept," *Technology and Culture* 51, no. 3 (2010 [1997]): 561-77.

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# F. Brunton, Virtual Money at the Edge-of-State

April 28, 2020

**Finn Brunton, NYU Steinhardt School**

To the themes already taking shape in this roundtable on the relationship between states and virtual currencies, I would like to add the role of a zone that I'll call "edge-of-state." This is inspired by the use of edge-of-grid as a term in electrical infrastructure to describe those spaces which are neither outside existing infrastructure – self-sufficient, off the grid – nor inside and completely and reliably embedded on-grid. "Edge-of-state" is my way of talking about two conditions at the fringes of the money apparatus of states and central banks, which together have shaped the facts and fantasies at play in the creation of virtual currencies. These edge-of-state conditions, *interstitial* and *interregnal*, involve plenty of non-virtual monetary practices, while also providing considerable latitude for dreams – space in which to imagine scenarios. They are productive of the speculations (in both senses) that characterize utopian virtual currency.

Many of the founding notions of virtual currencies – particularly Bitcoin – involved the idea of money that could function in the seams of the operational spheres of central banks. Of course, many existing assets and forms of money occupy exactly this zone, whether offshore, freeport, or haven. Virtual currencies draw less on this set of actual practices (anyone with that kind of wealth has no need for rickety software projects with earnest YouTube evangelists and dank-meme in-jokes) than on the idea of a *disruption* of central banking, technological and political, which creates new kinds of interstitial space. The *interstitial* is the idea that the "agora" can be everywhere, as Ross Ulbricht

envisioned when creating the Silk Road Bitcoin-denominated darkmarket: “every single transaction that takes place outside the nexus of state control,” he wrote, “is a victory for those individuals taking part in the transaction. ... [E]ach one makes a difference, strengthens the agora, and weakens the state” – not any state in particular, but the very idea of the state itself. For this model, the bitcoins you hold act as tokens of your divided loyalty. They don’t place you outside one state monetary regime and inside another, like holding a foreign currency or paying fees to send a remittance payment. Instead they situate you in an interstitial zone where part of your ready money is only “ready” for other outsiders who operate part-time in the same vacant spaces of the as-yet-unregulated, the unnoticed, untaxed, or illegal – and the money itself, unlike bags of laundered but legitimate dollars or euros, *belongs* to that space. Interstitial currency is the spatial experience of edge-of-state: the areas on the margins of monetary regimes and state structures, where it’s easier to envision wildcat techno-financial inventions in the negative space of existing institutions.

This expansive fantasy of true liquidity is one that can flow into every interstitial space: from refugees between countries, to *sans papiers* without bank accounts, to the business of selling citizenship-of-convenience “passports for Bitcoin” to panicky suckers. This notional liquidity imagines the architecture of issue, transaction, and settlement working everywhere and nowhere, smeared out into the edges of the world’s systems and infrastructures wherever they pull apart and create gaps, or squeeze too tight together and create jurisdictional overlaps, interference, and opportunities for arbitrage. (In practice, of course, this technological architecture is emphatically, physically somewhere, and very much on-grid, but let that pass.)

Attempts to produce actual territory for utopian virtual currency – a truly offshore zone, a permanent interstice –

have about them the cranky charm of all micronational movements, obsessed with issuing declarations and franking stamps as proof of existence: Liberland, for instance, which aims to occupy a disputed island in the Danube, and initially plans to launch its micro-state based on a blockchain governance platform with a seafaring habitat called *Bitcoin Freedom*. (Liberland's history includes a relationship with Roger Ver, the Bitcoin booster who tried to sell citizenship and passports issued by St. Kitts and Nevis – the smallest sovereign nation in the western hemisphere – linked above.) However extreme their goals, the starry-eyed unreality of the new-nation approach – somewhere between performance art, satirical hoax, and the earnest bullet points one associates with Esperanto, decimal time, and orthographic reform – points up how much utopian virtual currencies need the edges of existing systems as their terrain. Without the interstitial, obliged to function as something other than the rebellious alternative to a dysfunctional or restrictive establishment, they rapidly hit the limits of their particular functionality.

In this roundtable Lev Menand has described a class of virtual currency as “utopian coins” (as distinct from backed-and-tethered stablecoins, or the corporate initiatives built on points and rewards – and hybrid projects like the top-heavy broken mecha suit of Facebook's Libra, blowing gaskets and sinking deeper into the mire with every colossal step). The utopian imagination of virtual currencies is distinct from classic utopian social models, which tend to be fixed, eternal, and spatially planned: Campanella's City of the Sun, neat as a Swiss watch within its seven circular walls. Instead, fired up by the idea of transacting within the ragged interstitial chaos between areas of authority, the utopian space of the utopian coin has its foundation in the particular libertarian spatial necessity of an edge, a frontier, or an underground within the system as it *currently* exists, where the new currency and its philosophy can take root: the Colorado town concealed from the world in *Atlas Shrugged*, the

parallel network of wildcat banks and contraband emporia woven through the failing state in the founding novel of agorist libertarianism *Alongside Night*, the encrypted partition on a laptop's hard drive.

If the *interstitial* imaginary locates currency within in-between spaces of states, the closely related *interregnal* is the occupation of failures of or transitions between monetary authority, likewise productive of both fantasy and actual practice. Think of Curzio Malaparte's account of a Ukrainian collective farm immediately after the Germans arrived in summer 1941 (he was covering the war for an Italian newspaper): a soldier comes in to buy a goose, kicking off a debate about what currency to use. The farmers finally sell it for fifty Romanian *lei* (five *lire*, Malaparte translates for his readers, comically cheap); "what can you expect us to know about prices?" asks a younger farmer carrying around a German requisition warrant for two horses, which she doesn't know how or where to cash. "The Bolsheviks used to tell us: 'This costs so much, that costs so much.' You ought to do the same yourselves. You ought to begin by telling us how much the lei is worth in relation to the rouble." "Naturally there will be some uncertainty at first," Malaparte replies, uselessly. The *interregnal*, like the *interstitial*, is not outside the state but alongside, in places where the state becomes vague, uncertain, and unreliable, like edge-of-grid power: subject to fluctuations, handoffs, and the occasional complete blackout.

"Who taught us how to cheat if not the state," demands the terrifying discharged soldier in Stefan Zweig's *The Post-Office Girl*, an account of the First World War's aftermath in Austria. "[H]ow else would we know that money saved up by three generations could become worthless in a mere two weeks, that families could be swindled out of pastures, houses, and fields that had been theirs for a hundred years?" That "mere two weeks" and "a hundred years" is one of the temporal feelings of the *interregnal*, reflecting a sudden

question as to the capability and authority of the state to declare what passes as money and maintain its value, as part of the practice of sovereignty. I would like to set aside the practical responses to such a situation – the *Flucht in die Sachwerte*, the “escape into real assets,” as people scramble to acquire paintings, wine, real estate, precious metals and stones, and the rest of the contents of the oligarchic safe deposit box – and instead explore interregnal moneyness, alongside the interstitial, as a state of mind that is very productive of utopian coinage amidst the crises of confidence.

Elias Canetti underwent a strange nervous breakdown in 1925, compulsively writing “MONEY, MONEY, AND MONEY AGAIN” in capital letters on page after page of paper, scattering them on the floor around him – “I couldn’t stop writing.” Newspapers reported largely apocryphal (but culturally telling) cases of “zero stroke” as clerks and bookkeepers found themselves handling hyperinflationary transactions of endless billions and trillions (“Many of these persons,” as John Kenneth Galbraith quoted the *New York Times*, “are apparently normal, except for their desire to write endless rows of ciphers”). And pamphlets, tracts, and schemes poured out to transform money and its state relationship. These ranged across replacing the inflationary authority of central banks with currency pegged to land, food, a “market basket,” or a depreciation schedule so cash went out of date like a newspaper, rotting if unspent; they went so far as to argue for the elimination of currency entirely, as in broadsides like Berthold Otto’s 1924 *The Abolition of Money*, in which society operates through an austere statewide accountancy system for life’s essentials, and we settle into the sitting room after generating our “demand units” to read the day’s statistics of town-by-town production and consumption.

The interregnal puts money into a place where new currencies can be imagined against and alongside the existing issue, building on the value systems they advantage and proposing new

ones. As an edge-of-state experience, the interregnal is sometimes a fact, sometimes a state of mind, and often both. We can see it in artifacts, like that issue of the *Times* with its bank bailout announcement encoded into Bitcoin's genesis block, as Bill Maurer has described in this roundtable; we can see it in the very specific approach to monetary history at work in the ideologies of early virtual currency, with a focus not on the quotidian, institutional business of banking and debt but on inflationary crises, asset seizures, currency debasement, and dire prediction, where interregnal space opens up.

This essay has been an attempt to situate the territory of virtual currencies in relation to the territory of the state and state monies as neither within nor without, but in a marginal mode I've been calling edge-of-state. These edge-of-state experiences, spatial and temporal, are characterized by looseness, flux, the presence of authorities with an absence of regulation or oversight, chronic uncertainty, a lack of confidence and a lack of clarity combined with existing systems to imagine oneself against, and lots of boundary work and explanatory neologisms. I would like to suggest that this edge-of-state mindset can explain some of the historical heritage of virtual currencies, and that it may have a little predictive power: we can look to zones of interstitial space and interregnal time in the world's currencies and transactions to spot further evolutions of these utopian currency fantasies and experiments – the hothouses for more of these outrageous, sometimes successful, and occasionally poisonous blooms.

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# B. Geva, Payment in Virtual Currency

April 22, 2020

**Benjamin Geva, Osgoode Hall Law School of York University<sup>[1]</sup>**

By reference to an analysis of the operation of payment in traditional forms of money, this essay explores the meaning of 'virtual currency'<sup>[2]</sup> and the mechanism for payment in it. Endeavoring to identify directions in which events will unfold, the essay sets the stage for a future detailed analysis of pertaining legal aspects.

Payment of money has traditionally been made in either currency or account balance. Payment in currency is by physical delivery from one person (payer) to another (payee) of banknotes and coins. Typically, this is a face-to-face process which does not require intermediaries. More specifically, 'payment' is "a bilateral act which requires the [payee] to accept the [payer]'s act of tender";<sup>[3]</sup> and is completed on the passage of possession in the money when the payee takes delivery, thereby manifesting the acceptance of the tender. Typically, banknotes and coins are denominated in the unit of account of a national currency and are legal tender in the country of issue.

Payment in account balance requires intermediation. It is carried out by having the payer's account debited and the payee's account credited. Typically, both accounts are held at regulated financial institutions, broadly speaking, banks. Both accounts are typically denominated in the unit of account of a national currency. Payment is performed by means of either the extinction or reduction of the debt owed to the payer by the payer's account-holding bank and either the

creation or increase in the debt owed to the payee by the payee's account-holding bank. Where payer and payee hold their respective accounts at two banks that are correspondents, payment in account balance requires the debiting the account of the payer's bank by the payee's bank or crediting the account of the payee's bank by the payer's bank. In a domestic payment system, at least all major banks hold their accounts with the central bank so that the interbank component of payment between two such banks is carried out as part of the multilateral interbank settlement on the books of the central bank. Otherwise, payment in account balance requires a chain of settlements on correspondent accounts, with or without settlement on the books of the central bank, or alternatively, one settlement between correspondent banks followed by another settlement on the books of a central bank.

The architecture of the interbank payment system is centralized. Thereunder, a bank maintains accounts for customers. For its part, a large bank may also maintain accounts for correspondent banks. Finally, the central bank maintains settlement accounts at least for large banks. As a whole, the system can be visualized as a pyramid at whose head or apex stands the central bank with which at least large banks hold accounts, and possibly with small banks holding accounts with large banks. Individual and corporate customers are at the bottom or base of the pyramid holding their accounts in banks (whether large or small). Money denominated in the domestic fiat currency and held in bank accounts is redeemable in banknotes and coins which usually constitute 'legal tender'.

With the advent of electronic banking, it became possible to initiate, transfer and process payment instructions electronically. Payment in account balance so performed is known as an electronic funds transfer. It became also possible to 'load' monetary value (that is, value denominated in an official or, in fact, any unit of account) on a tamper-

resistant stored-value device such as a card or personal computer.

In such a case, the value became known as 'electronic money' or 'e-money'. Most e-money schemes have involved "balance-based" products. In such products, devices store and manipulate a numeric ledger, with transactions performed as debits or credits to a balance. Accordingly, this type of e-money is a monetary balance or value recorded electronically on and is available from a stored-value product (SVP), such as a chips card, or a hard drive in a personal computer, or a server. Such a record, accessible from the device without resort to the bank's computer system, can be viewed as a decentralized bank account. E-money is said to "differ ... from so-called access products, which are products that allow [customers] to use electronic means of communication to access otherwise conventional payment services" in and out bank accounts.<sup>[4]</sup> Alternatively, with a 'pre-paid product' variant, monetary value is available from a master account, belonging to the issuer or someone acting on the issuer's behalf.

A minority of e-money products may still operate on devices that store electronic "notes" (sometimes called coins or tokens) that are uniquely identified by a serial number and are associated with a fixed, unchangeable denomination. In such a "note-based" model, transactions are performed by transferring notes from one device to another, and the balance of funds stored on a device is thus the sum of the denominations of all notes on the device. However, as in the "balance-based" products, transferability is typically restricted, and cardholders may usually make payments only to merchants who may clear these payments or deposit the accumulated balances exclusively through their acquiring banks.

E-money is ultimately a variant of 'bank money'; thus, whether e-money is purchased in cash or by means of a debit to the

purchaser's bank account, the issuer has its own bank account credited with the amount sold to the purchaser. Where the e-money is purchased from a bank, the account credited is the reserve account of the selling bank. Payment in e-money is forwarded to the payee's bank which credits the payee's account with the amount of payment and forwards the e-money itself for redemption against the value previously credited to the seller's account. In the final analysis, even where pre-paid value or e-money is not issued by a bank, a scheme must facilitate the purchase and redemption through banks.

Particularly outside the banking system, a balance-based payment product need not necessarily be provided in an official unit of account. For example, a balance-based payment product may be denominated in weight units of gold. As well, a balance-based product may be redeemed by specific product, usually the one in which it is denominated. Furthermore, a balance-based product may be backed – in whole or in part– by a reserve made of the product itself. In fact, any proposed 'full reserve banking' scheme will provide a balance-based bank product fully backed by central bank money.

For its part, digital currency consists of digital coins, and is a completely stand-alone category distinguished from both currency (cash) and balance-based (including e-money) products. A digital coin is a distinct entity consisting of data expressed in a unique string of bits which represent

value.<sup>[5]</sup> Like physical coins and banknotes, digital coins are not paid out of bank accounts so that their payment does not appear to require intermediation by banks. And yet, exactly as the electronic funds transfers, they are paid over the cyber space. A privately issued digital currency is known as 'virtual currency' and may have its own unit of account, fluctuating by reference to the value of an official unit of account, in which case it is self-anchored. Alternatively, it may be a 'claim check' or stablecoin, either in a unit of account of an official currency, or in the value of a specific

commodity, whether or not it is fully (or even partially) backed by a reserve of such currency or commodity. Each coin may be in the form of a total unspent amount in a wallet or a representation of what otherwise would be a physical banknote.

Virtual currency is frequently treated as a digitally-traded or transferrable digital representation of value.<sup>[6]</sup> In my view, a definition along such lines is too broad. It encompasses account balance represented and transferred digitally and entirely misses the fundamental feature of the separate identity of each digital currency coin, facilitating holding and transferring without an account.

An account as well as an undivided share in a stock of digital coins may however be held with an exchange or other depository or virtual bailee. Controlling them, the latter may thus occupy a position analogous, or at least similar, to that of a bank in relation to the deposit of funds.

Unlike payment in account balance, payment in digital currency need not be recorded on a centralized ledger. However, in a given scheme, coins may be issued, transferred and redeemed under centralized protocol in which case the scheme is said to be centralized. Conversely, a scheme under which a digital currency is issued, transferred, and redeemed over a distributed ledger is decentralized. Finally, a digital currency transferable under a decentralized protocol – such as over a distributed ledger and yet issued by a centralized operator – is hybrid.

Centralized protocol does not require the intermediation of bank accounts and is thus entirely different from a centralized architecture in account-balance payment systems. At the same time, payment in digital currency, while being made from one digital device to another, requires the intermediation of an electronic network. Depending on its format, it may further require the intermediation of a custodian acting as a virtual storer or warehouse person for

the coins.

The distributed ledger underlying decentralization is an asset database that can be shared across a network of multiple sites, geographies or institutions. Blockchain is an underlying technology, requiring the Internet to support and maintain its peer-to-peer network, that enables digital implementation of a distributed ledger. Being a computerized ledger on a distributed network, it generates a single version of the record on each computer. Its essence is:<sup>[7]</sup>

*a type of a database that takes a number of records and puts them in a block ... Each block is then 'chained' to the next block, using a cryptographic signature. This allows block chains to be used like a ledger, which can be shared and corroborated by anyone with the appropriate permissions.*

Accuracy of the ledger is corroborated under a method determined under rules adhered to by participants. Record security and visibility to authorized users is ensured by cryptography.

A “*cryptocurrency*” denotes 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. Cryptography is thus used in cryptocurrencies to express and protect the value of the coins (the sequence of the bits), to prevent counterfeiting and fraudulent transactions, as well as to perform validation, execution and recording. These functions are carried out on a distributed ledger, such as a blockchain. Thereon, each block contains a cryptographic hash or algorithm that links it to the previous block along with a timestamp for the transactions from that block. The network allows online payments to be sent directly from one party to another without going through a bank or any other account holding centralized counterparty.

The mechanics of payment in a digital coin depends on the specific design of the coin and its underlying scheme. As stated, the mechanism requires the use of a telecommunication network. But to avoid double use of the same digital coin, it also requires some validating intermediary. Several options are available:

1. Being in control of a digital coin 'affixed' to a single internet domain, for which it attorns to the payer, a 'baliee' complies with the payer's instructions and executes them by attorning to the payee, thereby causing 'possession' in the coin to be transferred from the payer to the payee.
2. A 'coin' in the form of an unspent transaction output (UTXO)<sup>[8]</sup> in the payer's wallet, reflecting earlier transactions, is transformed into a new UTXO in the payee's wallet. Where the payer does not use up the entire UXT0, payment is carried out by splitting the payer's UXT0 into two UTXO's: one in the sum of payment going to the payee's wallet, and the second, in the amount of the balance of the UXT0, remaining in the payer's wallet.
3. The payer sends from his or her digital device to the payee's device a 'coin' or any split of it. The payee may (but is not required to) validate the coin authenticity with the 'mint.'

Respectively, these are the methods of payment in WingCash, Bitcoin and BitMint. Among these three, only Bitcoin requires a blockchain and is a cryptocurrency. Neither WingCash nor BitMint are cryptocurrencies. No blockchain is required in BitMints or even exists in WingCash.<sup>[9]</sup>

Arguably, payment in digital coins is completed when the coins get under the full control of the payee. From this perspective, completion of payment in digital coins and the discharge of the debt paid by them are governed by rules that

are fundamentally similar to those governing payment in cash as well as in account balance. This, however, does not resolve the question of loss allocation where something goes wrong by the intermediary, namely the blockchain, 'mint' or switch. In principle, between the payer and the payee, loss is to be allocated as agreed between them, except that the law should establish a preemption, one way or another.

Predicting the impact of digital currencies is beyond the scope of this essay. I will however conclude by pointing at two directions to watch for.

First, payment in a digital currency bypasses account intermediation which is at the heart of payment in account balance. In the struggle for market share, efficiency thus appears to side with digital currencies. However, use of the latter raises its own risks, relating to trust, financial stability and misuse. Certainly, to meet such risks, oversight and regulation are required. The challenge is to ensure such oversight and regulation will put both methods of payment on an equal footing.

A second perspective to be watched is the competition between 'self-anchored' and 'claim check' virtual currencies, or more specifically, those denominated in an official currency.<sup>[10]</sup> At the heart of this competition is the old controversy as to the concept of money, i.e. whether its value is based on the salability of the material from which it is made or on the power of its issuing authority. Having historically identified gold as the optimal material on the basis of its low stock-to-flow ratio,<sup>[11]</sup> the former is known as the metalist<sup>[12]</sup> approach. The latter is known as chartalist.<sup>[13]</sup> Not surprisingly, metalists anticipate the triumph of 'self-anchored' currencies with low stock-to-flow ratio, such as Bitcoin,<sup>[14]</sup> which may thus be characterized as 'digital gold.' For their part, chartalists are likely to anticipate the triumph of 'claim

check' currencies denominated in an official currency unit.<sup>[15]</sup>

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1. This essay draws on and yet builds on Benjamin Geva, "Cryptocurrencies and the Evolution of Banking, Money and Payments," in Chris Brummer (ed.) *Cryptoassets – Legal, Regulatory and Monetary Perspective* (Oxford University Press, 2019) 11-37 (+ 341-366 EN). ↑
2. For a detailed albeit earlier discussion see Benjamin Geva, "Disintermediating Electronic Payments: Digital Cash and Virtual Currencies", (2016), 31: 12 J.I.B.L.R, 661 at 664-65. ↑
3. David Fox, *Property Rights in Money* (Oxford: Oxford University Press, 2008) at 28. ↑
4. CPSS, *Implications for Central Banks of the development of electronic Money* (Basle, October 1996) at 1, emphasis in the original; online: <https://www.bis.org/publ/bisp01.pdf>, visited January 17, 2020. ↑
5. According to Gideon Samid, *Tethered Money: Managing Digital Currency Transactions* (Elsevier Academic Press, 2015) at 105-106, the unique string of bits should better express both identity and value. ↑
6. See e.g. Section 102(23) Uniform Regulation of the Virtual-Currency Business Act, Drafted by the National Conference of Commissioners on Uniform State Law (NCCUSL) and approved and recommended by it for enactment in all the states in the United States at its Annual Conference Meeting in its 126th year in San Diego, California on July 14-20, 2017. So far it has been enacted in Rhode Island and introduced in California, Oklahoma and Hawaii. It is available online with Prefatory Note and Comments (and more information)

at:

[https://www.uniformlaws.org/committees/community-home?communitykey=e104aaa8-c10f-45a7-](https://www.uniformlaws.org/committees/community-home?communitykey=e104aaa8-c10f-45a7-a34a-0423c2106778&tab=groupdetails)

[a34a-0423c2106778&tab=groupdetails](https://www.uniformlaws.org/committees/community-home?communitykey=e104aaa8-c10f-45a7-a34a-0423c2106778&tab=groupdetails) visited January 17, 2020. See also FATF, *Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers* (Paris: FATS, 2019) at 13, online: <http://www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf>, visited January 16, 2020. ↑

7. UK Government Office for Science, “Distributed Ledger Technology: beyond block chain” (2016) at 17, online: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/492972/gs-16-1-distributed-ledger-technology.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/492972/gs-16-1-distributed-ledger-technology.pdf), visited January 17, 2020. ↑
8. The term is explained e.g. in <https://komodoplatform.com/whats-utxo/>, visited on January 16, 2020. ↑
9. These systems are set out in Geva, n.1 *supra*, where direct sources are cited. ↑
10. I assume that it is issued by a trusted, properly regulated entity so as to bear a similar risk to the officially issued currency. ↑
11. This is the relation between its existing supply and the extra production that will be made in the foreseeable future. A currency with a low ratio is ‘hard’ so as to maintain its value. ↑
12. See e.g. Carl Menger, “On the Origins of Money” (1892), 2 *Economic Journal* 239 (translation by CA Foley). ↑
13. For this theory see at length: L. Randall Wray, “From the State Theory of Money to Modern Money Theory: An Alternative to Economic Orthodoxy (Working Paper No. 72, March 2014, Levy Economic Institute of Bard College) ↑

14. See e.g. Saifdean Ammous, *The Bitcoin Standard: The Decentralized Alternative to Central Banking*, (Hoboken NJ, Wiley, 2018) ↑
  15. For an analysis preferring the chartalist approach in general see: Charles A. E. Goodhart, “The two concepts of money: implications for the analysis of optimal currencies areas” (1998), 14 *European Journal of Political Economy* 407. ↑
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# **M. de Castro Cunha Filho & S. Silbey, What lies behind the apparent trust in cryptocurrencies?**

April 15, 2020

**Marcelo de Castro Filho, University of São Paulo**  
**Susan Silbey, Massachusetts Institute of Technology**

At the core of Lev Menand’s and Bill Maurer’s contributions to this roundtable lie one important conclusion: virtual currencies<sup>[1]</sup> are challenging the long-standing and conventional distributions of power in the production of money. Lev Menand states explicitly that virtual currencies such as the cryptocurrency – or utopian coin – Bitcoin, the corporate coin Libra, and the stablecoin Tether will inevitably affect the way monetary policy is conducted. According to Menand, virtual currencies in general have the potential, if not the probability, to produce multiple monetary harms: to reduce

economic control, lose seigniorage, encourage illegal transactions, avoid regulatory arbitrage, and promote financial instability. To address these harms, he suggests government regulation of virtual currencies qua currencies. Bill Maurer supports this view by noting how virtual currencies – whether through Facebook or a Central Bank – can effectively develop authoritarian dystopias. According to Maurer, creators and managers of some types of virtual currencies (i.e. Libra) can control “monetary” policy simply by accessing consumers’ data and funds, while simultaneously taxing the currencies to secure return for themselves.

Worries about the power exercised through currency management are not simply the province of academics and central bankers. Our interviews with Brazilian users of entirely decentralized virtual currencies such as Bitcoin – cryptocurrencies or utopian coins in Menand’s terms – show that concerns about the reliability of a currency and democratic control occupy citizens consumers as well. In making their decisions to use and invest in decentralized virtual currencies, users and enthusiasts have implicitly chosen a new type of money with a different political architecture. Rather than expecting to lose democratic participation in the constitution and reliability of money, these members of the public expect this new type of “currency” to bring a more democratic form of money. This expectation has been the basis of a different type of trust in “money”, which can be partially explained by distrust of money itself and the institutions that have historically sustained it. In this essay, we use the term cryptocurrencies to refer to decentralized virtual currencies only (i.e. Bitcoin) – what Menand calls utopian coins. We suggest that the use of these technologies by the public denotes the existence of strong popular support for democratic regulation of money.

Cryptocurrencies such as Bitcoin, Litecoin, and Monero offer an unprecedented opportunity to rethink the long-lived trust

in money – or at least in what is popularly perceived as money. Although cryptocurrencies have been used in recent years more as speculative assets than anything else, the idea that they function as a type of money, or that they will function as such in the future, persists among ordinary, non-speculative actors. The association with money is not occasional, as aspects of cryptocurrency systems routinely perform like money. Unlike standard digital money (e-money, e.g. digital dollar, digital euro), however, cryptocurrencies are designed to work entirely peer-to-peer. They are transferred directly from user to user without at any time going through the internal verification, standardization, commensuration, and review processes of any particular institution. Instead of a third-party intermediary that normally stands behind currencies, cryptocurrencies are transmitted digitally over the internet through a cryptographic protocol that follows preprogrammed mathematical rules.

The disintermediated operation of cryptocurrencies has led enthusiasts to believe that, by virtue of the elimination of the trusted third party (e.g. state, bank or corporation) from the value transfer chain, and the insertion instead of a semiautomated electronically controlled procedure, a type of money emerged that excludes from its governance any and all types of institutional and political interference. Transferring control and management of money from the work of socially and legally organized institutions to the work of a mathematically and electronically controlled process is understood by its advocates and users to insulate money from the domain of institutions, especially the law and its associated politics. This intermediary-free currency was promoted in reaction to the waves of fluctuating – loss and gain – credibility through which the institutions of law and politics often pass. In response to what appears to be declining confidence in legal and international institutions generally, cryptocurrencies have been actively publicized as a

new type of money that should inspire confidence that money managed by central authorities cannot seem to sustain.

In particular, internet-enabled social media communities promote the idea that central banks, private financial institutions, and governments manage national currencies – such as the Dollar, the Euro, and the Real – to serve the persons managing these institutions rather than the public at large. These institutions often inflate the currency, deflate, confiscate, or withdraw it from circulation. The same, however, would not apply to cryptocurrencies, since they have had their management delegated to machines incapable of changing the rules or protocols, according to which they are issued and transacted. Maurer refers to these as the mythologies from the left and the right.

The narrative built around cryptocurrencies raises a long-debated theme in the social sciences too often ignored in law, namely the issue of trust formation and the mechanisms that consolidate or break down trust in social institutions. The popular cryptocurrency narrative provides a seductive explanation for how trust can emerge from the negation of law, politics, and historically evolved social institutions, substituting for those by mathematical quantification alone.

For a long time, numbers have been considered trust providers because they claim objectivity. Objectivity can be defined as the absence of personal interests, strict obedience to norms, equal treatment of similar issues, impartiality etc. Numbers are an attractive substitute for the messy ambivalence of language and qualitative judgments because they create and overcome distance, both physical and social. They appear to offer a common language that erases cultural, historical, and geographical variations while simultaneously erecting “a new form of distance because” the discipline of numbers “erases the local, the personal, and the particular” which are always embedded in law and political institutions.

Is it possible for public trust in cryptocurrency to be sustained on the basis of mathematical objectivity and distance alone? Our research suggests that the answer is no. Offering trust in mathematics as a substitute for trust in law cannot provide the exclusive condition for the widespread embrace of cryptocurrencies because the very use of mathematics to manage the technologies does not eliminate the decisions, choices and even arbitrariness built into the algorithms as they were first created. Their technical configuration results from a series of choices made by those who created them as well as those who keep them running (developers, and server managers).

Moreover, the idea that trust may develop from the exclusion of law, institutions, and politics is also suspect because trust is not just about the processes that distinguish these institutions. Trust is intrinsically linked to the idea of overcoming the uncertainty of future outcomes. Generally speaking, trust is a form of expectation that at some future time a person or mechanism behaves in a known way in order to produce a specific event. Reliance on cryptocurrencies as an approximate form of money comes not only from the expectation that the algorithms will work independently of human decisions but also relies on a prediction – an expectation – that the currencies will enter the social world in its materiality and concreteness to be used as a means of payment, as units of account, and as stores of value. For cryptocurrencies to become a reliable means of payment with such characteristics a number of political, legal and cultural factors must provide the conditions for overcoming uncertainty about the future use of cryptocurrencies. As Menand suggests in his reference to future imaginaries, a future with regulations can play a key role in those imaginaries by assuring the exchange and use value of the currencies (which should nonetheless be free of institutionalized manipulation concerning rates and amounts). In his essay in this symposium, Joseph Sommer suggests that for cryptocurrencies to become money they should garner

“faith”, which comes from the user’s identification – communal mystique – with the communities that issue and sustain the corresponding means of payment.

Empirical research conducted in Brazil with the participation of Bitcoin users and enthusiasts has identified just such conditions for overcoming future uncertainty so that cryptocurrencies can garner confidence as a popular representation of and substitution for money. Analyzing interviews with 39 Brazilians – men and women of diverse ages, social classes and educational qualifications – we find that trust in cryptocurrencies is, despite the popular circulating anti-institutional narrative, associated with both formal and informal, familiar and common institutions. Institutions here are understood in the broad sense as the rules of the game capable of directing or accommodating the use of the new technologies in everyday transactions. Together, (1) the law, public regulation and the state; (2) the governance model of cryptocurrencies, and also (3) market institutions provide the practical as well as symbolic conditions for suspending, or silencing, existential uncertainty concerning the use of the technologies in everyday social life.

Despite widespread interpretations as being corrupt and subject to questionable political interests, the law, financial regulations and the State are simultaneously interpreted as essential conditions for the organization of the market and therefore for establishing the circumstances under which cryptocurrencies generate public confidence. Here, one respondent anticipates the coercive and symbolic dimension of state law for Bitcoin to function as a kind of money.

*(...) if we want to see characteristics of currency in these cryptoassets (...) I think regulation needs to come forward pushed by the state. Because, I believe, private individuals will not be able to do this on their own (...) Because in the middle of all this, there is human greed (...). In this sense, there must be someone here who (...) is there with eyes turned*

*toward society who takes society into account and not for the business of a few.*

Alongside the law, public regulation and official state institutions, the governance model of cryptocurrencies also plays an important role in the process of building trust. Although the actual governance consists of the algorithms governing cryptocurrency systems as well as the labor of miners, users and enthusiasts describe the governance as completely outside human decision making, and therefore as enhancing trust.

*I put faith in Bitcoin because it's independent of the changing president. It's totally independent of a political situation. There's a program (software code) there. A moment comes and the system releases more bitcoins. This takes away this influence on monetary policy. This influence on the value (...) this power to increase or lower the value of the currency, or to keep it the same (...). So, I think it takes away a lot of little "tricks" that people end up using to control the currency.*

Even when users recognize the role of the miners in sustaining Bitcoin, and acknowledge that deviance from governing norms may arise, they see it as a condition for trust because it requires collective and collaborative participation.

*The miners (servers) are there to give you this confidence. That whole thing (...) there are the mining blocks, and the miners need to reach consensus to change anything, and all that (...). This is a guarantee that no one will steal your money or block your account. That's why I think it (Bitcoin) is safer than leaving my money in the bank.*

Last but not least, users and enthusiasts also identify private institutions as an essential foundation for trust in cryptocurrencies. Here, users speak about exchange houses, and the cryptocurrency communities as a whole. Exchange houses are

organizations that negotiate among currencies and cryptocurrencies. They connect buyers and sellers and work like marketplaces. The communities, on the other hand, consist of disorganized masses of users and enthusiasts. Some of them get together on virtual platforms to share news and comments about cryptocurrencies. In Brazil, cryptocurrency communities most often use Facebook. According to respondents, both types of private institutions act as trust providers as they help turn cryptocurrencies into practical and safe instruments to trade on the market. As one interviewee said,

*They (exchanges) are independent, they are responsible for regulating their way (...) as long as you transact within their system, you have to respect their regulation. So, that ends up generating an "extra trust". It ends up generating more security for you during your transaction. For example, me. I was negotiating on their platform. I was paying their fee, but I knew I was paying it not to be scammed.*

In a similar vein, the communities play an important role in enhancing trust in cryptocurrencies. Since blockchain-based cryptocurrencies are not under direct control of any organization, they lack formal mechanisms to prevent misuse and crime. The communities, however, can provide relevant information about the space of negotiation. The communities can work as watchdogs by reproaching bad behavior and letting users know who is misusing the technologies. By making explicit what is considered bad behavior and by assigning users a sort of reputation rate, the communities contribute toward the isolation of those with bad intentions. Here, users foresee not the formal, legalized regulation by the state but democratic regulation through informal communities: the imaginary of participatory democracy, unconstrained by the dilemmas posed by global scale. The following quotation shows how the Bitcoin community reproached bad behavior in the market and how it generated a safer place for negotiations.

*The community ends up purging illicit people (...) Let's imagine*

*100,000 people use Bitcoin. They use it in a lawful, good, correct way. If you have one person who misuses it, he will be purged (...). An example is the financial pyramids. The ecosystem itself creates mechanisms (...) an example is the Gap group, (...) an anti-pyramid group, which reproached lots of financial pyramids. In the end, they (the pyramids) fell. This gives more security to use and invest in Bitcoin.*

By invoking state authority to regulate cryptocurrencies' internal governance, the intermediary role of exchange houses, and the role of digital communities, users simultaneously spread popular narratives of trust in cryptocurrencies and distrust in the institution on which they nonetheless hope to rely. By spreading the narrative negation of politics, law and institutions, they simultaneously embrace those very institutions. For users and enthusiasts, trust in cryptocurrencies as a representation of money emerges from the same conditions that render the technologies concrete, practical, and safe. As is the case with traditional currencies, these conditions derive from the organization of institutions responsible for mediating the use of money in daily life. Unlike the case of national currencies, however, these conditions are not provided only by formal state institutions such as statutes, regulations, and certified banks. In the case of cryptocurrencies, trust-generating conditions also emerge from the organization and design of informal institutions such as the governance mechanisms internal to cryptocurrencies, market intermediary organizations, and the community of users and enthusiasts that make the market of cryptocurrencies a solid, trusted "ecosystem" of money.

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1. Virtual currencies are digital representations of value,

issued by private developers, and denominated in their own unit of account. ↑

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# **J. Haskell & N. Tankus, Virtual Currency (in the Shadows of the Money Markets)**

April 9, 2020

**John Haskell, The University of Manchester**

**Nathan Tankus, The Modern Money Network**

Off the radar in academic, professional and public experience until the early to mid-2000s, virtual currencies are a hot topic in contemporary academic literature. Like most successfully scaled digital schemes (e.g., computers, online payment systems, smart phones), the subject's ubiquity tends to dispel any mystery at the immediate user-interface (e.g., we get the 'hang' of the new Gmail layout) but simultaneously relies on complex dynamics and internal processes that resist easy clarification and organisation (e.g., we send our computer in to the shop when it stops working). For academics, two interrelated questions emerge around the trope of virtual currencies: first, how does scholarship currently engage and second, what might we be missing – and 'missing' in a way that is not simply 'gap filling' or 'bringing coherency' but identifying blind spots that highlight structural biases and links to inherently partisan intellectual traditions (e.g., American Legal Realism, Institutional Economics). In this paper, we address the former before centering on the latter line of questioning and conclude with a couple suggestions

about future work that academics might usefully push under the phenomena of virtual currency.

The legal scholarship operates according to a relatively formal rhetorical economy. In typical 'lawyerly' fashion, there is often an early effort in the text to provide definitions of core concepts, which are geared toward recent initiatives into the 'law and technology field' and that at once gesture to the sophistication of the topic and offer a sufficiently pat resolution to that difficulty. One of the most common conventions would be to tell the reader that a 'blockchain' is a 'decentralised digital ledger' that requires 'miners' and 'nodes' to authenticate and secure various types of data communication in a way that may 'disrupt' the necessity of trusting in current third-party mediators, such as governments and banks. For some literature, the aim then is to unpack these technicalities further: hard and soft forks, hash functions, permission-ed and permission-less systems, tokens of investment versus utility, proof of stake versus proof of work (or other cryptographic procedures), and so forth.

Another common convention is to highlight the difficult jurisdictional complexity and regulatory compliance posed by virtual currencies. If we conduct an Initial Coin Offering, what regulatory protocols will the Securities & Exchange Commission impose? If transferring data to a 'third party' non-European Economic Area member country, what obligations does the General Data Protection Regulation impose on 'the controller'? Is the currency treated as 'property', and if so, what type, and how would this function in different social scenarios (e.g., divorce proceeding, theft)? How might we think of virtual currency platforms in relation to company law? Intellectual property? And so on.

When taking these approaches, authors tend to a 'centrist' or 'practical' oriented tone, usually not too critical of technological futures, with the aim to get colleagues 'caught

up' with the state of play. It is meant to be the sort of information that would be useful for industry, practitioners and regulators. In the coming years, one can imagine a series of quasi-white papers emerging by academics (as often the case with other topics), staking out their competencies as the consultants of the new field of law and technology – in fact, to some extent, they are already being produced, just not so much directly on 'virtual currencies'. That approach facilitates almost endless opportunities to map this or that legal regime, apply various legal doctrines, compare the benefits and risks of different jurisdictions, get into the weeds of legal or technical details – in short, the field is ripe for an explosion of spam jurisprudence. The volume will exponentially increase, taking on a life of its own, but with diminishing intellectual returns.

Another tack in the scholarship, though not as prevalent, is to take a 'critical' approach, highlighting the dark sides or limitations of technology – e.g., the data-driven infringement on personal autonomy, its oligarchical momentum, the possible incompatibilities between computer science and legal grammar. No one really disagrees within this literature that technology is here to stay nor that it offers important gains. But for some, any of these (quite substantial) costs can be off-set if only we awaken to certain dangers and make (usually modest) reforms. When taking this perspective, there is little call for any larger structural change nor any effort to situate technology within broader socio-economic contexts. In many respects, this literature is not all that different from the approaches already discussed; it is more that they are not interested to simply 'map' jurisdictional regimes or offer definitional clarity, but are concentrating on the risks attached to merging two formerly separate professional industries (primarily computer scientists and lawyers). Having identified a failure with the liberal cosmopolitan order, the law steps in to mediate different interests and find a happy consensus.

A smaller body of literature situates observations within a more inter-disciplinary and/or structurally complex analysis. While empirical data reminiscent of law and society genres are used across the board in law and technology writing, scholars in this smaller cohort tend to be more open to experimenting with insights from disciplines outside of technology – and in particular, anthropology, political economy and sociology. So, for example, “critical technology” scholars will often point out that law is geared to remain ambiguous and open to interpretation and renegotiation while digital code is oriented toward stricter privacy, more rigid closure requirements. The takeaway they come to is that one cannot avoid interpretative disagreement and reliance on legal professionals. In contrast, law and political economy scholars might emphasise how the inability to resolve ambiguity not only means future claims mediated by lawyers, but that the entire enterprise is reliant (or even generated) by a dense background public institutional infrastructure, which casts shade on the assumption of discrete public/private domains with distinct characteristics (e.g., private innovation disrupts and leads change in governance and society) and foregrounds how the current regime perpetuates inequalities within society (e.g., racial inequity built into algorithmic metrics).

It is this small but growing literature that we believe will (and does) offer the most interesting experiments and insights into the law/technology interface. What unites this effort is not only that its critique is interdisciplinary and structural, but also that a) capitalism is itself ‘the’ problem, b) the capitalist critique is kept implicit (e.g., it does not denounce capitalism but seeks to understand embedded socio-economic inequality outside of monadic ‘identity’ politics or show how the very promises of the liberal order are built on exclusionary, unsustainable foundations), and c) the author is measured on their ability to ‘out-perform’ more conservative colleagues and professionals at their own game

(e.g., directly taking on finance rather than condemning finance from an outsider aesthetic, snatching money debates away from austerity economists by looking to other economic traditions). It is in this vein that we would like to offer a small thought piece.

Our argument is that virtual currencies have yet to enter the realm of money's central nervous system – the modern money market. In our view, a key place to watch for the evolution of virtual currencies is the entry of retail online monetary actors into wholesale payments and collateral provisioning. In other words, the undiscussed set of possibilities, dangers and mutations for virtual currency is that of shadow money and shadow banking.

Shadow banking has gotten quite a substantial amount of discussion over the last decade, especially when it comes to dissecting what happened in the run up to the great financial crisis of 2007-2009. However, just as the law and technology literature has largely stayed clear of modern money markets, the non-technology law and finance literature is usually focused on either the expansion of the repo market or developments in other countries that may more accurately be termed “informal banking”. What is often missed in these discussions is the specific nexus of legal, monetary, social and technological innovations that opened the door to shadow banking in the first place (from trust formation and management to security issuance and payment collection). Or to put this as a formal rule: actor and market behaviour always takes place because of pre-existing institutionalised (legal) policy constraints and motivations.

An essential ingredient to explain the past and future of this phenomena in our case study is the ongoing shortage of safe financial assets globally. In short, the development of shadow monies is (to a significant extent) fueled by shortages of certain types of money. Because of deposit insurance caps, the lack of a universally available federal book entry (or

digital) currency and a meagre supply of short maturity treasury securities, there are persistently not enough treasuries to fill the demand from money managers globally. Adding to this “park it” motivation, there are those who not only want relative safety but also an asset that beats minimum rates of return guidelines set by institutional investors. While not often conceived of this way, both of these are in essence a shortage of large denomination money.

Existing digital entities involved in communication and payment may be particularly situated to capitalise on this shortage. A digital social media platform (e.g., Facebook) or a digital payment processor (e.g., Paypal) could issue large balances to money managers under the promise that regularly processing payments for retail users and investing proceeds into high quality assets reduces the likelihood of sudden large outflows. Processing payments within their large payment ecosystems may lead to little outflow – “all your payment needs can be handled by us (and maybe, for early entrants, with a discount)”. Dominance over retail payments may yet convince money managers to trust telecommunication companies’ ability to provision and sustain liquidity for themselves. This could be reinforced by the wider access to credit telecommunication companies have because of their main businesses. In other words, these actors can artfully promise safety with a combination of collateral, network effects and commercial bank lender of last resort access.

Notice that rather than emerging outside the context of law and regulation (as financial innovation is sometimes presented), this scenario involves the manufacture of a finance franchise from the telecommunication franchises these companies have been legally granted. We are back to our first rule. The history of non-bank, corporate currencies is not a history of “unregulated” currencies or the lack of state legal construction but is rather a creative redeployment of legal privileges already granted by the state. The paradigmatic

example of shadow banking is similarly beneath the surface. Rather than emerging outside the context of law and regulation, pre-2007 shadow banking was in essence the manufacture of an expanded finance franchise from a multi-subsubsidiary financial corporate entity granted Bank and/or Financial Holding Company status. Money creation financed (though didn't fund) the origination of new mortgages while access to preferential credit from the bank subsidiary provided protection against liquidity uncertainties. The largest finance holding companies, secure in their own liquidity, provisioned liquidity across short term funding markets and essentially sub-franchised finance to non-bank subsidiaries and even vertically disintegrated securitization chains.

Analyzing changes in the financial ecosystem as creative uses of various state franchised powers provides a very different view of the history of finance in the United States. Viewed this way, the potential threat of virtual shadow currencies is more like the rise of antebellum U.S. railroad, canal and municipal currencies than a brand-new technological development. At that time, the problem was not a shortage of large denomination money, but small denomination currency. A lack of small denomination coinage combined with legal prohibitions on small denomination paper banknotes led to a persistent shortage of small change. At the time, it was widely believed that issuing small denomination notes was too tempting a source of funding for banks as their role in circulation made redemption exceedingly unlikely.

This shortage was (in part) alleviated by what can usefully be considered the telecommunication companies of their day – railway and canal companies. They issued what were at the time technologically cutting-edge: paper note obligations of a corporate entity which were receivable in payment to that entity and often in state taxes as well. The ubiquity of transportation needs made their redemption far more likely,

while their value nonetheless ensured successful circulation as small denomination money. The 21st century shortage of large denomination money and collateral may be (in part) alleviated by the telecommunication companies of our day. When we take this view, the problems and patterns in monetary innovation and crises take on a cyclical pattern rather than a unidirectional and triumphant one. Technological innovations shift from being the dawn of a new age to an integral part of a recurring pattern in monetary history.

Our suggestion that telecommunication companies may creatively invent a synthetic finance franchise from “money transmitter” privileges combined with their telecommunication franchise does not preclude state action or prevention. As we see with the response to Facebook’s Libra, some attempts at synthetic finance franchise making are too audacious to be contemplated. Rather, we would like to reorient those interested in money design and financial stability to adopt a “wall street view” and see the possibilities (and thus the dangers) in future financial and legal innovation. This is key to taking the initiative in money design away from large corporations and their brilliant lawyers. This exercise also reveals that for all the technical details and seeming mundanity, those who seek to synthesize “shadow monies” use imagination and creative speculation as much as any other tool in the development of finance. We must be similarly inventive in disrupting them as money designers ourselves, which means eliminating the structural drivers of large denomination money shortages and the demand for benchmark yielding safer collateral.

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# J.S. Nelson, The Case for Cryptocurrencies as a New Category of Regulated Non-Sovereign Fiat Currency

March 31, 2020

J.S. Nelson, Villanova Law School

What are cryptocurrencies: securities, commodities, or another form of established currency – a non-sovereign fiat currency? In my forthcoming article, “Cryptocommunity Currencies,” I argue that, like other self-governing bodies, communities that issue cryptocurrencies should be judged on how well they support their currencies, an approach very similar to how we have evaluated traditional sovereign issuers of currency. Indeed, as traditional-sovereign-issued currency becomes entirely digital, functional distinctions between it and widely-accepted non-sovereign fiat currency start to disappear. The primary way, then, to distinguish between the value of such currencies is to compare the quality of their institutional backing. Through that lens, some self-governing online communities are better organized and more supportive of their currencies than traditional sovereigns.

My article argues that cryptocurrencies should be regulated as a new category of non-sovereign fiat currency, and that such regulation should evaluate the institutional structures behind the currency as created and maintained by its community.

First, cryptocurrencies *qua* currencies are neither securities nor commodities but fiat currencies. (Here we are speaking of true cryptocurrencies, and not other forms of crypto-assets.) The distinguishing feature of cryptocurrencies as currencies is that they are intended to be traded directly for goods and

services: They are not being offered by another party as a future investment, nor are they valuable apart from their ability to be exchanged for something else. Their primary use is as a method of payment. This distinguishes cryptocurrencies from securities, which are often investments, such as stock; and from commodities, which have intrinsic value, such as wheat or pork bellies. See more on the legal definitions [here](#).

For lay purposes, consider the distinction between the U.S. dollars (a fiat currency issued by a traditional sovereign) that you might use to buy tickets at a fair, and the tickets (or tokens) that you buy for use at the fair. The U.S. dollars have the backing of the U.S. government and can be used widely. By contrast, the tickets are valuable only by specific agreement within the fair, as payment for the goods and services offered by the promoters of the fair, and for only as long as the fair exists. The fair tickets may be securities if they are an investment in the promoters' efforts, or commodities if a market develops within the fairground for collections of fair tickets tradeable at a fixed rate for other items. Either way, the fair tickets are not general tender broadly exchanged for goods or services outside of the limited efforts of the fair. Thus, the terms and representations upon which those tickets are issued are very important and specific to the tickets' value. By contrast, the terms upon which you trade five U.S. one-dollar bills for a U.S. five-dollar bill or for a certain number of euros, pounds, or other currencies should not be the governing factor in those bills' (euros, pounds, or other currencies) general applicability after your trade as tender.

As a programming note, this distinction between U.S. dollars (fiat currency) and fair tickets (tokens) maps well on the distinction between coins and tokens. Cryptocurrencies (aka, often "coins" with their own blockchain) typically have more extensive infra-structure than fair tickets ("tokens"), which run over the territory of their fairgrounds for limited

application. As one source summarizes: “The basic difference is relatively simple. [Coins and tokens] are both used to define a unit of blockchain value.” Coins “are unique digital currencies which are based on their own, standalone blockchains, [while]. . . tokens are built and hosted on existing blockchains.” Coins intended to be general currency: “[a]llthough there are some blurry lines between the definition of [coins and tokens], the crypto community generally agrees that coins function as a method of payment.” By contrast, “[t]okens operate on top of a blockchain and give access to a DApp [decentralized application], enabling the functions of that [specific] project.”

Second, the SEC and other authorities have the test for whether cryptocurrencies should be subject to regulation backwards. The SEC’s director of the Division of Corporation Finance, William Hinman, for example, would look to the importance of a centralized promoter’s role in distinguishing Initial Coin Offerings (ICOs) for regulation from cryptocurrencies that escape regulation such as Bitcoin. Under the so-called “Hinman paradox,” why should cryptocurrencies such as Bitcoin and Ether escape regulation merely because they already exist as mature networks, so that the SEC does not have to evaluate their systems? Although Bitcoin and Ether are arguably decentralized, representations about how their codes work were made at some point by someone trying to encourage new people to adopt them. In fact, because the systems are arguably decentralized, such representations may have been made by more people in more places at more times for their own financial advantages. Having more potential misrepresentations in the market for a mature product would seem to argue for a *greater* need to regulate, not to support an argument against regulation.

Additional problems with Director Hinman’s analysis stem from his focus on generational processes (with the perverse use of decentralization as a proxy for maturity), and not on the

organizational qualities of the communities behind currencies. In the case of Bitcoin, for example, a central person – the legendary Satoshi Nakamoto who invented the processes to create Bitcoin – involved a community around him to follow those uniting instructions. These people following Nakamoto's instructions are, of course, still part of Hinman's "person or group to carry out essential managerial or entrepreneurial efforts" necessary for a currency, but not considered as such under his analysis. Moreover, studies of Bitcoin show that Bitcoin is not as decentralized in performance as advertised – even by the SEC. Nonetheless, there is no serious talk of regulating Bitcoin as a security.

Third, some cryptocurrencies now have better institutional support than some traditional sovereign-issued fiat currencies. What is so different from a government issuing currency for universal exchange than another entity issuing it? One may say that no other entity has the market power of the U.S. or Chinese governments, but some corporations, for example, have more revenue, and arguably sophistication, than governments. Consider that Apple in 2016 had more "cash . . . on hand . . . [than] the GDPs of two-thirds of the world's countries." By 2017, in terms of revenue collected, "Walmart exceed[ed] [both] Spain and Australia." During that year, in fact, "[o]f the top 100 revenue generators [including both national governments and corporations], . . . 71 [were] corporations."

But when communities are self-governing, they may still need external regulation. The corporation is an excellent example. My article analyzes Facebook's Libra cryptocurrency initiative, which by some estimates may be used by 2.4 billion people a month to buy goods and services by later this year. Although U.S. regulators and politicians have been cautious about this expansion of Facebook's power, the article notes that the major arguments for being cautious are actually arguments in favor of regulation. As described in the article,

our options may be the existence of the best-backed cryptocurrencies as regulated systems versus their existence as unregulated systems: U.S. prohibition of global systems may not be meaningful, and merely cuts us out of shaping them.

In exploring the political objections to Facebook's plans, U.S. national security concerns seem to fall into two broad categories: first, concerns about more widespread money-laundering and transactions of illegal goods; and second, concerns about challenge to the hegemony of the U.S. dollar. External regulation would help combat widespread money-laundering and transactions of illegal goods. Protecting the hegemony of the U.S. dollar may ultimately depend on the wisdom of the country's foreign policy choices. But insofar as other steps are helpful, we should regulate what we can of the global programs that impact our financial system or lose that power because rival sovereign currencies are already becoming digital, and cryptocurrencies will be based around the world anyway – à la Libra in light-touch Switzerland.

A deeper concern is that administering its own cryptocurrency will give Facebook even more financial data than the enormous amount of information that the company and its partners already collect on individuals. Ironically then, the widespread use of alternative cryptocurrency systems insofar as individuals are allowed to remain anonymous within those payment systems (which may not be what Facebook allows through its exchange platform, Calibra), may help combat concerns about personal data abuse.

As neither securities nor commodities, cryptocurrencies fall into a significant hole in our regulatory system. My article calls on regulators and academics to rethink their assumptions about cryptocurrencies and the communities that develop them. We should recognize well-institutionalized cryptocommunity currencies as non-sovereign fiat currencies and regulate them accordingly. *This post comes to us from Professor Josephine Sandler Nelson (writing as J.S. Nelson) at Villanova Law*

*School. It is based on her forthcoming article for the Cornell Law Review, "Cryptocommunity Currencies," available here. The article is a tribute to the late Professor Lynn A. Stout.*

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# **J. Sommer, How is Private Money Possible?**

March 11, 2020

**Joseph Sommer**

Whenever I hear about "virtual currency," I check my wallet, or sometimes reach for my revolver. The term is marketing hype: the bastard spawn of financial hucksterism, bro libertarianism, and perverse technophilia.

Fortunately, the organizers of this roundtable have narrowed the term to something useful. They refer to Libra. Libra means something. It implements an old argument by Friedrich Hayek (1990): that private banks could create their own unit of account. There is nothing analytically wrong with this argument. Anybody *can* create their own unit of account. Parker Brothers does so with every game of Monopoly that it sells. The problem is in getting others to accept this new unit of account in some medium of exchange. In other words, the problem is that of creating a monetary community.

The notion of "monetary community" is complex, and this note is short. So I will wave my hands when I hit the rough spots. Or borrow others' hands, such as Abba Lerner's definition of money: "what we use to pay for things." Lerner (1947) at 314. Anything can be money, just as anything can be divine. But both God and Mammon need a practicing community. Simmel (1907)

at 179.

Hayek showed that banks could create monetary communities around new units of account. But nobody took him up on his offer. There are indeed new monetary communities. Banks invent most of them, telephone or internet companies some of them, and utopians the rest. But they are all new media of exchange, not units of account. Until very recently, only states made units of account linked to true media of exchange shared by a community. Goodhart (1988). Monopoly money does not count.

States are not unique as communities. Burke's little platoons are everywhere. The state is seldom the most important community in any person's life. It probably ranks well behind job, religion, hobbies, or family. These little platoons are likely stronger than the state. But they are *little*. In a commercial economy with anonymous transactors, money is mostly a matter of scale. The relative weakness of the state scarcely matters, compared to its scale. (Indeed, weakness may be a feature, not a bug. Granovetter (1973); Zelizer (2017).) And small states might not have the scale, especially if they participate in an open economy. The Queen may reign, but the British Virgin Islands use the Yankee dollar.

Enter the Internet. Social media are instant community. They bind their user tightly—I believe that the term of art is “engagement.” They have far more engagement than any government, except perhaps North Korea's. And some of them are large. One of them—Facebook—believed it was large enough to create a monetary community through affinity and scale, boasting its own unit of account. With several billion users, it has more scale than any government. Why can't it create money? It has more latent transactional powers than most states. Hence Libra.

The Libra project is not doing too well as of the time of writing. I am not in the predictions business. I only want to explore the barriers to success that it—or a successor—may

have. Of course, this depends on what is meant by “success.” Bitcoin is an existing non-statal money: people pay with it. But it is not a very good one. It is an unstable unit of account, linked to a poor medium of exchange. It has a very unimpressive monetary community: hucksters, chumps, and criminals. Facebook has billions of users, all wanting to pay for things.

How, then, can a system like Libra fail? Let me count the possibilities.

Libra is not legal tender. However, this should not make a substantial difference. Legal tender is a very narrow concept in commercial law: protecting payors from bad-faith refusals to accept payment. Note (1928). Yes, the United States government will accept legal tender currency in payment of taxes. But it also takes checks, which are not legal tender. And it will even, under some circumstances, take foreign currency! 26 C.F.R. § 301-6316-1 (2019). And this is not to mention national bank notes—which were never legal tender—or pre-Depression Federal Reserve notes. “[L]ittle of consequence turns on whether a payment device is legal tender.” Rogers (2005) at 1275. Once upon a time, the legal tender status of currency may have been a necessary mental crutch to those intellectually hobbled by the gold standard.<sup>[1]</sup> Nowadays, it means little more than “government-approved.”

I hinted that Facebook’s high engagement might be a problem. Pardon me; that was a feint. The engagement *through* Facebook is high, but Facebook does not create content. It supports diverse and often anonymous communities: many commercially minded. If a state can exercise its monetary hegemony through transactional power, why not Libra? To be sure, the state’s transactional power is typically compelled: taxes. But compulsion is neither necessary nor sufficient. If enough people want to transact through Libra’s facilities, it will have the transactional power.

We now turn to a third and more serious objection: that the state will want to quash a monetary system. I don't care why a state could want to quash: jealousy or crime prevention, maybe. I am interested in the state's *power* to quash. This is very much a matter of context. The United States, at one time, wanted to quash Eurodollars but failed. Bitcoin was designed to be difficult to quash. (That is why it is a poor money.) Notwithstanding Bitcoin, the state's tools seem strong enough for things like Libra. The social medium providers are easy enough to suppress, if suppression is needed. The users will always stay connected, but the providers are as easy to regulate as any other large corporation. And this is not to mention the power embodied in anti-money laundering law: a concerted international attempt to demonetize particular assets.

So the state can almost certainly kill social medium money, if it pleases. But what if the state stays out of the way? Are there other barriers to success?

Anybody with enough transactional power, will, and luck can create a viable medium of exchange: PayPal, MPesa, Zelle. But units of account are different. They require more than transactional power and luck. They also require faith—communal mystique.<sup>[2]</sup> Communal mystique is easy to come by—sports teams, churches, guilds, maybe universities. But here, we run into the Granovetter problem. Communal mystique usually involves strong ties—the zone where money does not flourish. Yes, a game of Monopoly is a strong but temporary community, with its own unit of account. And game money can scale up: witness the Second Life online game. But these special communities are corners of peoples' lives—conventional money permeates the rest.

The combination of communal mystique and weak ties is rare. And strong credit helps, too! (The failure of the ISIS dinar is worth studying.)

Today, the state fits the bill: perhaps uniquely so. This is mostly a matter of mystique: the force of nationalism and the Westphalian state. Some small states have their own units of account, despite weak transactional power. (Some don't.) Even weak state credit seems enough. (Maybe not Zimbabwe or Venezuela.) Totalitarian states also have their own units of account, despite their stronger ties to peoples' lives. The mystique of today's state cannot be taken for granted. After all, Alexander Hamilton feared the whimsical state, and wanted money under firm mercantile control.<sup>[3]</sup> But still, can social media—or anything else—rival today's state?

*By Joey Sommer, January 2020. Lev Menand lifted me out of a mental rut. Subsequent crashes are not his fault. Christine Desan corrected a number of my errors. The remainder are my own.*

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1. Crafting this crutch was the life work of F.A. Mann (1992). Mann had the very difficult and practical task of legitimating fiat currency in an era that still believed that money had an external metric. He succeeded by keeping the old form of worship, but creating a new sacred fetish–legal tender currency. This was useful in its time, but the object of worship has evolved. The necessary mystique now resides in the central banks themselves, rather than the currency they emit. ↑
  2. *See supra* note 1. ↑
  3. “Though paper emissions, under a general authority, might have some advantages [over state currency] yet they are of a nature so liable to abuses—and, it may even be affirmed, so certain of being abused—that the wisdom of the Government will be shown, in never trusting itself with the use of so seducing and dangerous an expedient.” Hamilton (1791), at 24. ↑
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# L. Swartz, Starbucks, Libra, and the Boring Future of Money

March 4, 2020

**Lana Swartz, University of Virginia**

In 2010, the satirical newspaper the *Onion* ran a story with the headline, “U.S. Economy Grinds to Halt as Nation Realizes Money Just a Symbolic, Mutually Shared Illusion.” In the joke news report, people all over the country stop in their tracks as they reconsider “little green drawings of buildings and dead white men they once used to measure their adequacy and importance as human beings.” Although the article was humorous, it reflected larger cultural and technical changes that emerged in the wake of the 2008 global financial crisis. As the general public learned about such arcane financial instruments as credit default swaps and collateralized debt obligations, money itself had become strange. And it remains that way. In the context of this chaos and creativity, some people saw an opportunity to create new kinds of money, to forge new transactional communities. During the next few years, a dizzying array of new money forms were produced—from computational “crypto” currencies like Bitcoin to trust-based community currencies.

Between 2010 and 2014, Bitcoin took hold of the public imagination as a mysterious form of money, impossibly complex and outrageously valuable. It was designed to be a kind of “digital gold,” whose value was backed not by traditional governments but by markets and cryptographic scarcity, as well as a form of “digital cash” that was able to move at the global scale of the internet without the fees or surveillance associated with traditional payment intermediaries. The

absence of a central authority appealed to computer-savvy libertarians, cryptocurrency activists or cypherpunks, and cryptoanarchists, many of whom promoted a stateless vision for the future of money.

We may indeed be hurtling toward a future in which states do not have a monopoly on the means of exchange. Some people, depending on their politics, look with optimism to cryptocurrencies or community currencies, and scholars have worked to understand the implications, good and bad, of these new money forms. But what about another option: *corporate* currency?

In January 2018, the Starbucks executive chairman, former CEO, and future presidential candidate Howard Schultz made industry news when he used the first-quarter-earnings call with investors to talk not just about the future of Starbucks but about the future of currency. In the call, Schulz marveled at how the world had been transformed by the internet and suggested that in the coming twenty years, the next comparable transformative technology would be digital currencies. But Schultz was not talking about Bitcoin. Rather, he anticipated that, soon enough, there would be “one or two” digital currencies, which would be produced by companies like Starbucks.

The idea of a digital currency issued and managed by a multinational corporation sounds like c-suite science fiction. And Starbucks might not be the most obvious cradle of a currency revolution. But Schultz made an interesting case. He argued that Starbucks, with its global network, unparalleled fin-tech capacity, and high level of consumer trust, was in a unique position to issue a digital currency. And in fact, Starbucks is already issuing something like a private digital currency: its loyalty program, Starbucks Rewards, which at the beginning of 2019 had 16.3 million active members in the United States. Through programs like Starbucks Rewards, loyalty is becoming a ubiquitous part of many consumers' financial

lives. According to a report from the consulting firm McKinsey, three-quarters of households are members of at least one loyalty program, and the average household has eighteen memberships.

Loyalty programs aren't new. One of the earliest versions became popular in the 1930s.<sup>31</sup> In the 1980s, airlines began frequent-flyer programs, which were soon yoked to credit cards. In the 1990s, cards were designed with a greater variety of rewards and points systems. It might seem like quite a leap for loyalty to go from paying for an occasional latte or even a flight to becoming a full-fledged currency. But many people already talk about loyalty programs as though they issued "real money." In 2002, the *Economist* described frequent-flyer miles as "a new international currency."<sup>[2]</sup> More recently, a blogger wrote that she didn't really need Bitcoin because, as she put it, "I already have a cryptocurrency, it's called Sephora Beauty Insider Points."

Bitcoin gets a lot more attention than loyalty, igniting imaginations (of teens and drug dealers and programmers and venture capitalists and CEOs and scammers) about the potential for digital currency, but more people actually use and care about loyalty than even really know for sure what Bitcoin is. Bitcoin's power comes from its technological mystique and mystification. Loyalty is banal, but that—along with corporate power to scale unilaterally—just might be how it comes to be the mainstream form of digital currency. The headlines may have gone to Bitcoin, but the market turned to loyalty.

If Starbucks and other companies are getting into the business of making money, what would that mean? Christine Desan describes the issuing of money as a "constitutional undertaking."<sup>[3]</sup> She writes, "'Private' organizations, cities, commercial collaborators, and other entities can undertake to make money, and many have. As they organize their members, they produce their own politics." Desan is clear, however,

that the form that the “stakeholder” takes—king, church, democratic government, mining company, blockchain, community group, multinational coffee chain—has consequences. Money can be governed as an object of democracy or tyranny. It can be designed to distribute wealth and power in a variety of different ways. In turn, the design of money is constitutive of the community in which that money circulates.

The state may indeed be losing its monopoly on money. Bitcoiners and alternative-currency activists are prying its grip loose in our imaginations. But the capacity to bring functioning nonstate money to the mainstream at scale is perhaps only possessed by corporations. The mass money media of state currency will probably be displaced by social money media that does not aspire to be public or universal, free or fair. As Marx aptly put it, “Men make their own history, but they do not make it as they please.”<sup>[4]</sup>

There is an important comparison to be made between the utopian techno-economic imaginaries of alternative currencies and the historical trajectory, present condition, and mythical recollection of the internet. Bitcoin’s promoters often compare it to the early days of the internet, an idealized time marked by potentiality: governments and their regulators had not yet caught up to technology, big corporations had not yet enclosed and centralized the web, fortunes were still to be made. The internet was seen as a new frontier, a blank slate on which to build a society that would correct some of the errors of modernity, a temporal reset: it was simultaneously the distant, premodern past and the future.

And yet, the products and services that survived into the twenty-first century had shed this vision of the internet as a technology of individual liberty. Instead of “a civilization of the Mind,” as Internet pioneer John Perry Barlow put it, we got Facebook. Whereas the architectures of early internet applications like USENET distributed control among a

decentralized network of independent nodes, social media systems like Facebook concentrate power and control in a single, private organization. In contrast to the peer-to-peer ideal, social media systems enforce strict hierarchies between platform owners, partners, and users. Facebook controls all of the data that circulates within its walled garden, a system of near-total surveillance with no democratic governance or avenue for redress. In an inversion of the cyber-libertarian vision, then, today's social media platforms retain all of the resistance to regulation and none of the obsession with individual civil liberties.

Loyalty is, at least in this context, the Facebook of money. The techno-social imaginaries of Bitcoin and local currencies both, in different ways, resemble and are directly influenced by those of the early social web. But like today's social media platforms, loyalty is constrained rather than open. It creates new hierarchies. It is fundamentally surveillant. It is resistant to democratic governance, and it offers few opportunities for redress.

Then again, Facebook itself may be the Facebook of money. In June 2019, Facebook unveiled its plans for a digital currency called Libra. The announcement was unsurprising as Facebook had been trying to come up with a successful payment service for some time and because, by that point, everyone from Goldman Sachs to turkey farmers was experimenting with blockchain technology. But Libra, at least as expressed in its white papers and launch materials, was far more ambitious.

Libra is envisioned as a universal, global currency: a one-world money, aspiring to pave over the differences between national currencies and payment systems, to bring all users of money, banked and unbanked, under its auspices. Unlike cryptocurrencies like Bitcoin, Libra is not rooted in a libertarian market vision. Whereas cryptocurrency advocates imagined a world without third-party intermediaries and megalithic control systems, Libra embraces them. Whereas state

currencies can be subject to democratic governance, Libra is designed to be managed by corporations at the levels of both monetary policy and infrastructure.

If national currency represents liberal democracy, and Bitcoin represents some combination of techno-libertarianism and anarcho-capitalism, then Libra represents Silicon Valley feudalism. Libra is complete with its own round table: its infrastructure and monetary policy is controlled by the Libra Association. This is not a “peer-to-peer” technology; rather, it bestows a peerage.

When Libra was announced, it felt audacious. It also felt inevitable. In Howard Schultz’s 2018 vision for a future of private, branded monies, he emphasized the need for trust (he was betting on Starbucks). If trust is the key to the issuance of currency, then Facebook, one of the least-trusted companies in the world, is an astonishingly unlikely candidate. But money is a creature of network effects. Its effectiveness comes not just from trust but from ubiquity. With Facebook’s presence on billions of phones worldwide, it has the unique power to coerce users into adopting a new form of currency.

This kind of coercion, rather than trust, is fundamental to some versions of money’s origin story. The anthropologist David Graeber writes of resource-poor medieval monarchs who could “simply send out royal agents to appropriate things they needed from some hapless townsman or villager, record the value of those things on hazel twigs, and leave the stocks with the victim.”<sup>[5]</sup> These stocks, or tally sticks, were a record of the debt the sovereign owed the subject. The subject could turn around and use the stick for exchange, and once the stick changed hands enough times, it became money, marking a transactional community that accepted the deferred debt of the king as payment. But the shock of the original coerced trade remained. If we are someday forced, en masse, into the transactional community of Libra, what will Facebook leave us

with?

Of course, Libra may not be as inevitable as it seemed. By 2020, ahead of its targeted launch date, most of the key members have pulled out of the Libra partnership, and the project seems to be crumbling. But in 2019, Facebook had more quietly announced new plans for Facebook Pay, a payment system that would work across Facebook, WhatsApp, and Instagram. In the launch materials for Facebook Pay, there were no promises about a new global currency, about changing the world. There was no public backlash, there were no dramatic congressional hearings. The project lacked the audacity of Libra, and triggered none of the scrutiny. The announcement barely registered. Libra was revolutionary, but Facebook Pay was boring.

Yet there is tremendous power in boring things. Susan Leigh Star, who playfully but accurately referred to herself and her collaborators as the “Society of People Interested in Boring Things,” makes a case for the importance of paying attention to infrastructure: “Study a city and neglect its sewers and power supplies (as many have), and you miss essential aspects of distributional justice and planning power,” Star writes. “Study an information system and neglect its standards, wires, and settings, and you miss equally essential aspects of aesthetics, justice and change.”<sup>[6]</sup> Star cites Langdon Winner’s classic example of Robert Moses, a New York City planner who made the decision that the bridges over the Grand Central Parkway would be low in height. These bridges were too low for public buses to pass through. Poor people were effectively prevented from traveling easily to and from wealthier Long Island suburbs, by design, not policy. Star writes, “there are millions of tiny bridges built into large-scale information infrastructures, and millions of (literal and metaphoric) public buses that cannot pass through them.”

The Federal Reserve has described payment infrastructures as

“highway of commerce.” What low bridges are built into today’s emergent private “highways”? There is power in money’s “tokens”—in currency itself, in the backing and authorizing of it—but as Bill Maurer and I have argued, separately and together, there is also power in its “rails”—the systems that move money around and collect data on this passage. Infrastructures, as Paul Edwards argues, “act like laws.” He writes, “To live within the multiple, interlocking infrastructures of modern societies is to know one’s place in gigantic systems that both enable and constrain us.”<sup>[7]</sup>

Georg Simmel argues that money is a “claim upon society”: its value is derived from trust in collective systems.<sup>[8]</sup> But as Nigel Dodd points out, “it is far from obvious that the ‘society’ [Simmel] had in mind when he was describing it was equivalent to a nation-state.”<sup>[9]</sup> This insight is the essence of what motivates Bitcoiners and others whom Maurer affectionately refers to as “money nutters” (Mark Zuckerberg and Howard Schultz not least of all) to change the money and thereby change the world. These are all infrastructural projects as much they are currency projects. But these visions are, on some level, post-democracy fantasies. What would it mean—what would it take—to, as Desan puts it, “constitutionalize” the infrastructure, the rails, not just the money that rides on them?

(This is based on and partially excerpted from a chapter from my forthcoming book, *New Money: How Payment Became Social Media*, Yale University Press, Spring/Summer 2020)

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## **H. Allen, Cryptocurrencies as Privately-Issued Moneys**

February 26, 2020

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Money serves three important functions. It acts as a unit of account (meaning that it can be used to measure the value of goods and services); a store of value for the future; and a medium of exchange enabling a transfer of value from one

person to another. Money does not necessarily need to be issued by a sovereign government: these functions can be fulfilled by something that does not satisfy any *legal* definition of “money” or “currency”, so long as there is an implicit agreement amongst a group of actors to use that thing as a unit of account, store of value and medium of exchange. However, in the absence of institutional support from a central bank and government, confidence in the ability of such privately-issued money to continue fulfilling these functions is fragile, and thus the tenure of privately-issued money is often limited. This essay will consider the extent to which cryptocurrencies, and in particular, Facebook’s proposed Libra currency,<sup>[1]</sup> can serve as privately-issued moneys, and explain why their money status (if achieved) will be fragile, and potentially dangerous.

Panic can quickly erode the money status of any privately-issued money. If confidence in that money begins to fray for any reason, payments will no longer be able to be reliably effected in that money at a rate that matches the expectations of the community that adopted it. Because private issuers of money are unable to levy taxes, they are limited in their ability to muster resources to back their money in the event of a panic. The inverse is also true: because privately-issued money cannot be used to pay taxes, there is no baseline public demand for that money, which means that it 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. Sovereign currencies also benefit from other measures of support that privately-issued money lacks. Central banks often commit to price stability mandates that can ensure that sovereign currencies continue to match expectations about their continued functioning as a unit of account and store of value. If confidence in a sovereign currency is undermined for some reason, central bank statements regarding prospective monetary policy can calm those concerns. During a panic, users of privately-issued money are therefore likely to exchange

that money for sovereign currencies, depressing the value of the privately-issued money (thus damaging its functions as a unit of account and store of value) while at the same time reducing the pool of people with whom privately-issued money can be used as a means of exchange. Even more users of the privately-issued money will then be incentivized to exchange for sovereign currencies, creating a vicious cycle.

The possibility of such dire outcomes does not always dissuade users from adopting a privately-issued form of money, though. Just as other assets (ranging from immovable stone discs to squirrel pelts to cigarettes) have temporarily served as money within certain communities, a cryptocurrency could serve as money if there were agreement within a community to use it in that fashion. However, even when compared to historical examples of privately-issued money, the "money" status of cryptocurrencies like bitcoin seems particularly fragile because such cryptocurrencies are not backed by any revenue stream and lack any tangible value as a commodity. As a result, a panic could easily deprive the cryptocurrency of its ability to serve as a means of exchange or a store of value. Furthermore, panic is not the only means by which cryptocurrency could be stripped of its money functions. As the technologies by which money is created, documented and conveyed become increasingly sophisticated, it becomes increasingly possible that operational failures could cripple its functionality. For example, if the distributed ledger on which ownership of a cryptocurrency is recorded became significantly corrupted, then the cryptocurrency would no longer act as a reliable store of value (the existence of a unit of cryptocurrency is entirely determined by its recordation on a distributed ledger). Furthermore, because transactions in cryptocurrencies can only be effected by updating the distributed ledger to reflect the transfer of the unit to the new owner, a corrupted ledger would also prevent the cryptocurrency from serving as a means of exchange.

Distributed ledgers can be difficult to fix. Many such ledgers are decentralized, in the sense that there is no one “in charge”, and so fixes cannot take effect unless and until they are adopted by the majority of the users in the network. If majority approval cannot be achieved, the gridlock can be addressed by a “hard fork” that splits the distributed ledger in two, but given the network effects of distributed ledgers, hard forks are undesirable. Admittedly, not all distributed ledgers are decentralized: some are designed to have hierarchies of control or established coordination mechanisms that make such impasses less likely. However, if these ledgers are designed to be interoperable with other ledgers, or are accessed through APIs developed by third-parties, those in charge of the ledger may still be limited in their ability to address operational failures. In sum, because of the technological complexity of cryptocurrencies, there are yet-to-be-appreciated operational risks that could impair a cryptocurrency’s ability to function as a unit of account, store of value and means of exchange.

Of course, in order for a privately-issued money to lose its money status, it has to attain that status in the first place. The volatility of cryptocurrencies has so far inhibited their ability to function as a unit of account, means of exchange or store of value, (although cryptocurrencies have arguably come closer to achieving that status in jurisdictions like Argentina, where the sovereign-issued money is also plagued by uncertainty and volatility). The latest iteration of cryptocurrencies, the “stablecoins”, are designed to better achieve money status by moderating fluctuations in value – either by backing the cryptocurrency with some form of asset collateral, or by using algorithms to manage the supply of the cryptocurrency (or by combining both mechanisms). The Libra currency that has been proposed by the Libra Association (a not-for-profit organization that was pioneered by, and is currently led by, Facebook) has been classified as a “global stablecoin” or “GSC”. The white paper setting out the

Association's proposal explains that the Libra currency will be backed by a basket of bank deposits and short-term government securities in a variety of currencies (referred to as the "reserve"), in order to assuage concerns about Libra's reliability as a store of value and unit of account. Since the Libra Association published its white paper, it has received significant (and seemingly unanticipated) pushback from national governments. This concern is justified by the proposed scope and scale of Libra – the white paper states that it seeks to be a global currency that will facilitate cross-border exchanges amongst billions of people.

The value of a Libra will fluctuate depending on the composition and valuation of the underlying reserve of assets, but the Libra Association has stated that the Libra currency has an intrinsic value. This assurance could quite possibly create unwarranted confidence in Libra that could easily be disrupted by a panic. If holders of Libra came to doubt that Libra could retain a stable value against their preferred sovereign currency, then they would exchange their Libra for that currency. It is unclear from the White Paper whether Libra holders would be able to require the Libra Association to buy Libras back from them, or if holders would be entirely reliant on third parties to exchange their Libras for sovereign currencies (if the latter, the reserve seemingly contributes little to Libra's reliability as a store of value). If the former, during a panic the Libra Association would have to start exchanging or selling the most liquid assets from the reserve in order to meet the redemption requests, flooding the market with such assets and depressing their values. Remaining Libra holders who feared that the value of their Libra would plummet against sovereign currencies as the reserve is depleted would be incentivized to redeem their Libra for sovereign currencies as early as possible, creating a vicious cycle. If, on the other hand, holders had no right to redeem their Libras from the Libra Association, the reserve assets themselves would be less

affected by a panic. However, asset prices would be dragged down in other ways. Confidence in Libra would be even more fragile if the reserve were inaccessible to Libra holders, and so financial institutions with significant exposure to Libra could swiftly find their holdings to be worthless in a panic – given how highly leveraged financial institutions tend to be, they would likely have to rapidly sell other assets in order to meet their obligations, depressing their values.

A panic with regard to Libra could therefore result in a fire sale of assets, crippling the financial markets. Given Libra's proposed scale, the impact of such a panic would likely be global, and to avoid such an eventuality, there would be pressure on national authorities to bail out Libra (although given the international reach of Libra, working out the terms of such national intervention would be a messy process, with the panic only worsening as the details were hashed out). Furthermore, even in the absence of panic, Libra could generate negative externalities worldwide. Implicit in the Libra Association 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. The Libra Association intends to profit from producing and distributing Libra, and these profits (known as seignorage) free-ride on the efforts of national governments, central banks and regulatory authorities to preserve stability in their own sovereign currencies. At the same time, Libra intends to cannibalize the market for sovereign currencies and thus erode the ability of national authorities to earn their own seignorage. A more limited supply of national currency also limits the ability of national authorities to carry out monetary policy for the benefit of the broader economy. In sum, a widely-adopted Libra could undermine national monetary policy and profit at the expense of national governments, as well as create global financial crises. While Libra has been proposed as a solution to real problems like financial inclusion and cross-border

payment inefficiencies, the significant perils associated with treating it as privately-issued money militate for finding other solutions to these problems.

1. There is some controversy about whether Libra should be classified as a cryptocurrency, because the Libra White Paper does not contemplate using any cryptographic proofs to verify Libra transactions (at least at first). However, Libra shares many other attributes with existing cryptocurrencies which are pertinent to determining the “money” status of Libra. ↑

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## **B. Maurer, Money at the Zero Lower Bound**

February 20, 2020

**Bill Maurer, University of California, Irvine**

I picked up a copy of the Financial Times in the Munich airport on my way home from keynoting the Bundesbank’s biannual International Cash Conference. The lead article, headlined “Draghi calls for urgent spending as he relaunches stimulus,” reported that the European Central Bank had lowered interest rates deeper into negative territory, to -0.5%. In the opinion pages, anthropologist and regular columnist Gillian Tett observed that negative interest rates were constraining policy options to stimulate growth, which might compel central banks to coordinate more directly with fiscal policy makers—thereby lessening, if not abandoning, central bank independence. Lack of monetary policy options was leading to a “changing zeitgeist,” she wrote.

At the Bundesbank conference, attended by people affiliated with the cash payments divisions of central banks and others, researchers presented data on the increase in cash demand despite the decline of cash transactions at the point of sale. People are increasingly paying with their mobile phone or cards, but at the same time, negative interest spotlights the cost of bank deposits, suddenly making cash a smarter option for savings. At the conference, lighthearted disagreements over whether to call this “cash hoarding” gave way to more insistent pleas for what some called “non-transactional” cash to be recognized as a rational response to negative interest with consequences for commercial banking and banknote design. If people are going to hoard cash, then perhaps banks need to get into the business of building vaults. And if people are going to want cash as a store of value resistant to negative interest, perhaps innovative banknote design should *support* hoarding: the cash should be more durable, stackable, maybe smaller than a standard banknote, and able to be kept in a cupboard and easily stashed in a backpack, should one need to escape a natural disaster, political instability, or war.

These were European designers, talking about European banknotes. This is a changing zeitgeist indeed.

Cash limits just how low interest rates can go, unless governments find a way to levy and enforce a tax on cash. Cash holdings are an alternative to paying the bank to hold your deposits—at least until the cost of storage, security and insurance approach the cost of paying negative interest. Hence: vaults. If for everyday transactions cash serves as a control mechanism for consumption (the pain of seeing your cash go away introduces a mental speed-bump in your spending), at the monetary policy level cash is a control mechanism defining a limit to the “innovative” monetary policies we have seen since the global financial crisis.

Potential liquidity traps, no-growth, and no-tools-left monetary policy (and, it is important to underscore, a level

of political instability not seen in the industrialized North since World War II): into this world plunks Libra. Facebook's proposal for a new digital money, a competitor to state-issued currencies that nonetheless acquires its value from them, only makes sense in this broader context.

Libra is diagnostic for these constraints on monetary policy and goes along with a paradigm shift taking place in the whole money system. After all, these apparently paradoxical things are happening in the same world: currency designers are designing for the hoarding of physical money, and Facebook's coders are proposing a new digital money. I say that from my view as an ethnographer of the zero lower bound—privileged to witness the personal and professional interactions and pronouncements of central bank researchers and tech developers interested in future moneys, as well as having an abiding interest in and ongoing conversations with the people who literally make the stuff of money, the designers and coders.

The last time a digital money made headlines it was Bitcoin and it was 2008 and the time of the global financial crisis. Bitcoin's founders famously memorialized the GFC in the currency's so-called genesis block, the first set of transactions verified by its distributed network and posted to its massively replicated database, the blockchain. Encoded in that block was the phrase, "The Times 03/Jan/2009 Chancellor on brink of second bailout for banks." The message referred to the Times of London headline, as the GFC ground on and quantitative easing had not spurred lending. That edition of the Times, in fact, has now become a talisman in the cryptocurrency community and even has its own website devoted to locating and verifying physical copies of the newspaper. It is "the most rare, and most valuable crypto collectible in existence". It is taken as a symbol of the failure governments and central banks to manage money, and a call-to-arms for adherents of non-state digital currencies.

I do not think it is a coincidence that people at Facebook

came up with Libra in a similar monetary context. This time, however, the political situation is decidedly more unraveled: the post-Bretton Woods consensus is challenged not just by political and economic turmoil in Europe and North America but by a rising China—with a billion users of mobile payment services WeChat and Alipay—and the dominant global reach of platform companies like Facebook, Amazon, Google and Apple. In 2008, the iPhone had only just been launched, and Facebook was still the #2 social network after... MySpace.

The other big change, I think, is that last time people actually *did* believe that innovative monetary policy would get us out of that mess, and this time, people are not so sure. And last time people thought Bitcoin was kind of a joke. This time? It is not the case that Libra is perceived as a threat to state-issued currencies. Honestly. Its travails before regulators—and its shedding of support from its initial backers like Visa, MasterCard and PayPal—suggest it will have to transform itself before it is ever launched in the first place. Sovereign producers of money are not so much afraid of a little competition from a private provider as they are the potentially profound transformation of their role that digital currencies could represent—if they themselves were to get into the business of digital currencies. For Libra is giving lift to another set of ideas inspired by Bitcoin but left by the wayside—until now, and with implications for what money may become.

On March 2, 2016, Ben Broadbent, Deputy Governor for Monetary Policy of the Bank of England, delivered a talk at the London School of Economics in which he floated the idea of central banks issuing digital currencies. He began with Bitcoin—not as a unit of account but as a settlement technology—and laid out the case for a clearance system for individual people to hold accounts at the central bank rather than at commercial banks. Clearly dazzled by the technological aspects of digital currencies, Broadbent was more clear-eyed on their

implications for the supply of credit, since removing bank deposits from commercial banks would hinder their ability to make loans. Others at the Bank of England (Michael Kumhof, Clare Noone) further explored the possibilities for and implications of central bank digital currencies.

But Libra—and the changing zeitgeist—“revivified” the conversation, to quote one of my interlocutors. The reach and power of Facebook, coupled with the zero lower bound and the strange circumstances of monetary policy generally (the new normal of low growth, negative interest rates, and observable changes in everyday cash demand, i.e., hoarding) brought to the surface another feature of hypothetical central bank digital currencies (CBDCs).

There is a political mythology on the far right and far left that central bankers secretly rule the world. It is a mythology rife with conspiracy theory, anti-Semitism, gold buggery, and anarcholibertarianism. But for some central bankers, CBDCs could represent the realization of that myth. If there were a CBDC, *and cash were abolished*, then there would no longer be an interest rate floor. Central banks could push as far into negative territory as they wanted or needed, simply deducting from people’s accounts this tax on deposits. If there were a CBDC and no cash, central banks could also make so-called “helicopter drops” of money into individuals’ accounts, to spur spending. And if there were a CBDC and no cash, central banks could also monitor accounts to mitigate if not eliminate tax evasion or fraud. Far from the Bitcoin-envisioned world of no state control, this would be a dystopic nirvana for central bankers indeed.

And the central bankers, in the main, I think realize this. In both Sweden and the Netherlands, the central banks have put the brakes on their earlier visions of a cashless society. Sweden’s Civil Contingencies Agency issued guidance to the country’s residents to stockpile physical cash in case of cybersecurity emergencies or other disasters.[1] The

Netherlands central bank has issued warnings about the vulnerabilities created by the abandonment of cash, as well as the need to retain cash as a fallback mechanism in case of IT hacking or failure.[2] Above all, however, central bank officials demure when faced with the question of how people should pay or what form of money they should use: they support instead a broad range of choices in payment.

Some recent science fiction plays with what happens when despite a spectrum of moneys people are denied that choice. Martha C. Wells' *City of Bones* presents a hierarchically structured world in which there are not just sumptuary codes but rules around payment, certain moneys to be used only by members of certain strata defined by geographical region of origin and species. Those who violate the norm are subject to arrest by the Trade Inspectors, authorities who always seem to know when someone of low status uses high status money in violation of the Coin Laws.

Wells' authorities are persons; but how different is her world really from the shunted-off circuits of commerce in China's WeChat Pay and Alipay, which make payment off-platform difficult, and subject all transactions to the surveillance state—which, incidentally, can remotely freeze your phone's SIM card (it's happened to me!).

Libra, too, will presumably work to keep its users within its suite of applications, funds kept in a de facto closed loop, generating fee income for the Libra Association's members as well as interest income based on the float. The Libra Association's founding documents in fact tie those income shares to each member of the Association's stake in the scheme. Those who pay more, get more.

Consider Libra, then, as a more sophisticated rent-seeking scheme than the traditional card networks. Visa, after all, was created as a cooperative association with the intent of making a new market, a market in payments, in which its member

banks and credit unions could compete with one another by offering better rates to customers and better customers to merchants. No member of the association was guaranteed a revenue stream, however—some could, and did, fail. Libra obviates this by baking the revenue model into the cake. The Libra Association's founding members receive "Libra Investment Tokens" which grant "rights to a share of the future interest accumulated in the Libra Reserve." [3] Users' transactional activity—and presumably transactional data, as well—are harvested by the Libra Association for its members' ongoing returns. We get to pay for stuff. Libra's founders get a guaranteed tithe. There is a sort of feudal beneficence to the whole thing.

Yet how different would this be from a world of CBDCs in a low-growth global economy? Having a central bank alternately lower interest rates into negative territory or pump money into individuals' accounts via digital helicopter drops makes of money a centrally managed means of ensuring not wealth creation but simply the shuttling of tribute among the peasantry and its various overlords. It's hard to imagine, furthermore, how such an economy would work without something like the simultaneous introduction of universal basic income, so that there is at least some guarantee of a floor to people's ability to spend in order to support that economy. And UBI, in this scenario, would likely require a hardening of sovereignty, in order to circumscribe who is in and who is out of the polity for the whole thing to be sustainable.

This, again, starts to look something like feudalism, or the ancient empires based on redistribution and circulation. The scenario I am sketching out assumes that central banks continue to operate as they have much since the 1990s. It assumes they will remain focused on inflation targeting rather than fiscal demand management—the former seen more in line with so-called open markets (and inspired by Milton Friedman), which seems neutral and technocratic, the latter seen as too

dangerously close to central planning (and inspired by Keynes), which seems more overtly political because it demands decisions on debt-financed public spending.

But which is more likely to be dangerous in a Libra/WeChat/CBDC world, a world of stratified currencies operating in closed loops segregating people from one another into new castes?

What is money, then? That is to say, what is money in a low-growth world shot through with new instabilities that will increasingly require welfare state apparatuses simply to allow people to continue to live but for which no one knows how to pay?

And what is the alternative? Perhaps a money whose problems are solved not by more technology, but by more democracy.

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[1] Kate Palmer, Sweden, nation that pioneered living without cash, warns: Hoard your banknotes. The Sunday Times, 5 May 2019.

[2] Janene Pieters, Dutch central bank concerned about decreasing use of cash. NLTimes.nl, 29 October 2018; National Coordinator for Security and Counterterrorism, Ministry of Justice and Security, Cyber Security Assessment Netherlands 2019.

[3] The Libra Association, p.1, available at: [https://libra.org/en-US/wp-content/uploads/sites/23/2019/06/TheLibraAssociation\\_en\\_US-1.pdf](https://libra.org/en-US/wp-content/uploads/sites/23/2019/06/TheLibraAssociation_en_US-1.pdf)

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# L. Menand, Regulate Virtual Currencies as Currency

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Eleven years ago an unknown person—or group of people—going by the name Satoshi Nakamoto launched Bitcoin, “a purely peer-to-peer version of electronic cash [that] allow[s] online payments to be sent directly from one party to another without going through a financial institution.” Nakamoto’s “electronic cash,” which users can transfer to each other with the right password, was followed by thousands of other “cryptocurrencies”—digital (or virtual) methods of payment that use cryptography for security—among them Litecoin, released by a Google employee in 2011 (“the cryptocurrency for payments”); Dogecoin, launched as a joke in 2013 and valued at over \$250 million today (“the internet currency”); Ripple, created by a technology company to “instantly move money to all corners of the world”; and Ether, launched in 2015 as a “digital money” that can be used in “a global, open-source platform for decentralized applications.” Recently, established businesses have joined in, with Facebook announcing last summer its plans to launch a “global currency” called Libra, and J.P. Morgan Chase, the biggest bank in the U.S., debuting JPM Coin to settle payments with its clients around the world.

As these new “coins” have skyrocketed in value, briefly surpassing \$700 billion in January 2018, the reaction in Washington has been ad-hoc. The Financial Crimes Enforcement Network has intervened at several points to address the use of cryptocurrency to launder dollars. Securities regulators have also gotten involved to protect investors from entrepreneurs looking to raise dollars through “initial coin offerings.” And

commodities regulators have taken steps to protect people who trade virtual currencies on exchanges. (Relatedly, much attention has been directed to whether virtual currencies are securities or commodities.) But the country's monetary authorities—the Comptroller of the Currency and the Federal Reserve—have been largely silent, leaving the question of whether virtual currencies are money unanswered. Congress too has watched from the sidelines, and commentators have said little about whether virtual currencies should be regulated as money or what would that mean.

This post considers virtual currency from a monetary perspective. It distinguishes between three types and argues that all three threaten serious *monetary* harms. Among them are reduced economic control, lost seigniorage, illegal transactions, regulatory arbitrage, and financial instability. To address these potential harms, it suggests that the government regulate virtual currencies as currencies—that the government require that people exchanging virtual currency comply with existing laws governing monetary transfers and that the government subject virtual currency issuance to regulation by the Comptroller and the Federal Reserve. It further recommends that the government blunt demand for virtual currencies by improving the existing dollar payment system.[1]

#### A. What is Virtual Currency?

It's helpful to begin by distinguishing between three types of virtual currency. Bitcoin and most of the other cryptocurrencies launched since 2009 are what I call *utopian coins*. They aspire to be what, in other work, I refer to as *root money*. Root money has its own "unit of account," like the "dollar," the "euro," the "pound," or the "yuan," which a group of people use to measure the value of goods and services and other forms of tangible and intangible property. Root money can be distinguished from what I call *synthetic money*—money which uses an existing unit of account and is

generally issued by a bank. (Bank deposits are the classic example.)

Unlike existing root moneys, utopian coins are not issued by states, or by any single entity. They are issued by their users through a set of rules codified in computer code (called distributed ledger technology). No single entity can control their supply. This is a core feature of utopian coins, as their creators see the ability of issuers to adjust the supply of dollars, yen, and euros as a bug (not a feature) of the existing monetary architecture. (Some like Ripple Labs are less ambitious. They retain some flexibility to alter the supply of Ripple, which currently exceeds \$8 billion, and aim more modestly to offer their users a way to bypass, rather than replace, existing payment systems.)

A second and growing category of new moneys might be called *corporate coins*. Corporate coins resemble utopian coins in that they aspire to be root moneys (they do not use existing measures of value). But unlike utopian coins, corporate coins are issued by individual persons—corporations—who, much like states, can change the amount of money in circulation. Prominent examples of corporate coins include Saga, a money launched in December by a UK company, and Libra, the currency proposed by Facebook. Unlike utopian coins, these coins embed collateral: some other asset that people can fall back on. In the case of Saga and Libra, this asset is a claim on a basket of existing moneys. Such collateral is nothing new. For hundreds of years, states combined their moneys with precious metals to encourage people to accept them and to stabilize their value. Coins made of gold and silver functioned as money when they changed hands “by count.” But people could melt them down and sell them for scrap (for example, if their issuers were conquered by a neighboring power), shrinking the amount of money in the economy.

A third type of virtual currency—sometimes called a *stablecoin*—is also issued by corporations. Stablecoins are

just synthetic money in new garb. Like bank deposits, stablecoins borrow an existing unit of account and attempt to trade at par with it. Stablecoin issuers, therefore, are nothing more (or less) than shadow banks. And like most shadow banks, stablecoin issuers embed collateral to encourage people to accept their coins. This collateral mainly takes the form of claims on pools of debt instruments denominated in state-issued root moneys. The most prominent stablecoin is Tether, issued by Tether Limited, a Hong Kong company. (There is \$4 billion in Tether outstanding.) Tether Limited originally claimed that each Tether was backed by one dollar in bank deposits or other dollar assets. But Tether Limited recently conceded that there was substantially less collateral backing their coins, and that it “reserves the right” not to redeem tethers “on a case by case basis.” Other stablecoins, such as USD Coin, Paxos, Gemini, TrueUSD, TrueGBP, and TrueHKD seem to include stronger legal obligations. As do coins launched by existing financial institutions. (J.P. Morgan’s stablecoin is called JPM Coin and is collateralized by the bank’s promise to pay dollars.) More of these coins seemed poised to hit the market soon.

## B. Why is Virtual Currency Dangerous?

Each of these virtual currencies threatens to damage our existing monetary architecture. Below, I consider several of the dangers they pose:

### (1) Reduced Economic Control, Lost Seigniorage, Poor Price Discovery

To the extent that new root moneys succeed in displacing the dollar, the government would lose its ability to modulate the money supply. Although this is trumpeted as a *feature* of most utopian coins, groups of people who are unable to create new purchasing power to finance new productive projects generally are unable to grow their economies over time. And when faced with exogenous shocks, such economies tend to enter vicious

cycles of default and decline. One of the twentieth century's great achievements was monetary flexibility (the ability to break vicious cycles of default by expanding the amount of money in circulation). Even a partial shift to utopian coins would likely mean greater rigidity. And it would also bring monetary fragmentation. The use of multiple currencies in the same economy would increase transaction costs and incentivize arbitrage. There is a reason why the Yen, despite being a stable currency, is not used in Los Angeles.

Corporate coins appear to promise greater monetary flexibility. But existing monetary systems are subject to political control. *The public*, acting through governments, decides when to issue more money and who benefits, and the state receives the revenues that accrue from issuance (between \$50 and \$100 billion a year in the United States). Corporate coins would put monetary policy into the hands of private corporations, which would be able to decide how and to what extent to augment the money supply and who would benefit from monetary expansion. Corporate coins would privatize the returns from money issuance, transferring wealth from the government to corporations and their shareholders.

In addition, virtual currencies would hamper price discovery. The technology behind utopian coins is extremely costly to operate, so costly that it would be literally impossible to process the transactional volume of the U.S. economy in Bitcoin even if all the energy resources on earth were devoted to the effort. And none of the new units of accounts have robust transactional histories. People in the United States today value goods and services and tangible and intangible property in dollars and use vast stores of information about how much things are worth in dollars to order their economic lives. New units of account are completely unmoored by comparison.

## (2) Illegal Transactions

Neither utopian coins nor corporate coins function today as real moneys. No one uses them to value things. But they do function as alternative payment systems, remonetizing illegal transactions. (They also function as speculative assets, diverting social resources from productive investment.) This is dangerous because one of the main ways that governments enforce their criminal laws, promote their interests abroad, and ensure payment of taxes is by regulating their payments systems. For example, the United States prevents criminals and terrorists from using digital dollars to buy goods and services and store up transaction reserves. (It attempts to do the same with physical dollars, but with much less success.) It also blocks foreign actors from using digital dollars, deterring military aggression, terrorist financing, and nuclear proliferation. And it monitors payment flows to keep taxpayers honest.

To date, utopian coins have been used by Russia to interfere in U.S. elections, Iranian hackers to attack American hospitals and government agencies, and North Korea to finance its nuclear missile programs. Iran is currently exploring ways to use Bitcoin to evade U.S. sanctions. Because utopian coins can be transferred easily and securely, drug traffickers use them, as do criminals and other participants in black markets. Further, income earned and retained in utopian coins is likely to evade tax authorities. Corporate issuers would presumably comply with tax laws and anti-money laundering reporting requirements. But the adoption of corporate coins would still make it harder for the United States, which cannot control foreign transactions in these currencies, to use sanctions to discipline adversaries.

### (3) Regulatory Arbitrage and Financial Instability

Corporate coins and stablecoins would also impair financial stability. This is because moneys with embedded collateral carry the seeds of their own destruction. If their users lose confidence in them, they have a ready, nonmonetary alternative

at hand. For example, people who have doubts about the value of deposits at Bank of America—about their ability to exchange their account balances with other people at par—can demand that Bank of America pay them coins and bills. This is called a bank run, and it can cause large amounts of synthetic money to vanish. All the people who had been using these moneys to buy and sell goods and services or store up purchasing power for future transactions suddenly aren't able to anymore. Prices plummet, and incomes fall. Rapid economic contractions usually follow.

Governments have erected elaborate regulatory mechanisms to mitigate these problems. But stablecoins issued by entities outside this regulatory perimeter threaten to arbitrage these restrictions. Circle, which issues USD Coin, has a New York State license to deal in virtual currencies—but is not subject to bank regulations. The same is true for TrueUSD (issued by TrueCoin LLC), Paxos (which holds a trust charter from New York), and Gemini (which holds a New York virtual currency license). Tether has no U.S. regulatory recognition. Additional growth of these deposit substitutes will likely lead banks to lobby for decreased restrictions on their own activities. Each of the three most recent collapses—1929-1933, 1988-89, and 2007-09—were preceded by similar races to the bottom.

(What Would Currency Regulation Entail?)

While utopian coins may die out on their own, absent a change in government policy, they are likely to survive as moneys for criminals, “rogue” nations, ideologues, and people in countries without functioning monetary systems. It is hard to predict whether corporate root moneys will succeed, although it would be foolish for Congress to wait and find out. And if the past is any guide, stablecoins, left alone, will expand. Regulated institutions will have every incentive to use these new synthetic moneys to avoid existing regulations, in much the same way that they turned to repurchase agreements and

commercial paper prior to the 2008 crash.

So, what should policymakers do?

First, they should regulate all virtual currencies as currency. This would mean, for example, treating utopian and corporate coins as currency under the Bank Secrecy Act and using existing authorities to require individuals to report cross-border transactions exceeding \$10,000. The federal government already has an elaborate regime governing monetary transfers designed to prevent illegal transactions. There is no respectable policy basis for exempting digital “tokens.”

Regulating virtual currencies as currency would also mean treating virtual currency *issuers* as banks. A bank is an entity that creates money. One type of money that banks create is called bank notes. During the Civil War, the federal government created a national banking system, giving “national banks” an effective monopoly on note issuance by imposing a prohibitive tax on all other issuers. The notes created by national banks were printed by the government and regulated by the Comptroller. In the 1930s, the government pulled the plug on national bank notes, and today only the twelve Federal Reserve Banks (FRBs) are permitted to issue physical money.

But national banks, national credit unions, and other entities chartered by states still issue another type of money called deposits or account money. Account money is a type of digital currency—it is a ledger entry that can be transferred online. Account money makes up the vast bulk of the money people use every day, an order of magnitude more than notes issued by the FRBs. When denominated in dollars, virtual currencies are, in many respects, indistinguishable from account money issued by banks. When denominated in other units, they are a lot like account money in a foreign currency, especially if they use dollars or other currencies to back their issuances. We have a regulatory regime for ensuring that this sort of money is “sound”—that it maintains a stable value over time. It makes

little sense to allow new entrants to copy this business but evade the regulatory regime designed to ensure its stability.

Accordingly, the government should require virtual currency issuers to apply for bank charters from the Comptroller. It should also subject stablecoin issuers to regulation by the Federal Reserve, the government agency charged with modulating the supply of dollars and setting reserve requirements for entities that maintain accounts denominated in dollars. And it should prevent states from erecting competing regulatory regimes for virtual currency issuers by restoring and extending the tax on state bank notes to cover corporate coins and stablecoins issued by entities without national charters.

Second, policymakers should improve our existing monetary architecture. Efforts by the Fed to build faster rails for regulated synthetic moneys issued by banks are a step in the right direction. But the Fed already has FedWire, which settles immediately, and so it could also expand access to this system by allowing households and business to open accounts at the Fed. This would permit households, nonprofits, and businesses to easily hold digital dollars in large quantities, likely dulling demand for stablecoins and other corporate coins. A FedAccount program would also have an array of other benefits, including a more inclusive financial system, better consumer protection, greater financial and macroeconomic stability, improved monetary policy transmission, reduced payment tolls (interchange fees), streamlined regulation and regulatory structures, and increased fiscal revenue.

New technology is transforming the way we pay for goods and services, store value, and settle debts. While the back end is different, the functions are not. We already have a regulatory framework for money and payments. We should apply it to virtual currencies.

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[1] This post draws on unpublished work: *Why Private Money is Bad (And What To Do About It)*.