6-2019

Money's Past is Fintech's Future: Wildcat Crypto, the Digital Dollar, and Citizen Central Banking

Robert C. Hockett
Cornell Law School, rch37@cornell.edu

Money's Past is Fintech's Future: Wildcat Crypto, the Digital Dollar, and Citizen Central Banking

Abstract

This Essay argues that crypto-currencies will soon go the way of the 'wildcat' banknotes of the mid-19$^{\text{th}}$ century. As central banks worldwide upgrade their payments systems, the Fed will begin issuing a 'digital dollar' that leaves no licit function for what the Author calls 'wildcat crypto.' But the imminent change heralds more than a shakeout in fintech. It will also make possible a new era of what the Author calls 'Citizen Central Banking.' The Fed will administer a national system of 'Citizen Accounts.' This will not only end the problem of the 'unbanked,' it will also simplify monetary policy. Instead of working through private bank 'middlemen' that it hopes will pass QE to borrowers during downturns, the Fed will be able to make 'helicopter drops' directly into Fed Citizen Accounts. And rather than relying solely on interbank lending rate hikes or on countercyclical capital buffering during periods of monetary excess, the Fed will be able to impound money through the more carrot-like measure of interest payments it credits to those accounts. Fintech utopians are right that our money is changing, but wrong about what change will look like. It will look like a digital dollar administered by a 'Citizens' Fed.'

Introduction

Crypto-assets have drawn much attention of late. From Bitcoin's market volatility,[1] through what I call 'Cryptopian' enthusiasm, clean down to regulator puzzlement[2] over how best to regulate Bitcoin's cousins, stories in the financial press seem as often as not to concern digital currencies, blockchain technology, or any of a growing array of new topics now routinely lumped under the barbarous rubric of 'fintech.'[3]

Against this backdrop, we hear many dark augurs and some sunny ones, too. Cryptopians claim crypto-monies will supplant 'mere fiat' money, liberating us from both government oppression and central bank currency 'debasement.' Worrywarts warn blockchain will aggravate crime and yet-further shade both black and shadow markets, which we will lose all capacity to regulate. And still others look forward to privacy Paradises and revived local 'circulation economies.'[4]

Many a layperson lacking in info-tech education might wonder just what to make of these claims. Must one be a programmer or cryptographer before she can weigh in on such heady matters? This Essay argues that the answer, where most fintech is concerned, is 'probably not.' Where *crypto-currency* is the subject, however, we can be *sure* that the answer is *no*. For as it happens, we have been here before. The story of America's paper money is a preview of the story we will soon see unfolding for crypto-money. Our money's past is, in short, our fintech's future.

The Essay tells its tale in three parts. First it recounts our most apposite history—the story of America's move first from 'wildcat' banknotes through Treasury 'Greenbacks' to Fed-modulated credit-dollars. Then it shows how developments in the crypto space have been recapitulating that earlier evolution, and why that had to be so. And finally it sketches out the end-state toward which this is all heading—that of a Fed-administered digital dollar, with a comprehensive system of Fed Citizen Accounts serving as that dollar's architecture.

1. Three Ages and Stages of Money

Dollar bills are remarkable things. They are the same all over the United States. Take out money from a bank branch or an ATM anywhere and you will get the same thing for your trouble: a combination of green one dollar, five dollar, ten dollar, twenty dollar or perhaps hundred dollar notes. They will all look the same, and they all will be worth the same when their denominations are the same.

That is what sovereign-issued currency looks like, even when paid out or lent out by nominally 'private' banks. Because they all deal in national currencies, banks are not really as private as you might think. They are licensed by us, the sovereign public, to deal in our money—our Federal Reserve Notes, as our money bills call themselves.[5]

'Dealing in' our money here includes several things, among them taking deposits in the form of that money, administering payments made via resultant *accounts* that hold deposited money, and even *issuing* our money, every time they make loans, which they do simply by crediting or opening dollar-denominated accounts directly. The latter is a process that, contrary to popular misconception, requires no antecedent accumulation of deposited funds. All that is needed is for the Fed to recognize payments made from these bank-opened or -credited accounts via the national payments system that it administers, a process that I call 'accommodation.'

In effect, then, banks are franchisees, while we the sovereign public are the franchisor and our national money—the dollar, the monetized full faith and credit of the United States—is the franchised good.[6]

You can think of the uniform value and appearance of our currency as being a bit like those identical sandwiches and golden arches you see all around the country (and world) if you like: They serve to let everyone know that the item is the same irrespective of just where you are in our nation—New York, California; Florida, Alaska ... They are always and everywhere the same: green notes, worth no more and no less than they purport to be worth.

And if a bank abuses the brand by, say, issuing bad loans or over-leveraging itself, thereby imperiling the value of deposits, it will risk losing its charter much as a restaurateur who sells spoiled food risks being booted from the franchise. That is how franchises work. They are 'quality control' pacts, with the franchisees abiding by the terms and the franchisor administering and enforcing the terms. Where our money is concerned, we are the franchisor.[7]

If you see the truth in this, you might be tempted to think things have always been thus. Did not the U.S. make the dollar its money right from the start? Is it not in the Constitution?

The answer is, 'yes and no.' The key feature of the dollar in the early days of our republic—until 1863—is that for most of these years it was primarily a mere unit of account rather than a currency. Yes, the U.S. Mint minted coins, the Treasury issued some paper, and the First and Second Banks of the U.S. issued some paper as well from the 1790s to 1836. But paper money—'notes'—were issued primarily by private banking institutions until late in the 19th century. Hence the term 'bank notes' for most paper currencies that circulated until late in the 19th century. America's paper money supply was primarily a plethora of privately issued bank notes.[8]

Bank notes were denominated in dollar increments, but were not sovereign-issued liabilities like today's dollar bills are. To recur to my earlier metaphor, the banks were at best franchisees of subnational state governments alike, and at worst franchisees of themselves. Their notes were their own liabilities—hence liabilities of private issuers. And different issuers, for their part, were differently reliable. Two banks might both promise redeemability of their notes into the same quantum of something more solid—gold, for example, or U.S. Treasury certificates—but might well be differently able to live up to their promises. Some might be sound, others might be less so. Some might be sound this year but not so much next year.

These differences among banks' reliability stemmed from a variety of factors. One was that bank regulation was more technologically difficult in the 19th century, meaning that regulators could be only so effective at enforcing licensure requirements and exercising quality control over paper currency issuers. Another was that banks then were chartered and regulated, as noted above, by states rather than by our federal government. This meant that differing state willingness or readiness to regulate could bring differing values to currencies issued in different locales. New York and New England banks, for example, were often reliable. Nebraska or Michigan banks, by contrast, not so much.

The upshot of this 'Banking Babel'[9] was that the nation's currency supply largely consisted in hundreds or thousands of distinct bank notes all trading at various discounts to stated par. A dollar note issued by Billy the Kid Bank or Sidewinder Bank might trade at 50% of par, for example, amounting to no more than 'four bits,' not a dollar. A dollar note issued by Wyatt Erp Bank or Bald Eagle Bank might, by contrast, go for 90% of par, or even full par.

Making things worse, these currencies constantly *fluctuated* in value, both in relation to the goods and services they could command and in relation to *one another*. How much money you had in your pocket thus varied with whose notes you carried and when, even though all were denominated in dollars. Shopkeepers and tradesmen in consequence had to maintain regularly updated discount schedules behind their counters, instructing clerks how much to discount different banks' notes in determining 'how much' (of what) to charge buyers for goods or for services.

If you carried multiple banks' notes in your pockets, making purchases at the general store could take you—and the store clerk—much longer than we are used to by now. Imagine the queues that would form at the checkout lines of our stores if we did that now... Scarce wonder that this period of U.S. banking history is called the 'wildcat banking' era.[10] (Those who think this was a good idea call it the 'free banking' era. It was free, all right—often value-free.)

Needless to say, private banknote money did not make for an optimal payments system. It was good that the nation had a *unit of account*—the dollar—but unfortunately it still lacked a widely usable national *currency*.

This all changed in the early 1860s. By that time the nation was embroiled in domestic strife. The Civil War threw up two factors that made something resembling a uniform national currency possible. The first factor was that the stresses of war made a single and stable currency more clearly necessary than ever before. To prosecute the war the federal government had to be able to spend its own currency anywhere in the Union where government operations were necessary. The second factor was that the southern slave states, which had always been the principal objectors to federal banking and national monetary uniformity, were conveniently unrepresented in Congress during the war years—they were trying to secede.

The upshot was that Congress passed a number of pieces of currency reform legislation, culminating in the Legal Tender Act of 1862, the National Currency Act of 1863, and the National Banking Act of 1864,[11] all signed into law by President Lincoln. The Acts together established a system of federally chartered 'National Banks,' located all over the nation, all issuing notes convertible into the very same Treasury-issued currency. The latter was called, tellingly, the 'Greenback.' That color word linked to a currency might ring familiar?

The banking and currency acts of the 1860s transformed our interlinked banking, financial, and monetary systems. In very short order there were federally chartered banks in most states and territories of the Union, all of them subject to uniform regulatory standards—including that every $100 in notes be backed by $111 in sovereign bonds—and all of them issuing, accordingly, a de facto uniform currency with a uniform value. These banks could also sell U.S. Treasury securities, effectively making of them a system of outlets for issuance of both of our federal government's principal circulating liabilities: Greenbacks and T-Bills. In very little time, wildcat banknotes drained out of circulation.

The administrator of the new national banking system was called, tellingly, the Office of the Comptroller of the Currency, or 'OCC.'[12] The name is telling because 'comptroller' is merely archaic English for 'controller.' The OCC, housed in Treasury, was effectively the 'controller'—the administrator—of our national currency system. That, and only that, was why the OCC was founded as the nation's first federal bank regulator. It is almost as if Congress and President Lincoln understood, at least implicitly, that they were establishing a sort of national sovereign money franchise.[13]

The OCC remains to this day one of our principal federal bank regulators. It is the chartering authority for national banks, administers those banks' portfolio-regulatory and other regulatory regimes, and has the final word on whether a national bank has gone bankrupt in such manner as engages the orderly liquidation and depositor reimbursement processes prescribed by the Federal Deposit Insurance Act, promulgated some 70 years after the 1860s banking and currency enactments.

The OCC has rather less to do with the national currency, however, than it had for its first fifty years. That is because, by 1913, we as a nation had come to realize that a healthy economy needed more than a *uniform* currency. It *also* needed what is known in the discipline as an *elastic* currency.[14]

An elastic currency is a currency whose supply can be adjusted (a) to accommodate, while not *over*-accommodating, transaction and credit demand, and (b) to counteract sudden credit expansions or contractions.[15] The idea is to maintain just enough credit-money supply to accommodate desired transaction volumes and enable productive investment, so as not needlessly to squelch either, while at the same time preventing over-issuance of the sort that can spark inflation—the classic problem of 'too much money' chasing 'too few goods.'[16] A money whose supply can be 'modulated' in this way, as I call it, is essential if we are to avoid needlessly disrupting transaction activity, investment activity, or currency value.[17] And that is to say it is essential if we would maintain smooth, steady growth of our nation's wealth and productive capacity.

The OCC and Treasury more generally were not well equipped, operationally or transaction-technologically speaking, to engage in what I elsewhere call this daily 'money-modulatory' task that an elastic currency requires—at least not so long as state-chartered banks offering checkable deposits continued to operate alongside the national banking system. The Second Bank of the U.S. from 1816 to 1836, and especially central banks of the kind found all over the 'developed' world circa 1913, by contrast, had shown themselves well suited to the task. By acting as 'banks to the banks,' these institutions were able to modulate private bank money-issuance in ever more fine-tuned manners, using ‘carrots’ as effectively as ‘sticks.’

The U.S. accordingly established its version of a central bank, patterned partly on European models and partly on private clearinghouse arrangements among private banks that had emerged in New York and New England, with the Federal Reserve Act of 1913.[18] Like the banking acts of the 1860s, this change too was proximately occasioned by a crisis—in this case, the panic of 1907.

The Federal Reserve Act (“FRA”) of 1913 established the Fed that we all know today, and transferred de facto *and* de jure administration of the national money supply from the Comptroller to this new entity. This is why the ‘Greenbacks’ you now find in your pocket call themselves, not ‘Treasury Notes,’ but ‘Federal Reserve Notes.’ So we now again use ‘bank notes’ as currency just as we did in the 19$^{\text{th}}$ century. It is just that they are *public* bank notes—‘central’ bank notes—rather than *private* bank notes now. They are *Citizen* Notes, you might say. They are issued and spent in the name of us all.

And what is true of Federal Reserve Notes here is true of bank credit extended in Fed Note—that is, dollar—increments, too. The loan the bank makes to you in the form of a newly opened or credited deposit it ‘makes’ in the form of dollar-denominated withdrawal or spending rights. The deposits, in other words, are functional equivalents of dollar bills.

Once you realize this, and once you remind yourself both that those dollars are Fed ‘Notes’ and that you give the bank a signed *promissory* note for your *loan*, you are able to see something else, too: That a loan is simply a *temporary swap* of your promissory note for Fed promissory notes—of your privately issued money for more widely spendable publicly issued money. Bank lending is just temporary private-public currency swapping.

And this is yet another sense in which banks are franchisees of our money, with ‘we, the people’ occupying the role of franchisor. In effect, we ‘outsource’ the credit-checking and public money-dispensary function to private franchisee institutions. We do so on the theory that they are ‘closer to the ground’ than our central bank is when it comes to determining what private-public promissory note swaps, which hand purchasing power in trust to those lacking it, are apt to be put to good—that is, productive—use. And we let them charge ‘interest’—a sort of ‘privatized seignorage’—for their trouble.[19]

This is the money system we now have—the public-private franchise system. It is the product both of the foundational legislative enactments I have just described, and of sundry fine-tuning enactments and associated practical changes made over the past fifteen decades—especially in the 1930s—as well. We built this up incrementally because we learned its necessity incrementally. Nothing has changed in the past several decades to alter that necessity. All that has changed are a few of the technological means of carrying out satisfaction of that necessity. And this of course takes us to ‘fintech.’

2. The Stages Go Digital

Let us call the pre-1860s wildcat banking era of wildly fluctuating private currencies 'Stage 1' of modern American monetary history. Let us call the post-1860s, pre-1913 period of uniform but imperfectly elastic national currency 'Stage 2' of modern American monetary history. And let us call the post-1913 period we have inhabited over the past century 'Stage 3' of modern American monetary history. Where might we situate digital currency development along this phased sequence?

It seems to me perfectly obvious that we are at Stage 1 where digital currency is concerned. We are amidst, that is to say, digital currency's 'wildcat' era. For one thing, there are *many* such currencies—indeed, a bewildering and seemingly all-the-time growing array of them. For another thing, they are all of them issued by private issuers, some of which seem to be more or less reputable, others of which seem to be less so. And finally, thanks to the factors just mentioned, these currencies fluctuate wildly in value, both relative to what they can trade for and relative to one another.

They are essentially digital wildcat banknotes.[20]

This is of course not a sustainable future for crypto. Nothing whose value is so unstable can function for long as a bona fide 'money.' Something must change, then, before digital currency can expect a future. Absent such change it will stay marginal, a sort of curio for well-meaning techno-utopians, self-described 'libertarians,' neo-metalist money-cranks, and of course fools who 'soon part' with 'their money.' Bitcoin and its ilk will remain, pun intended, 'bit players.'

What, then, might change? What might a digital Stage 2, then digital Stage 3 look like? It seems that here, too, the future is obvious. It lies in the past.

Note first that, unlike during the late 19$^{\text{th}}$ and early 20$^{\text{th}}$ centuries, there is nothing to prevent what I have called Stage 2 and Stage 3 from being reached simultaneously. The reason is that our nation as a whole came to see the necessity of a stable currency before it came to see the necessity of an elastic currency, and accordingly instituted those things pursuant to the same 'stage chronology' of its own learning. Now, however, we are well familiar with both those necessities, and can accordingly move to uniformity and elasticity in the *digital* currency space *simultaneously.*

Next, note that the Fed, like other central banks worldwide, is now looking to upgrade our national payments architecture, which as I noted before it administers. Distributed ledger technology ("DLT"), which forms the backbone of the better-known digital currencies, looks to be particularly promising in the eyes of central bankers worldwide where such upgrading is concerned.[21] Within the next several years, I am wagering, payments systems everywhere will be built upon something a lot like distributed ledgers. The U.S. will be late as we always are where payments technology is concerned, but we will still soon be there.

When we get there, what do you suppose happens? This too seems easy: *The dollar will go digital.* The Fed will issue 'Federal Reserve "Coins"' and their keystroke equivalents much as it issues 'Federal Reserve "Notes"' and their keystroke equivalents now. In this new world, there will be little more use for what I will call Wildcat Crypto than there was for Wildcat Currency after the Legal Tender, National Currency, and National Banking Acts of the 1860s. These 'assets' will simply fade out, retained only as curiosities on a par with Colonial Scrip and 'Confederate money' or as means of illicitly transacting in criminal activities until caught.

This is true even of the 'stablecoin' products that have developed in recent months with a view to addressing the wild fluctuations problem.[22] Most of these peg to the dollar. What need of that when the dollar itself soon goes digital?

3. The Digital Dollar and a Citizens' Fed

A Fed-issued and -administered digital dollar will be every bit as uniform and elastic as the Fed-issued and administered pre-digital dollar has been. Indeed it will likely be even more easily managed thanks to the superior tracking ability afforded by DLT. It will also, I predict, be something more: Because of the speed, reliability, and tractability of distributed ledger-tracked credits and debits, a Fed-administered payment ledger will render quite feasible something that would have been difficult, even if possible, until recently: what I elsewhere call 'Citizen Central Banking.'

We shall soon be able to 'cut out the banks' as proverbial middlemen between our citizens and their central bank. All citizens will be able to maintain what I call 'Citizen Accounts' with the Fed. Not only will all citizens be 'banked'—no one 'unbanked'—in these circumstances, but the Fed will then have more potent monetary policy instruments at its disposal, as well, all while citizens enjoy greater banking *privacy.*[23]

In the midst of recession or liquidity trap, for example, our central bank will no longer need supply cheap money to private banks and then hope they will lend it to ordinary citizens so as to prime the consumer spending pump. Instead it can credit our Citizen Accounts directly. The 'pushing on a string problem' that so plagued the Fed's QE strategies in 2009-12 will be much diminished.[24] By the same token—again, pun intended—when spending appears to be overheating and inflationary pressures loom, the Fed can simply offer or raise interest payments on Citizen Accounts.

Meanwhile, because it is under no profit-maximizing imperative, the Fed will have no incentive to sell consumer spending data as banks have. And the privacy protections that blockchain technology offers—the one salutary phenomenon connoted by crypto—will extend to all Citizen Accounts.

Direct central banking, in short, is thus apt to be far more effective, savingfriendly and consumer-friendly even than indirect central banking has been. And the new digital dollar—still Fed-issued, still Fed-administered—will make that more feasible than it ever has been.

Conclusion

There is of course much more to say about all of this, which I do in more technical policy-pushing and program-designing work. But for present purposes the point should be clear. Money's past is always and everywhere money's prologue. All that changes, usually, is the technical base upon which our money systems are founded.

Insofar as the state of the art now is DLT, money itself will be DLT. But it still will be stable, and still will be elastic, if it is money. And that means it still will be sovereign—it will be '*our*' money. So long, then, Bitcoin, and see you out somewhere some day in the ether, Etherium. Welcome to America, new Digital Dollar.