



**MACRO Voices**  
*with hedge fund manager Erik Townsend*

## Summer Special: Digital Currencies & Decentralized Finance Part 1 with Dr. Pippa Malmgren & Clint Cox August 19th, 2021

**Erik:** For this year's two part Summer Special we're going to focus on the digital currency and decentralized finance revolution that has already begun. As many listeners know I wrote a book on this subject back in 2018. But a lot has changed since then. So we're calling in the experts for an update on what I believe will be the single most important trend of the next two decades. I'll be joined by two expert guests for this two part special. My first guest is Dr. Pippa Malmgren former US presidential adviser, best selling author, and partner in the Monaco Foundry, a startup incubator in Europe. Pippa, thanks so much for joining us.

**Pippa:** Thank you for having me as always.

**Erik:** Thanks, Pippa and also joining me as a first time guest on macro voices is Clint Cox. Clint is the Co-Chief Investment Officer of Crypto Futura Fund and has been following crypto closely and investing in it since 2015. Clint also spends considerable time looking at macro trends on a global scale. Clint, welcome aboard.

**Clint:** Hey, thank you, Erik. It's gonna be a blast to be on the podcast with you and much appreciated.

**Erik:** It's great to have you on as a first time guest. I'm going to start by asking each of our panelists to share their high level big picture view of both digital currency and decentralized finance. What is it going to mean to financial markets, and for that matter to broader society and the course of world history. I'll start with my own view on the subject, and then ask each of our guests to share theirs. I am personally convinced that the invention of the secure digital bearer asset. That's the fundamental innovation that underlies both digital currency and decentralized finance, will make a more profound change to society, and the course of world history than the advent of the personal computer, or the commercialization of the public Internet. I really am convinced that it's that big of a deal, and that it will completely change what money itself is, how it works, and how we use it. We are very, very early in this story.

Cryptocurrencies like Bitcoin have been around for more than a decade, but they only play a small part in the much bigger story, which has only just begun to unfold. The Bitcoin fan club acts as if Bitcoin is going to take over the universe. But I think that so far, they're only seeing a

very small part of the overall picture. Meanwhile, central banks have finally woken up and recognize the need for central bank digital currencies or CBDCs. But frankly, their efforts to date have been lame at best. So far, none of them seem to have recognized the opportunity to design digital monetary policy transmission tools into CBD systems. Something I'm convinced will eventually be seen as the principal appeal of CBDCs in the eyes of central bankers. Silicon Valley smells blood, and already knows that the grand prize in this story goes to whichever digital currency system ultimately replaces the conventional US dollar as the world's global reserve currency.

The financial media is completely out to lunch. The most common quip is oh! But the financial system is already digital. CNBC hosts are not the only ones completely ignorant to the distinction between true digital cash and the digital accounting systems that have been used for decades to manage conventional currency deposits. Even big institutional funds that offer exposure to cryptocurrencies are often managed by people, who as far as I can tell, are completely clueless as to where all of this is ultimately headed. Moving beyond just digital currency, decentralized finance or DeFi for short, refers to the application of secure digital bearer instruments to trading of securities and other assets. This directly enables disintermediation, the elimination of the current institution based financial system with an asset based system, where counterparty risk could be practically eliminated in ways beyond the wildest dreams of the designers of the current system.

What I've summarized so far is just the tip of the iceberg, the trends that are already hot topics in finance, but there's so much more coming over the near horizon. So far, almost nobody but me is talking about the benefits of a true digital sovereign bond market. Someday, a new generation of tech savvy central bankers will take office and they'll be quick to understand why Secure Digital bearer assets are inherently superior to any conventional currency, and central bank reserve assets. When that happens, the US dollars monopoly as the global reserve currency will end. But it doesn't end with digital currency and define. Ultimately, we have the opportunity to re-engineer the entire fractional reserve banking system, meaning that what money actually is, how it works, and particularly how credit is extended will change completely. This will be a complete and total game changer for the banking industry.

And my prediction is that some of the largest and longest standing commercial and investment banks in the world will eventually be displaced by new tech savvy financial institutions whose names we haven't even heard yet. So my goal in this year's summer special is to really expand the conversation to not just digital currency in the current DeFi trend, but to the ultimate digitalization of the entire global economy. We're headed into an entirely new era of finance, where the centuries old fractional reserve banking system will eventually be replaced with something much better, and how credit works will change completely for all borrowers, from individual consumers to entire nations. So I think we have a whole lot to talk about today. But already, I've gone on too long with my own vision of where this is headed. So now I'd like to ask our expert guests to share their own vision of where this is headed. And by all means, feel free to disagree with me guys on anything I've said. If you feel so inclined, let's start with Dr. Pippa Malmgren. Pippa, please share your vision of the future of digital finance with our listeners.

**Pippa:** Erik, I am so delighted that you asked me to be on this program, because the subject matter is so critical. This isn't about, you know, which of the cryptocurrencies should we be investing in. This is about massive societal change. This is about completely new ways of creating money, extending credit, navigating through transactions in the world economy. It's shift in the balance of power in the world economy. And I want to begin with that kind of the very broad overview and create some context. And also, by the way, I just want to say thank you for letting me invite Clint Cox. I'm not at liberty to say how Clint and I met. But let's just say I heard him speak at something and thought, wow, this guy knows more about this subject than anybody that I've heard. And I really think that his practical understanding of this market is extremely deep. So it's a privilege that that you've invited us both on to talk.

But let me start with this. You know, that I've said in the past that sometimes in history, we go through radically redefining moments where we literally abandon the old system of money and accounting and recreate a new one. And often I'm citing the event that happened in the UK in 1834, when we moved from a system that had worked perfectly for 1000 years, using basically wooden boards called tally sticks. And that was the system of money and accounting. And you can still see the tally sticks when you go to Parliament. They're in glass cases. But that was the way you kept a record of all of your expenditure and your tax payments. And it was the way that you knew what you owned and could prove what you owned. And then they decided to change to this newfangled idea was completely brand new technology at the time, which was paper money. And people were horrified. And they were like, I'm not going to use paper money. Are you kidding? It doesn't have my name on it. And so the government literally had to confiscate all the tally sticks and they took them into parliament and decided to burn them so no one could ever use them again, they'd be forced to use this newfangled paper money and they misjudged how much heat would be thrown off by the burning of the tally sticks and that's what caused parliament to burn down in 1834.

Today, we're going through a very similar reconfiguration of the financial system and abandoning an old system of Money, that was still very much paper money based, even if digitized to a degree, and instead adopting an entirely new technology except this time, you don't need to burn the old stuff. So, there's no smoke but that doesn't mean there's no fire. And I will go even further and say that in keeping with the movement of society into the digital space, and I mean, everything is moving digital, the conduct of war is becoming a digital phenomena. For example, all of us have a digital twin that reveals and has more information about each of us than we even know about ourselves. That's true for corporations as well. The digitization of reality is a very profound phenomena, and one piece of it is the digitization of money itself. And so as a small example, I'm about to launch a business, which is, in part about how do you display who you are in this new world. Because in the old world, LinkedIn did the job. Because in the old world, you had a career, you had one job after another. It was sequential, you had a single job title with a single employer.

But in this new world with digitized everything, including digitized money, more and more people are going to have portfolio careers where they're doing multiple jobs at the same time for

different employers. And now, because of the digitization of reality, this will have a huge impact on things like legal contracts, where you won't even need to have a legal contract anymore, because blockchain based digital money will provide you greater security than any legal contract ever could. And so suddenly, now you're talking about a world where people come together to work, kind of like a Hollywood film. They assemble like a swarm, they take on a project, do it, and then they disassemble, and then they'll come together again, or not in a different group if it's interesting enough. This is a completely different way of working. And, you know, I know you're all familiar with my dad, who's rather a legend in the financial world. And he was the chief trade negotiator under four presidents.

But one of his specialties early on was the theory of the firm. And he worked with several Nobel Prize winners on the subject, Ken Arrow, and Tom Shelling, and Sir John Hicks and we forget, because we just assume that the modern corporation is the only way you can do business, because we've all had it since the East India Company. And then we've had all these explanations. Why do people band together in a corporate structure? And we can all answer that question. But now, the digitization of money itself means you don't need a corporation, you actually can band together and temporary in loose structures, and create incredible value out of seemingly absolutely nothing. This change for society will be profound. So my startup is very much in this space. And I'll finish with just one last thing, because there's so much to talk about here.

Another piece of this puzzle is that our institutional structures will all change. And I don't just mean that banks won't be as necessary, if necessary, at all. And I don't just mean that legal contracts won't be necessary, if necessary at all. I mean, the whole pattern of human relationships will be profoundly affected by this innovation and this new form of money power structures. Who has power in this new environment, does government really have power in this kind of environment that I'm describing? So that's why I say I'm really glad to open this conversation by saying, you know, the questions that you get from a financial market audience about Bitcoin and crypto are so narrow and so missing the point. You know, it's not even that there are over 4000 different digital currencies now and which one's the right one? It's a bigger question. It's like the question I faced when the financial crisis happened. And I had to say to my clients, in the run up to that, I'm not just saying sell the portfolio. I'm saying ask the question, if the financial institution you work for will survive this event, and people were like what? You mean, my bank could disappear. And I was like, yeah, and then Lehman disappeared. So that's what I'm saying. Banking and all the institutions were familiar with, down to the level of families may not survive this innovation. And that's why I'm really glad to have Clint on because he too thinks in this context, contextual way, because it's very hard to place the investment decisions on individual pieces of this new puzzle if you don't understand the context in which it's occurring. So there's my opening.

**Erik:** Wow, Pippa, that is a perfect segway for Clint Cox. Because Clint, you actually run a fund that invests in these assets. So my question to you is, first of all, what's the big picture? What's the long term? Where are we headed? But also, are the assets that you can buy right now, such

as Bitcoin, really going to play a major role in the long term story? And if not, how do they fit into a strategy now?

**Clint:** So first of all, yeah, these are all great questions. And I'm really honored and privileged to be, you know, on the call with you guys. And, you know, on the podcast here. You know, this is, as Pippa said, a hugely important topic. This is, you know, the topic. And I guess, to give a little historical context, and like, what has led to this moment where we are now, and then how that will affect the next, you know, 20-30 years. you know, just kind of look at the layers. So, you know, the first thing I'll just look at is the technology layer that's led us here to this moment. So, you know, you had the personal computer, start with the integrated circuit. So the computer chip as 1958. So that's kind of when this whole thing started. But having a personal computer where anyone could have access, I mean, obviously, you had to pay a certain amount of money, and not everyone had immediate access. But in 1977, you had the TRS 80, or the trash 80, as we affectionately called it, and the apple 2. I first entered this realm with the apple 2+. So I think I got that 1979-1980 when I was eight or nine.

So you know, I started programming when I was a kid, and really loved technology. By 1984, we had the Macintosh, you know, that was introduced with that amazing, you know, cinematic commercial that they had at the Super Bowl. The Macintosh transformed everything. So now, you know, by the 80s, people had access to data and computing, stuff that they never had access to before. So you know, what was only for, you know, corporations, governments, is now accessible to everybody. That was amazing. Then you had the internet. And the internet really got its, you know, start in 1983, with TCP IP, and that introduction, and then the World Wide Web with Berners Lee. And then what really opened it up to the public once again, and the larger, you know, group of populace is 1992, Mosaic. The graphic interface, because let me just tell you, you know, it was really boring, to just tap on that black screen with green, you know, text all day long. That was abysmal. But once you got to this graphic interface, and you could actually start to see the internet in whole new ways. That is what it helped explode the internet.

So it still took though, you know, almost a decade, you know, 92 to 99, to where it really took off. But then we had something introduced by a company called Apple, and it was called the iPod. And this started to transform music. And it was this little device, you know, you can plug your earphones into it, fantastic. You get the music you want to play it in the order you want it. That's amazing. So anyone could have access to this if they buy an iPod. Then in 2007, the craziest thing ever was introduced, and it was introduced as and this is a quote from Steve Jobs on stage in 2007. It's an iPod, it's a phone, it's an internet communications device. Now, that does not sound sexy at all. And Matter of fact, if you watch the 15-20 minute video. It's one of Steve's not greater moments in description, because I think it was so transformative. Nobody knew what he was talking about. This iPhone that he held in his hand, was going to transform everything, and give us mobile access and exchange of data everywhere.

So, you know, no one knew what it was because no one understood the App Store because the App Store wasn't even introduced until 2008, a year later. Now, all of a sudden, you know, you look at your phone now and all the things you do with your phone. You know, it wasn't till 2009

that video was released with it. Now you see all the aspects of this, you know, like, wow, think about how much video in our pockets has changed everything right? A lot of accountability. So then we get to crypto blockchain. You know, we get to Satoshi Nakamoto's white paper in 2008, the launch of Bitcoin in 2009. And then you have like Ethereum in 2014-15 and you know, the advent of smart contracts. And then you know, let's just go to 2021 and Coinbase IPO. So you have kind of this, these different segments. You have first the personal computer with access to data and computing. Then you have the internet with the global exchange of data, then you have smartphones that give us mobile access and exchange of data that's everywhere. And then you get crypto and blockchain, which gives you mobile access and exchange of data and value. And when I say add value, that's the huge part. Crypto blockchain allows you to exchange value. And that's everywhere.

Now, when I say everywhere, that includes the International Space Station, which now has a Bitcoin node. Ethereum is actually gonna have a node up there soon. This is huge, you know. So that's one thing that's happening is technology. And another layer is world reserve currencies, typically last 80 to 110 years. I mean, your listeners, you know, all know this. We are on at least, the front edge, we're entering the beginning of the end of what may be US dollar dominance, at least historically. That may be you know, we may be able to change history, but at this point, since the 1400s, 80-110 years. Now, keep in mind, that, you know, what is allowed that dominance is trade is, you know, military might, those kinds of things. And the US is still in pretty good position there. There's obviously some competitors. But then another layer on top of that is the corporation. It's been 400 years since the Corporation was introduced. Arguably, we have had no new forms of human organizations since that. I mean, sure, you've had a couple, you know, offshoots and things like that, but nothing really new to organize people since the corporation 400 years ago.

Now, with, you know, Satoshi's new invention, we have decentralized autonomous organizations. And as Pippa was pointing out, I mean, this is going to be crazy, who knows what work is going to look like 10 years from now. Because now you have these decentralized organizations that are completely independent of a CEO dictating it. It is the power of the group that is in that dow that basically makes the decisions. So much of what we do today is based on corporations, that's about to change, because we now have a different way to organize. Now, I don't know how long it'll take. It'll take some time. But as we look at, you know, things like the fourth turning, and this idea of things tend to change over these fourth turnings. If you layer all those things together, the technology and where we've gotten with technology, the world reserve currency coming to a possible, you know, the beginning of the end, and a new, completely new organizational framework for people. My goodness, this is crazy, like, where's this headed? The next 20 to 30 years, every human organizational system and structure is going to be transformed. Banking, government, work, our social networks, religion, trade, travel, education, our very identities, and belief systems are gonna be completely upended. And part of this is because there are going to be new levels of trust and accountability. So I'll leave it at that, I don't even want to get into like the combination of technologies like big data, AI, machine learning, quantum computing, additive manufacturing, robotics, drones, augmented and virtual

reality. All those things are going to combine to shock us as we enter this new, I guess, really a new era for humankind. So I'll stop there.

**Erik:**

All right, we're gonna touch on quite a few of the topics Clint just mentioned. And that's coming up right after this message from our sponsor.

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**Erik:** Alrighty before we go on, I think it's really important that we answer an essential question that oftentimes doesn't get answered in these conversations, which is what makes digital currency better than conventional currency. You hear so many people in finance, not understanding this. They're saying hey, it seems to me like the financial system has been digital for 30 years, you know, it's all been computerized. What's so important about this digital currency thing that makes it all that different? And why should investors care about whether or not this system uses these digital bearer assets? Whatever that means, Pippa, why don't we kick it off with you what's going on here.

**Pippa:** So for me, the thing that makes it so profoundly different is about the data that gets connected to money. So I see this as a world where it's not just that you pay using your iPhone to swipe at the ticket barrier, it's that all of your activities are now observable, of which your financial activities is just one of the many things that you get up to. And there are many parties, from private companies, to governments, that are now able to read what they can sell to you, what kind of behaviors they can maneuver you into or maneuver you out of, because money itself becomes a surveillance system. And especially as we move into sovereign digital, where the government itself begins to issue money. And we've seen this already in China with the the DCEP, they call it and I've been trying to help people understand. Just think of it as a surveillance system that's disguised to look like money. Yeah, that's kind of more. And so therefore, this has profound, profound meaning for democracy, for personal human freedoms, for your rights. And I'm not talking just about, you know, whether you should be surveilled. I'm talking about whether it's appropriate to take the accumulation of all your behaviors and then make judgments about you based on it.

So for me, the digitization of money is like putting a grid over the entire world that geo locates, not only what you spend, and where, at what time, but it begins to gather information about why did you buy this at this particular time? How could you be influenced to do it again, or not do it again. And so I see it is a part of a larger phenomena, which is broadly called surveillance capitalism, although you know, the Chinese are pioneering the way and their version of more autocratic capitalism. So it's not just that the money is digital. It's that it's connected to a broader sieve of information gathering about every person, and then the use of that data to impose outcomes. And often without people have any realization whatsoever, that they are being influenced by these mechanisms. So for me that's the important part.

**Erik:** Well, thank you for that sales pitch Pippa. Let's move on to Clint. Why is it important that this digital money is digital and why is that such a big important change from conventional money?

**Clint:** Yeah, I mean, I think there's a lot of positives and negatives here, Erik. I'm not gonna act like it's all positive. I feel like Pippa's take there, that might be on that the negative side, but it is programmable. So you know, you hear this phrase smart contract, and, you know, it's programmable money, that's amazing. So you can have if then statements programmed into the money. If certain criteria is met, then certain things happen, certain money is released, certain money is paid back. It's a pretty amazing system that basically disintermediate the need for all of these third parties involved in our financial transactions. Like there's no need, like right now, if I wanted to send Pippa you know, \$100 worth of Bitcoin, I could do that, before the end of this, she's gonna have it. And there's gonna be a very, very small fee on that. Right. But it's all based on the fact that I've got a program, she's got a program, they talk to each other, it's done. And it's very easy to do things that are, you know, next level, speed, speed is amazingly fast for these digital currencies, you know, some of these things can actually transact in under four seconds. So you can, you know, look at your phone, send it somewhere else, and four seconds later, that person's got it. Now, that could be anywhere in the world, that they're hooked up to the internet, right? So that's phenomenal.

**Pippa:** The expense, it's actually much less expensive to actually manage and now we won't get into the whole mining thing and all the expense with that. But, you know, as far as just a system it's very inexpensive. It's very efficient, it's decentralized. Now, what Pippa was just talking about is the CBDCs and the centralized currencies by central banks. Those will definitely be centralized. They will make the most of all that data they're collecting. But, this digital currency realm that has, you know, Bitcoin, Ethereum Litecoin, all these others, these 1000s of cryptos, digital assets. Those are decentralized. That's a totally different ballgame. That means that no one gets to control or dictate how things happen. It's a group effort. It's basically that network.

But I mean, there are negatives here, right? It requires electricity requires access to the internet. You know, some exchanges and wallets have been, you know, hacked. Now, keep in mind, very few blockchains have been hacked. So like Bitcoin, the blockchain has not been hacked. So when you hear people saying, Oh, I got hacked, no, the exchange didn't have correct security controls, or a wallet was insecure, it was not the Bitcoin blockchain. And then the other negative I would say is definitely what Pippa just said, privacy. What is going to happen with our privacy. And we're not even going to know how we're controlled because we're going to start seeing ads based on how we've spent. We could see ads sponsored by the government or different types of behavior that they want to institute, you can see that, as far as that could all be integrated to our social platforms. Who knows, I don't know where this goes. But privacy is definitely a concern.



**Erik:** I'm going to add my perspective, which is I don't think most people in finance have figured out the concept of disintermediation yet. What we have today is a system of institutions. You do not own the money in your own bank account, the bank owes you that money, you're an unsecured creditor. And if the bank fails, you could potentially lose your money. Oh, but it's insured by Federal Insurance. Well, the Federal Insurance is not adequately reserved against a systemic fault. It's reserved against fraud happening in one little bank. But if the whole system starts to fail, there is no insurance for that that really exists, even though they say that there is. If you go to Secure Digital bearer assets, you eliminate the concept of counterparty risk entirely. It's not like a wire transfer, which is not really guaranteed with a crypto or digital currency transaction, you can instantly move money from one possess or to another, you can change who is in possession of that money instantaneously, without the need for any intermediaries. And that means we could take something like the entire tri-party repo system, and all of the reasons that it exists and say, wait a minute, we don't need that anymore because this whole idea of managing counterparty risk, the way we do with that system won't be necessary.

Now, that by itself would be just a huge game changer. And it would require rethinking almost all of Finance. But I think that's just the tip of the iceberg because as both of you just said, we heard Pippa's sales pitch first, then Clint is talking about programmable money. Look, here's how I see the finance industry in general. I think most of what the industry is about is you take some really smart guys and gals who went to Harvard, and you figure out how to create financial terms and conditions that confuse the heck out of the people that are getting screwed over by them, and are only understandable to really smart people. Now we're giving those smart people the tools of programmable money systems, and maybe the ability to privatize what has traditionally been a government monopoly over the issuance of money. That's a really big deal. What could go wrong in a story like that. Pippa, why don't we start with you?

**Pippa:** Yeah, well, one thing that leaps to mind is how the tax system will change. So now, armed with all this data about your behaviors, it's quite possible that government can say, right, we want to give a tax break to everybody who supported us in voting on issue X. And the way you give them that tax break is you literally just suddenly, this digital money shows up in your account. That's what the Chinese are doing, by the way with the DCEP. How do they get people to adopt it, it just literally appears on your iPhone, and you're like, whoa, I suddenly have 10 grand that's like just appeared the government gave it to me and you're just so delighted, and then free to spend it as you like. But equally, they can also say we don't like the fact that you're hanging out with the wrong people. You're, you know, in a rough part of town where we know bad stuff is happening, because we can see your location and we can see your life and actually we're gonna dock you 10 grand, right? You start to get fines based on behaviors.

And this is one of the reasons that a lot of the central bankers I've talked to are uneasy. You know, because it's also like it's sort of heroin for politicians because you can you can double the money supply. You can halve the money supply just at a keystroke. But more importantly, it's not just the volume of overall, you can actually choose who gets money, and who has to pay. And that is a level of social influence if not social control that we really need to think about. And I do think this is tied to something that it's sooner or later, I'm sure we'll get into in the

conversation, which is, you know, what are government's going to permit and not permit. And we've seen this, you know, huge crackdown, on the crypto and private digital space, you know, pressure being brought to bear on companies like Binance. And at its core, what it's about is, government's never going to be happy with people moving large sums of money around anonymously. And it's not just that they want to track you know, what you're doing, and know that you're not doing terrible bad things.

It's also that it's part of this broader context of understanding all of one's data, and connecting up all these dots in this global mesh of data about the population. By the way, I shouldn't say it's, these are not only negative things, they're going to be some very positive things that come out of this. Like, for example, I could easily envision, I mean already your iPhone in your pocket, can identify when you have a heart attack coming. It can tell this from your gait, how you physically walk down the street. And Erik Schmidt actually said a few years ago at Google, if I had permission, if I had the legal ability to send an alert, we know who's going to have a heart attack, because we can see from how they're walking, compared to how they used to walk that this is a very clear indicator a heart attack is along the way. So that's an interesting question, do you want to get the text message from Apple or Google that you need to get the hospital quickly? And then what if actually, the ambulance is sent to you before you even make the decision, it's like, excuse me, you got to get in here, because you're about to have a heart attack. Oh, and by the way, all of the payments for this process, this procedure you're about to have is already taken care of, because you have certain behaviors, or you're going to owe a lot of money, because you have the wrong behaviors.

You know, there's a positive and there's a negative like all technology always cuts both ways. It's like a little double headed axe, it can cut both ways. It can do wonderful things, it can do terrible things. It's not the technology that does it. It's how we use it. And my personal view, is that the wild west of our generation is the digital space. And maybe one distinguishing feature of digitized money is that it occurs in a digital environment where we literally don't have any laws. We don't have any rules. It's, you know, again, back to Google, they've kind of said, well hey, we got here first so we make the rules. And everybody's going, huh, not so sure that I'm comfortable with that, like, is this a place where whoever sets the flag first, they win the territory? Or is this something that as a society, we're going to have to come up with. What's appropriate? What are the right laws and structure for how decisions get made in a world where money is truly, truly digital and connected to all your other data?

**Erik:** Clint Cox, you and I, I'm sure share a vision of just incredible, tremendous advances that could be made for society with the technology that now lays before us. How do we stop the greediest but also smartest people on Wall Street from hijacking the whole thing for their own benefit and screwing over the rest of society?

**Clint:** That's quite a task right? That's quite a task. You know, I think the easiest thing you can see here is the easiest example is Facebook, right? Facebook introduced Libra. And that was, you know, perhaps going to be the first global currency that was run by a corporation. And, you know, now they have almost 3 billion users that would have been overnight, you know, the

widest use currency by individuals on a planet. You know, I mean, that was terrifying right? And I think that's why there was such pushback so quickly on Libra. But the flip side of that is, that's also what sparked the Chinese to hit the accelerator on their program for their, you know, CBDC. So I think, you know, as you look at both governments and, you know, companies that could dominate this next, you know, phase I think it's going to be very, very difficult because they know and understand how to incentivize, how to control many of these companies with machine learning and AI and their algorithms, they understand more about you than you understand about you. You know, they will know what you're going to choose and why you're going to choose it. Whereas you might just feel like, Oh, I think I'm going to do this today, they might already know, because they know how, you know, your data combined with 500,000 people that are very similar to you have all reacted this way. So you're gonna react this way.

So I think this is something that's really, really difficult, because the companies that have the expertise and the technology to basically control this next phase, and to innovate through this next phase. Those companies also have, you know, the incentive to make sure their company grows, make sure that they're, you know, satisfying their shareholders, and how do they do that they maximize everything they've got. And so I think it's a very, very dangerous time, because I don't think governments can keep up if you remember the antitrust case against Microsoft, you know, it was started, and then years later, might even been a decade later. I'm not sure how long the timeline was, you know, they finally settled it. And everyone was like, Oh, yeah, I remember that there was a case, right? Like, technology had moved so far beyond where the government can actually dictate what was happening, that the government was just couldn't do anything. That was, you know, really, really advantageous to control the environment. So technology moved on and the entire, you know, environment moved on.

But I think that that's where we're at this juncture, you know, we've now got Gensler, the SEC, you got Yellen, you've got Congress saying, hey, let's we're gonna do some stuff with this crypto. We're, you know, we're gonna put some things in place. That's great. I mean, I think there should be a regulation, but there has to be a really, really thorough understanding before you start throwing guardrails up. And, you know, stopping the innovation, not just to the big companies, but the innovations of a little guys who are actually doing really cool things. No one knows who Satoshi Nakamoto is still today. Is it a him or her or they? No one knows. But it certainly wasn't a government organization. More it certainly wasn't? Well, some people think it was but or some people, you know, it wasn't a company that claimed it. So that is the amazing thing is there's still innovation that can happen at the smallest level. But we got to make sure that the big dogs don't stamp it out for everyone else. So I don't know how to answer the question other than say, wow, anything can happen from here, from a social credit system, to a corporate social credit system that, you know, acts in many ways as the one in China does, but it's more friendly. I don't know, I think we're headed into unknown territory.

**Pippa:** Actually, can I just jump in real quick on this as an example, I've been quite fascinated by McDonald's creating partnerships with cryptocurrencies. So now you have these crypto games, and millions and millions of people around the world are not only playing them, but making money playing them. And one of the things you'll have to do with one of them is you

have to actually go into McDonald's and buy something, because it's only by scanning the QR code on the receipt that you can get more lives in the crypto game. And so suddenly, there's this like, you know, sheep dog effect that everybody gets corralled into McDonald's, because it's that they actually get paid to be there. It's not just about winning the game, it's that you are, you're making money. And so this is an interesting example of how the digital and the real world space starts to interface with each other. And suddenly, you're seeing, you know, people going into McDonald's, and, you know, we can talk about what we think about McDonald's and healthcare. But, you know, suddenly their behaviors that are occurring that are driven by this new digital relationship. I know, I know, Clint, you've got some views about that.

**Clint:** Yeah, I mean, you also have, you know, entirely new ecosystems that allow people to make money in ways that they've never made money before. I mean, you can look at Axie, that's an example that right now, it's a game, you have to kind of pay money to get into the game. You have to buy little, you know, characters, you get into the game, and then you can start earning money within the game in a number of ways. And I think that, you know, right now, most of the players, I believe the majority are in the Philippines. But there's a significant number of people in the Philippines making more than they would working in the real world by just playing this game. And they get sponsored by people outside of the Philippines. And there's a whole ecosystem with that, as I said, but, you know, that is incentivizing people to be part of a system, and they're actually making more money than they would doing anything in the brick and mortar or real world. It's really quite amazing.

**Erik:** Let's focus on digital currency now and we'll come back to decentralized finance more broadly later on. I personally break digital currency down into three broad categories. I use the word cryptocurrency to refer to Bitcoin and other digital currency systems that were developed by non-government actors in which are generally designed with the goal of reducing the degree of government oversight, if you will, over private citizens financial affairs. The second category is central bank digital currencies. My prediction there is they're going in the exact opposite direction, they're going to focus on doing everything they can to design as much control and oversight into those systems as they possibly can and I think that's going to be the the rub in terms of which one gets acceptance.

The final category is what I call Silicon Valley digital currencies. And the example there is Facebook's Libra, which is the first one publicly to have been disclosed. Although, I'm convinced there are other projects going on behind closed doors right now. The idea there is I expect the big tech behemoths to recognize that the really big picture here, the end game in this story. The big prize goes to whoever controls the digital currency system that ultimately replaces the US dollar as the global reserve currency. And I expect them to do everything they possibly can to try to be the one who's in charge of that currency system for their own benefit. How do each of you think about this general landscape of digital currency systems? What are the categories? What should we expect from them? And what are the important things to understand about this market space? Clint, let's start with you in this one.

**Clint:** Yeah. So I think you know, as we're looking at this whole digital asset, digital currency space. First, let me start with, you know, I think we are moving towards a digital cashless society. Okay, so I think we've seen that like Scandinavia, a lot of the countries they're like, 80% cashless. Korea's, you know, over 85% cashless. Even the US is 68% at this point, cashless, UK 58% cashless. So we're already moving in that direction. But this has taken it to a whole new level. So when we look at cryptocurrencies and let me be very clear here, there's lots more than just currencies in the digital asset space. So when you look at the 4,000 5,000, however many 1000 cryptos there are at this point. Very few of those try to be currencies. Most of them have a utility or a purpose that's alternate to that of a currency. But let's just stick with that currency aspect right now.

So you have your digital currencies. So Bitcoin, Litecoin, Bitcoin Cash, XRP, those kinds of things. You have your privacy coins, which are your Manero, Z cash, Dash, Verge, Beam, things like that. And then you have like stablecoins, that's Tether, USDC, Paxos, you know, a whole handful of others. So when we're looking at the currency aspect of this, it's actually split into a number of different groups. So when we're looking at digital currencies, you know, one of the things is I like to look at, compared to the functions of money, you know, historically, so the store of value, unit of account, medium of exchange, and when you're looking at these currencies in that framework, yeah, they are a store of value. I can argue that all day long, because if you look at Bitcoin in the way it's performed against any asset class over the last decade, Bitcoin wins over everything. Yeah, I mean, it's been amazing. So store value, yes. Is it, you know, volatile? Yeah, but it's volatile up into the right.

So, unit of account, it's really not except, you know, none of these are a unit of account except inside the crypto system itself. So at this point, you know, the US dollar is definitely dominant, medium of exchange, still US dollar dominant, for sure. But when you start getting to the characteristics of money. So your durability, portability, divisibility, uniformity, limited supply, acceptability. When you start getting to that crypto starts winning pretty quickly. Durability, I mean, Bitcoin right there crypto, portability, Bitcoin crypto, divisibility, Bitcoin crypto. You can go to tiny amounts, you know, uniformity. That's about the same, limited supply Bitcoin you know, kicks that to the curb. The US dollar we I have no idea where this ends. How much is print, but acceptability, still, the US dollar is more accepted. So when we start looking at these cryptocurrencies, I think it's important to understand in the context of functions of money, characteristics of money, where they stand, and, you know, I think the real target here is going to be the privacy coins.

I don't think governments are going to really want those privacy coins to be the future of crypto. They want to be able to see what's going on, any nefarious activity, all of that they're going to want to see that. Stable coins, you know, these are another issue altogether. But that's like the crypto currency world digital assets. You know, then you look at CBDCs. The central bank digital currencies. Now, what's really interesting here is you've got China, they're really far along in their program. like they've already tested a lot of this, they're piloting it, they're actually doing air drops. I mean, they're really far along. The Bahamas, the sand dollar, it's already out there.

So they're actually, you know, using it already. But you have a bunch of countries like Sweden, France, Philippines, Japan, Nigeria, Morocco, Switzerland, even the US is talking about creating a CBDC. So that is going to happen, I think that's inevitable.

Then you have another category, what I call the third category, and that's corporate coins, or payment systems. So, you know, I think the precursors to this might be WeChat and Alipay in China. Because most of everything that you buy inside China, you're buying with WeChat, or Alipay, via mobile app. You know, but when we saw Libra, you know, announced, that was a game changer, you know since then they've had to change it. It's now DM instead of Libra and there's a whole bunch of other changes that went with that, and things like JPMorgan coin. But I agree with you, Erik, for sure, there are programs at probably all of the big companies, Amazon, Google, you know, maybe even Netflix etc, where they are going to be using their own crypto.

Now, the problem is going to be like kind of what I think Kodak ran into. You can't have a security when you already have a publicly listed stock. So they've got to be really careful how they use this stuff, right. And I think you've got the regulators watching very, very carefully. So as we look at these three, you know, categories. The cryptocurrencies, the CBDCs, and the corporate coins, I think the really important thing to watch here is interoperability. How are these three things, these three categories going to work together? And I think you're already seeing a lot of overlap. You're seeing, you know, Visa, MasterCard, PayPal, Square, they're all allowing the use of crypto behind those payment systems. So I think there's going to be more and more of this integration. But how that goes when we actually have CBDCs and these larger corporate coins? I'm not sure. But I think that's going to be the key space to watch is how they operate together.

**Pippa:** Actually, Clint, what you just said is so important. Think about it this way, what if, within 10 years, a Google or an Amazon could make much more money, achieve more value, by its currency, then by its stock? And that actually, it does what the big trend in the market is, which is publicly listed companies go private, and actually may not even need to be companies anymore? They just become this currency. And I mean, if you think what is the liquidity and the change in the value, it's got to be larger than a stock, right? Because how many people play in the stock market versus how many people transact in the general economy? The latter is much larger. So, could we envisage a world where actually the corporation comes to an end? Because it's more profitable to have the consumer using your coin, than it is to have them buying your shares?

**Clint:** Well that becomes a really interesting question on any number of fronts, right? Because then you're looking at, you know, how do we value everything? How do you value things in the digital world? How do you value things in the real world? You know, I think Amazon would be the really interesting example to look at here is, you know, if you're in that Amazon world, and you're able to buy whatever you need to buy to live inside that ecosystem. I mean, think about it. Amazon has Whole Foods, Amazon has pretty much anything you would want to buy sporting equipment, you know, any number of things that from any number of sectors. Why couldn't you just stay inside that ecosystem and just use the Amazon coin and not worry about anything

else? I don't know, I think it becomes really interesting to see how these systems are going to interact. I think you're right, there's changes coming. And I think Libra, you know, Facebook's first initial project on this, I think that was the biggest wake up call. I think, you know, when there's case studies done decades from now, Libras gonna be looked at as really a shock wave, because I think that scared a lot of people into saying we better get on board.

**Pippa:** And just one more thing on this, which is certification of value. And so I was fascinated by this really amazing story of the Italian artist, who auctioned off an invisible sculpture for like 18 grand. It was literally in his imagination and made of nothing. And it was part of this NFT movement, which I'm sure will all turn to and talk about in a minute. But the point is what the investor bought, wasn't the artwork. It was the certification of its existence. And I do think that in this crypto space and the digitization of money, we're going to be shifting to a world where the certification of the thing is more valuable than the thing itself. And that ties into which community do you belong to? You know, what do you think is certified? And you're sort of part of an Amazon tribe, and you're basically trading an Amazon certifications. Does that make sense?

**Erik:** Yep. That makes perfect sense to me. And I think we should go through the cryptocurrencies, the CBDCs and the Silicon Valley currencies. Let's start with the view that a lot of Bitcoin fans have had, which is they think that look, Bitcoin is clearly the biggest and most widely used of the cryptocurrencies that exists today. So this view and it's not one that I share, but they think that look, the outcome surely has to be that Bitcoin, eventually is what dominates the digital currency landscape, it becomes the eventual replacement for the US dollar, of course, it would have to evolve quite a bit from where it is today, but it's intended to evolve. They think that CBDCs, the ones that come from central banks. First of all, they don't really exist, yet the government is so far behind. They don't think it's a threat. And they kind of have this view that look at the first mover advantage of Bitcoin, it's got to win or some people have the same view on Ethereum. Is that possible that ultimately governments end up being steamrolled by independent innovation and the money systems of the world are replaced by cryptocurrencies that are designed to minimize the extent to which governments can monitor and control our financial affairs? Is that a realistic outcome? Let's start with Pippa Malmgren.

**Pippa:** Okay, so I live in England, where when you say you got to vacuum the living room. You don't use the word vacuum, you use the word Hoover, because Hoover happened to be the first brand name that the general public got familiar with when vacuum cleaners were invented. So everybody says, I'm going to Hoover the living room. This Bitcoin is exactly the same phenomena, right? It's because it was the first mega brand name in this space. But the fact is, these days, nobody buys Hoover's anymore. There are all these different vacuum cleaner makers, including Jim Dyson, who has created the Dyson and it's quickly becoming its own brand name, like you're gonna Dyson in the living room. So I don't think that there's this first mover advantage that the Bitcoin crowd seems to believe they have. I don't think the first mover advantage works in business generally. Usually the first mover gets killed. It's the second, third mover who learned from their mistakes that make it, so I don't really buy it. And let's face it again, I mean, you look up on Wikipedia there are over 4000 of these different options, these days, all of them are getting better all the time. So, you know, the fact that that was just there

first, it's like saying the Model T because it was the first car that that's it. It's just it's just not how innovation works. I'll probably get killed now on internet by saying that... hahaha...

**Erik:** The cancel culture is out to get you. Clint Cox, will you actually manage a fund that invests in these existing assets like Bitcoin and Ethereum, and so forth? Is there a real chance that they're actually going to dominate the financial system someday?

**Clint:** Yeah, that's a really tough call. I'm not sure I would say they're going to dominate the financial system, as much as I would say, they're going to become very, very important to society in general, and become essential to the way that we interact and do things. So yeah, I think that Bitcoin is a phenomenal invention. I mean, it's really a game changer. And I think Satoshi Nakamoto did phenomenal you know thinking behind it, really produced an elegant solution. So I'm not a Bitcoin maximalist. I think there's a lot of things, you know, that, like Ethereum is a great example. Smart contracts are what has launched this thing into the next phase. You know, smart contracts really change things. Bitcoin could have smart contracts, you know, in the future. Bitcoin could have DeFi attached to it in the future. Right now, that whole DeFi ecosystem is really based on Ethereum.

But, you know, can Bitcoin survive? Absolutely, I think it can survive. Now, whether or not it is as big a portion of the ecosystem right now as it is today. I don't know if it's going to maintain, you know, the market share that that it has. But I think it's always going to be a part of the system. And I think it's proof of work. And that's when you hear about the mining and all this other stuff. Proof of work is basically saying you have to prove that you've done something and that you've earned the right basically to try to get Bitcoin and you know, place blocks in this than the other. I don't want to go down that rabbit hole, but it's just that whole thing, that whole design, I think is beautiful, and it has so much buy in right now. You know, there's 10s of millions of people that are using Bitcoin on a regular basis today that I don't think Bitcoin is going to disappear. I think Bitcoin is going to be a backbone of this system.

I mean, it's kind of like, you know, even with, you know, the British pound, the British Pound still exists today. And it's still one of the largest currencies traded in the world. But they're not the dominant world reserve currency. So I don't think Bitcoin will dominate all the way through this. But I think it'll play an important role. And let me just say this, governments, although, you know, they're really behind on this technology. I don't think you can count governments out, right? They can regulate and forbid on-ramps, off-ramps, they can tax it out of practical existence, they can pressure founders, developers, miners, you know, anyone who has to go on a border crossing can be, you know, held up. So I think they've got a lot of tools to make sure that they can still maintain some amount of control over the monetary system.

**Erik**

I want to move on to Central Bank Digital Currencies or CBDCs next. That's coming up right after this message from our sponsor.

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**Erik:** Let's move on to Central Bank issued digital currencies or CBDCs. Now China has been the early mover here, but already central banks around the world are evaluating CBDCs they're talking about it. I've heard every imaginable view ranging from these CBDCs are going to completely dominate the market as governments outlaw Bitcoin and other non-government currencies, which means they won't go away, but they would become, you know, something only the bad guys are using. The opposite prediction, of course, could be that the people reject government issued money completely and just favor the Bitcoin revolution. So what should we make about CBDCs? At this point in the story, is this where the really big future is? Or is this still a question mark as to whether these things can compete with non-government cryptocurrencies. Pippa, why don't we start with you?

**Pippa:** So I think that governments are definitely going to be introducing these. There's no question about it whatsoever. I think that they are going to have that it will split the private crypto market into two broad camps, Those that fully comply with government rules, and those that don't. The ones that comply, we'll be allowed to be, as Clint says, you know, interoperable and connected to that official system. But because it's all about data gathering, I have some big questions about it. And so one of them is, you know, why do we see the biggest, the biggest target of defense spending these days is actually on computational power. Its governments in this massive Space Race for who will have the fastest supercomputers, the fastest quantum computers. And there's, in fact, a race for where can you store and manipulate data. And I see data centers being built literally under the depths of the oceans. And in places like the Arctic, because data gets hot, really fast, like physically it gets hot, and you have to air condition it in order to keep the data sound. And so the easy thing is you start building data centers in cold places, ie under the ocean and out in the Arctic, or in even in Antarctica eventually.

And so how far can you go? Like, one question that I find a lot of people in the US military are already raising is China says they're creating this, you know, sovereign digital currency, and they've got the social credit system. But how are they actually able to process all that data? Maybe they aren't. They just say they can, but they aren't actually doing it. It's a super interesting question, like when you start adding the numbers of how many petaflops can you actually process and manage and for right, that a digitized sovereign currency is really about data connectivity, then who really has the infrastructure for that, and I think that will define the timing of how and when, how quickly it gets introduced more than anything. So that's one thing. Second, I don't think the option to opt out is going to be available. Like, if you start transacting, you still have to, you have to touch a keyboard, or you have to give a voice command. And more and more, as all the devices you use are connected up to the official spaces, it will be clocked that you're doing this and then that will bring its own trouble. So I think that the split between the private crypto that adheres to government rules, and private crypto, the doesn't. Private crypto that doesn't isn't going to last very long. Now, there are people in that world, you know, the dark net crowd who would say no, no, we can outrun governments and watch us do it. But somehow they all as Clint said earlier, they get arrested when they go on vacation in Thailand, right? Like, I just, I don't see how it's possible to move off the grid. And so yeah, that's where I am on that question.

**Erik:** Clint, what does it mean when CBDCs hit the market and how does that affect the existing crypto assets?

**Clint:** So these CBDCs, they already exist today, somewhat peacefully. I mean, it's just the nascent stages. So you have, you know, like the Bahamian sand dollar that exist today, that is a CBDC. Now, it's not impactful, because there's not a lot of people using, you know, the Bahamian dollar anyway. But that is going to expand, you know, Pippa's talked several times already about, you know, what China's effort is in this realm. And I think that that is going to be, you know, the dominant player in China. Bar none that is going to be the dominant player, and what have they done in preparation of that? They are making sweeping changes, right? No more Bitcoin mining, they kicked all the Bitcoin miners out, you know, then they said, hey, we're gonna really clamp down on Tencent and financial, which is Alipay, and WeChat. So I think these efforts to make sure in preparation, that the CBDC can be dominant. China's clearing out the, you know, the competition, that's pretty clear. When you look at the rest of the world, how is that going to be? You know, how is that going to integrate? Well, I think, you know, all of us have to pay taxes.

Now, some of us have some kind of interaction with the government, but governments are going to be changing as well, right? I think, I don't think there's going to be this revolution, where the people stand up and reject all this. But I think there's a rapid evolution of government. I think we're gonna see voting on the blockchain, I think we're going to see voting on issues in real time. I think representatives are going to be able to get, you know, their opinions from all of their constituents in real time on any topic. Like, I think we're headed for a different representational system and I think that's phenomenal. I think that's great. And I think that will lead to other changes as well. And I think CBDCs are going to bring infrastructure, they're going to bring adoption. And they're going to necessitate this interoperability, because your big players, your FANG stocks, they're going to have influence and lobbying influence in DC, and they're going to make sure that their systems, their coins may be interoperable with the system.

So I mean, you can look at the things that have happened already. I think CBDCs are inevitable. But also keep in mind, innovation always moves faster than the government. So as Pippa said, you know, some of these dark market guys, they think that they're always going to be ahead of the government. That's probably true in some ways. But I think that those margins are closing. I think innovation always moves faster, because the government can't be organized in such a way that it can actually be on top of all this. But I think, you know, the lobbying efforts are also right there to make sure that some of these things happen. So I think it's going to be a combination. I don't think it's a clean, you know, this way or that way.

**Pippa:** Actually, I've got a question about that. So, I've been watching JP Morgan's move into the crypto space and it's been so fascinating because, you know, we've all seen Jamie Dimon, you know, was like this is just never gonna happen. This is a dead end. And then they're like a major player in the space and deeply involved with Ethereum. And so is the JP Morgan Coin, the test run for the new digital dollar? That's one question I have. And second, what was so fascinating was watching the Chinese literally smash up the Bitcoin mining machines, but lots of

them somehow managed to escape the country. And where did they go? They went to Texas, and so is Texas, the new minting center of the crypto universe. I'd love Clint if you've got views on those two things.

**Clint:** Yeah. So I don't know if JP Morgan is actually test case or test run here. I think that's, you know, probably an experiment that may turn into something else. But I also think they needed to show and they were very clear on this. They love the blockchain, but they didn't like Bitcoin. Now, of course, they're also saying Bitcoin is okay and maybe that's a good part of clients portfolios and things like that. So they definitely come back on that. And it's not it's no longer a fraud, you know, and so I think that's good. I think that's showing that, you know, first there was real pushback. Now, they're saying, okay, now we're gonna engage with this. So I'm not really sure where JP Morgan Coin is going to go long term. But I think there's a lot of potential there for what it could be. You know, you could be trading inside different supply chains with different clients that are all JP Morgan clients, and not have to have these accounts, you know, these foreign exchange accounts, that you're just having money, sit there doing nothing. So I think there are good ways it could be used, but I'm not really sure. And I'm not privy to the information that would allow me to, you know, give good information on that. And if I was, I probably couldn't talk about it.

So, but as far as like, you know, what happened with this Bitcoin mining thing in China, it's amazing to me that it looks like China's really giving up one of the great advantages that they had over this right. And one of the big arguments was, China can control Bitcoin, because they had more than 51% of the hash rate, which you don't need to know what that all means, except that it means that they could if they wanted to, if they acted in concert, they could shift or change the way the Bitcoin blockchain operated, and therefore shift or change where the value in Bitcoin was. That's now gone, that they don't have that advantage anymore. And I think Texas is an obvious place to be I mean, we've all seen the, you know, the blow off gas tax, you know, when you're doing oil and gas production, and you don't need to blow off that gas anymore. You can now use it to, you know, to mine Bitcoin. There's a lot of places, you know, you're looking at any number of things from, you know, hydro dams to geothermal to you know, there's natural gas blow off, all that stuff is now being used for, you know, Bitcoin mining and there's a few other cryptos that also mine. But yeah, I think it's amazing, I think, strategically a pretty large misstep by China and actually, I was thrilled when they made the announcement and actually dumbfounded.

**Erik:** I'd like to move on now to what I consider to be the single most misunderstood aspect of CBDCs. And by the way, I think it's the central bankers whose ignorance astonishes me the most on this. What I'm talking about here is the clear and obvious opportunity to design a digital currency system with built in monetary policy transmission tools, replacing the conventional tools, such as policy, interest rates, forward guidance and quantitative easing with a completely new and profoundly more effective suite of monetary policy transmission tools designed right into the digital currency system. I dedicated an entire chapter of my book to this topic. And I would love to get both of your views on where this is headed. Because I think once the central bankers figure out that they can have even more power with more monetary policy tools by

going digital, I think you're gonna see them jump on the bandwagon real quickly. Pippa, what do you think?

**Pippa:** So having worked in that world, you know, I was often in meetings, where they would have the so called plus one in the White House. So, you know, Alan Greenspan and Roger Ferguson would be his plus one. And I was working for Larry Lindsey, and I would be the plus one. So I've been in the room where, you know, discussions have been about these kinds of issues. And it's like, a priesthood. I mean, it's like you, there's a certain catechism, there's a certain belief system, and everyone in that world shares this belief system. And if you showed up with a different belief system, then you're a heretic in that environment. And so it's very difficult for someone to step up and say, actually, the whole concept of monetary policy is going to be totally profoundly different in this new environment, when the main line of discussion is that the traditional monetary policy we've all learned and we know, you know all the words to all the songs for that. That is true and real and good and this crypto stuff is fundamentally disruptive, bad. You know, we got to be careful about this. How do you even begin to have that conversation as my point.

So I think they'll get there in the end. But it could be a very long time for the priesthood of monetary policy, to really properly clock as Clint said the incredible scope and pace of innovation and catch up and say, oh, gosh, what this really means is we need an entirely new definition of monetary policy, it's tools and instruments, it's an understanding of if we do this, then what will happen? Usually it takes decades, in order for a consensus opinion to form about these kinds of things and time is passing so much faster. This is one of the key features of the modern economy is the speed of change, then governments can't keep up with the speed of change. So I think we're going to have a wobbly period where central bankers, they launch into the future with a comment or a statement, but don't have the infrastructure to back it up. The market responds thinking that this is a well thought through strategy, then they find out that it isn't, then government has to go figure out a strategy. And it's this kind of volatility introduced by a kind of arrhythmia of different speeds, all converging on one subject, a different pace for change that's occurring at the government level versus the private sector level. And it's like a heart attack. an arrhythmia, in your heart gives you a heart attack and an arrhythmia in belief systems, comprehension of belief systems can do the same. So I think it's going to be volatile and bumpy and really hard for people who aren't paying close, close attention to what's going on.

**Erik:** Clint what could happen when central bankers figure out the opportunity to design monetary policy into a digital currency system?

**Clint:** I think that people kind of put her finger on it. I mean, I think they're probably slow in thinking about doing this, because they, you know, if you look at the US dollar, for instance, look at the Fed, US Treasury, we're the dominant player in the world. So you don't want to give up that position? And why would you change anything if you're the dominant player in the world, and I think that's why once again, back to Facebook Libra, and to what you know, China's doing right now, those are things that are wake pp calls. You know, those are the smelling salts that

either wake us up or don't as far as like, getting them to actually embrace this. The idea is really to talk about what are the advantages? What if you could do X, Y, Z, and some of those things like CBDCs, because there, there'll be programmable, you can adjust sales taxes on the fly based on income, for instance, you just got a bonus, oh, we just changed your tax bracket. Now you pay more.

You know, I mean, it could be the great equalizer. What if you can say, yeah, you know, what, if you're out there, and you're a billionaire, when you go buy a coffee, it's \$13,000, for a coffee, you know, instead of \$6, for a latte, you know, it's like that kind of thing. You can adjust things based on, there's a lot of things you could do, it would be automated, you could enforce child support, alimony. You know, you could also encourage spending by deteriorating value, you can basically burn small amounts of it, so that people have to spend it faster. If you wanted to incentivize spending and you know, in the environment. You could have separate classes of CBDC, you could have like a corporate class, you could have a retail class, you could have different savings spending lockup periods. So you could have like a saving class that, hey, if you park your money here, then you'll get a little bit of interest, you know, or if you're going to spend money, you have to take it out of that.

Like, it's almost like the government could be its own bank, you know, the ability to lock access when you travel. So you could only have access to \$10,000. You know, you could have customized bonds based on bids. You could have tracking, tracing, timestamps, location of all purchases, put that into, you know, machine learning, and basically figure out why people are doing what they're doing. You might even be able to detect where COVID is picking up somewhere, because, oh, everyone's buying this. And this is related to COVID. I mean, they've already done things like that with Google, right? So I think you could have algorithm-based interest rate adjustments, airdrops, payments to the people. I mean, I think you'd be able to follow supply chains and trends in supply chains, analyze the big data, and see where things are coming from and see where the pinch points are. I mean, I think there's so many tremendous advantages. You know, I don't see that once they realize that they don't take it.

**Erik:** Clint, you made a couple of excellent points there that lead us directly to our next topic, which is the role of Silicon Valley Digital Currencies or SVDCs in the overall DeFi revolution. But that's a big topic and we're out of time for this week. Listeners, be sure to tune in for part two of our series next week, when we'll continue the conversation about the role of Silicon Valley Digital Currencies in the DeFi revolution. And then we'll go on to distinguish digital currency systems from decentralized finance, the bigger broader trend that is likely to be the biggest financial and general social trend of the next several decades. From there, we'll explore some ideas that I posited in my book, starting with the opportunity to reengineer the entire fractional reserve banking system, and literally redefining what money itself is and how credit works. That could be the most positive thing to come along for society in a 1000 years, or the process could be hijacked by greedy people focused on designing a system to benefit themselves rather than society as a whole. Finally, we'll discuss my proposal for a digital sovereign bond market that could completely disrupt the balance of power on the global stage. All of that is coming up next

week in part two of the MacroVoices 2021 Summer Special. We'll be back to our regular format on September 2, for the MacroVoices Podcast Network. I'm Erik Townsend.