

THE GRANT WILLIAMS PODCAST

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Both Sides Of The Coin: A Civilized Bitcoin Debate

featuring Mike Green of Logica Funds & Nic Carter of Castle Island Ventures/CoinMetrics

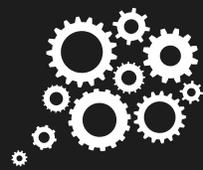
PUBLISHED: JANUARY 24, 2021

The Grant Williams Podcast, including *The End Game*, *The Super Terrific Happy Hour* and *The Narrative Game* represents the Copper Tier of grant-williams.com and serves as a prelude to *Things That Make You Go Hmmm...*, Grant's monthly newsletter which, over the past decade has become one of the most widely-read financial publications in the world.

Blending history, humour and keen financial insight, Grant dissects the financial landscape with thought-provoking commentary—taking readers in unexpected directions and opening up investment avenues away from the beaten path which stimulate the kind of original thinking so lacking in today's financial media.

Drawing on Grant's extraordinary network of experts around the world, *Things That Make You Go Hmmm...* weaves together a tapestry of insight and information, folding in a series of under-the-radar stories and perspectives, to give subscribers an important edge in a fast-changing world.

Copper Tier subscribers can find out what the fuss is all about by [upgrading to our Silver Tier!](#)



Grant welcomes Mike Green of Logica Funds and Nic Carter of Castle Island Ventures and CoinMetrics for a civilized debate about Bitcoin and Tether.

This is a subject which has seen so much divisive rhetoric on either side of the debate in recent months, so this conversation is intended to find some common ground and allow two of the highest-profile proponents of both the bull and bear case for Bitcoin to debate each other in a respectful environment.

The hope is that everybody listening will find value in listening to Mike and Nic exchange ideas and thoughts about what is the hottest topic in finance right now...

Grant Williams:

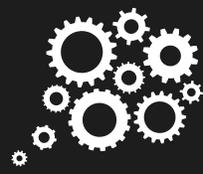
Before we begin, I have an announcement to make regarding the future of this podcast. Beginning February 1st, *The Grant Williams Podcast* will become part of the copper membership tier of my new website, grant-williams.com. Now, the copper tier will include every future episode of the end game, the super terrific happy hour and the narrative game, as well as access to a series of special one-on-one conversations I'll be having with a group of truly extraordinary people throughout the rest of this year, beginning with my dear friend and mentor, Anthony Deden of Edelweiss Holdings. At the site, you'll also find a silver tier, which in addition to access to *The Grant Williams Podcast*, will include a year subscription to my monthly newsletter, *Things That Make You Go Hmmm...* But you can find out a lot more about all that by visiting grant-williams.com. And now on with the show.

Grant Williams:

Something that's fascinated me over the last 12 months has been how keen people are to hear my views on cryptocurrencies in general and Bitcoin in particular. I've tried to lay out my position as clearly as I can over that year. And I'll do the same again here. I understand the bull case for crypto very, very well. In many ways, it's a similar case to the one I've been making myself over the years for gold. Because of that, I've been predisposed to be bullish on Bitcoin, but like anything I come across that looks interesting, I maintain what I view as a healthy level of skepticism until I've had any fears allayed. As far as Bitcoin goes, I'm just not quite there yet. There are things which concern me about its long-term viability. And so until I can have those questions answered to my satisfaction, Bitcoin, to me, remains a highly speculative asset.

Grant Williams:

The difficulty I've found in getting my questions answered stems largely from the binary opinions that I've found wherever I've searched for those answers. Bitcoin, it seems is either going to eat the world or it's a complete Ponzi scheme. And finding a space between those two opinions where my possible answers might lie, has proven very difficult for me. Last week, an extremely negative article about Tether, the supposedly dollar-backed stable coin, did the rounds and from the commentary and discussion around that article, the idea of a debate rose organically on FinTwit, a debate that I was asked to moderate. Needless to



say in my own search for answers to my questions, I was happy to oblige. And so here we are.

Grant Williams:

Joining me today are Mike Green of Logica Funds, a man with a towering intellect and a decidedly negative view of Bitcoin and Tether for that matter. And Nic Carter, co-founder of Castle Island Ventures & CoinMetrics and another man in position of some serious intellectual firepower, but who sees Bitcoin in a completely different and extremely positive light. But the idea here is to offer both sides of the Bitcoin debate, a chance to speak and engage respectfully with the other, in the hopes of providing anybody listening with something to either challenge their own assumptions, answer nagging questions they might have, or simply provide them with some good old fashioned confirmation bias. The goal isn't to change anybody's mind about Bitcoin, although who knows, maybe that can actually happen in either direction, but rather to have a thoughtful, respectful conversation about what is... No matter which side of the debate you find yourself on the hottest topic in finance right now. So let's get to it. A conversation with Mike Green and Nic Carter.

Grant Williams:

Gentlemen, welcome both of you to this special podcast that kind of arose organically. And I'm absolutely delighted that the two of you were willing to take the time to come on and talk about this because there's been so much said and written about Bitcoin, obviously, on both sides and right at the top of the show, I'm going to position myself and explain to everybody where I am because I think that's important for the guy in the middle to understand. I like to refer myself as a bit skeptic. I understand the potential promise of Bitcoin. I've heard some very smart people say very smart things about... A lot of which resonates with me from my time in the precious metals space, but I have questions that I just don't really... There are things that just don't quite click with me.

Grant Williams:

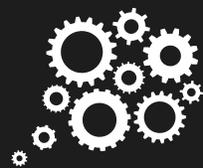
There are problems that I worry about and what I've found when I've been on the fringes of this space is that, it's difficult to get thoughtful, considered answers that... Particularly on Twitter. Thoughtful, considered answers, that don't just degenerate very quickly into a slanging match from both sides. So to have two thoughtful guys like you, join me on the podcast is a real treat for me. So thank you both for doing that.

Grant Williams:

What we're going to do, I think, is start talking about Bitcoin. And then as part of the conversation that I want to discuss, however, briefly, or however long it takes, the recent Tether piece, the doomsday piece, which got everybody's in a flap a few days ago. So I think what I might do is start with you, Nic. And just to give us really your kind of introduction to Bitcoin and your thoughts on what it is and what it potentially could be. And perhaps any of the things that trouble you about it, if there is anything, in fact.

Nic Carter:

Sure. Yeah. And thanks so much for moderating, Grant. I'm a big fan of your show. And Mike, thanks for agreeing to the debate as well. I'm really excited to talk with you. A fan of yours as well. So from my perspective, I've been sort of professionally involved in Bitcoin probably since about 2017. It was when I joined Fidelity as their Bitcoin analyst, right. So I was probably one of the first folks on Wall Street sort of be a dedicated Bitcoin guy. Prior to that, I was just an enthusiast, right. I was an amateur Bitcoiner. I mean, there wasn't really a crypto industry before that, right. And now, my current affiliation is partner at a ven-



ture fund and we invest in startups building on public blockchains. So, I certainly believe in this stuff, putting my capital to work, and I believe in the vision of the future that includes cryptocurrencies.

Nic Carter:

The way I see Bitcoin is, it's kind of two things in one. It is a protocol for sending value through communications medium and encoding value and information. And it's also an asset. It's a monetary asset and I would compare it to commodity. So I would say it's a non-state monetary commodity. It's something that stores value over time and space. And it's an independent system of property rights where rather it proposes a state independent system of property rights. So you don't need an established legal system or a police force or the state to enforce the rights. The rights are enforced through cryptography. And so in that respect, it's sort of contextually important. So in some cases where you have a functioning financial system, functioning legal system, that has no risk of expropriation, you have no need for Bitcoin, right.

Nic Carter:

So in the US, that would characterize most people. They're puzzled by it. They don't really see the need for a Bitcoin because everything works great here for now, at least. In other countries where property rights are not really respected and you have inflation or devaluations, or just simply people's funds, banks accounts get seized on a frequent basis, then maybe there is more of a need for a non-state system. So those are the countries where we're seeing some adoption of Bitcoin. You also see plenty of Americans getting exposure to it, maybe an anticipation of a future time when it becomes super relevant or just out of the speculative mania too.

Nic Carter:

But quite briefly, that's how I see it. I think it's important for there to be non-state monetary technologies. I think Bitcoin is extremely promising and it improves upon gold in some really critical respects, particularly along the domain of auditability, verifiability and taking physical settlement, which is where I think it really improves upon gold. But I think if you are positively disposed towards gold, you should probably take a look at Bitcoin because it's really similar in some of its critical features. Although, of course, not the same thing by any means. So that's my sort of very short description of Bitcoin.

Grant Williams:

Yeah. It's really interesting. And I think my time spent in the precious metal space where my... I was originally exposed to Bitcoin, I saw the similarities between the Bitcoin proposition as it was then, and the things that gold has. I definitely have a few questions about those supposed improvements upon gold, which we'll get into later on. But I want to turn it over to Mike. Mike, just if you can, your... Because, obviously, your view on Bitcoin is the polar opposite to Nic's. And so I'm curious to get an overview of that and the things that concern you the most. And then we can perhaps dive into some of these things.

Mike Green:

So it's interesting because I actually don't think that we are necessarily polar opposites. I think that we have very strongly divergent opinions in terms of the value of it. So my introduction to Bitcoin happened back in 2012, my wife likes to point out that she expressed interest in buying it at \$25 and wanted to put \$10,000 in. And I said, "Well, why don't we actually put money in that matters?" And so do \$100,000. And she, of course, said that's far too much and did nothing with it, right. Now, my view on Bitcoin for a very long time was get yourself to neutral. Own enough that it's not going to make you crazy rich and



own enough that you're not sitting there with an incredible amount of FOMO as you watch others get rich around you.

Mike Green:

I changed that view in 2020 for a very, very simple reason, which is, as I began to see the dynamic of Americans express the view that Bitcoin was the solution to an overly aggressive central bank, it became very important and that it was the replacement for gold as Nic suggested. It became very important for me to actually understand on a professional basis, what was behind the Bitcoin phenomena and how I thought about it in the context of our portfolios at Logica, where we do own gold. We own gold as part of a macro overlay. And we view it as an asset that has interesting effectively orthogonal behavior to other risk assets.

Mike Green:

So as I began to dig back into it on a professional capacity, it actually became very clear to me that I share Nic's view. That it is close to a commodity. It's a unique type of commodity. It's the first commodity that is produced with only electricity. And so while you would think of aluminum, for example, as being produced by the combination of electricity and bauxite, Bitcoin functionally just dispenses with the bauxite. And produces a product that can either be stored and it's commonly referred to as digital gold, or it can be sold for US dollars.

Mike Green:

And as I dug into the dynamics of that, it actually became very clear to me that the reason why it was valuable was precisely because of that feature. If you took a process and you used only domestic energy, for example, domestic coal, solar, nuclear, et cetera, then a state actor was functionally printing their own currency to get US dollars. And, to me, that broadly explains the Bitcoin phenomenon. And it explains why we have the large state actors that are currently playing in China, Russia, and Iran, as the dominant forces... Kazakhstan, you can add there as well as the dominant forces within the Bitcoin universe. That it is functionally an asset that is only superior for criminals.

Grant Williams:

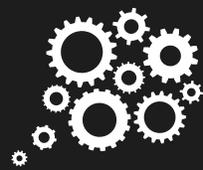
So let's talk about that because this is one of those narratives that gets thrown out and kind of laughed off all too quickly, right. Someone says, "Oh, this is..." Madam Lagarde said it recently, and Janet Yellen said it recently. And they talked about this thing about being... Bitcoin's used for drug deals and money laundering. Obviously, none of them mentioning that they were more euros and dollars used for those two things than anything else on the planet, but that's besides the point.

Grant Williams:

But this idea that Bitcoin is a tool for criminals is something that's kind of thrown around by both sides and batted back. But Mike, just expand on that a little bit because it's... Knowing you as I do, something like that is not a flip comment coming from you. This is something that you've thought more deeply about. Perhaps you can expand on that for me.

Mike Green:

Sure. So part of it is actually deeply understanding gold, right. And why gold played a role in monetary system and you and I have been through this underlying dynamic. Gold is not money. Gold fits a physical parameter that was necessary for coinage 5,000 years ago, in particular, large format. If you think about



the dynamics of what are necessary, and I talked through this on a podcast with John Kutsmeda, but just to run through it, ultimately 5,000 years ago, you needed to have controls that gets counterfeiting, which would require in a level of purity. So you're locked into the elements on the periodic table. Very difficult to assess purity in the context of an alloy.

Mike Green:

And then you start adding the additional features that are required. Solid at room temperature, non-radioactive, non-corrosive, and non-toxic. Importantly, it needed to be malleable at temperatures that could be achieved 5,000 years ago. And by the time you're through with all that, you're left with five metals. You're left with nickel, copper, zinc, silver and gold. And then scarcity becomes a question as you start thinking about large format, and you're thinking about large format wealth storage. In particular, you need something that is relatively scarce. It can't be unobtainable, but it needs to be relatively scarce. And leaves you with silver and gold and gold has the unique property. The one that's more rare than silver. And second, it doesn't oxidize or tarnish. So it became the preferred vehicle. It wasn't because of anything special about gold. It was simply element 79 on the periodic table.

Mike Green:

The other dynamic though that actually retains value for gold is where you discover that Bitcoin's actually an inferior asset. Because when you think about a commodity, a commodity has a unique attribute to it. Once I deliver it to you, my obligation ceases. If I give you a ton of wheat, I've completed my obligation. There is no further requirement for that matter for anybody to perform something for that to have value to you. Likewise, a ton of steel. If I deliver an ounce of gold to you, every obligation has been fulfilled. You may have to negotiate what it can be sold for, what it can be traded for in the future, but nobody has an obligation or liability outstanding to you. And this is where ultimately Bitcoin fails because somebody has to keep the lights on. Somebody has to keep the internet running. Somebody has to keep the network running.

Mike Green:

And as a result, it fails that test of lacking liability. It requires somebody to keep those on. And as a result, it is only valuable to those who are actually looking to do one thing in particular. Work against the state. That's what terrorists do. They assume that the network is running. They assume that the lights are on and they're working against it. That can be the state of China. That can be the state of Russia. That could be a significant terrorist group. And again, that's where we see the mining activity. That's where we see the transactions.

Grant Williams:

Yeah. It's interesting. Nic, I'm going to bring you in on this one because I want to get your thoughts on this because that's one of the things... At the top of the show, when I talked about some of the things that concern me about Bitcoin. One of them was... Not for Mike's particular angle on it, but this necessity for there to be functionality and other things in order for Bitcoin to have its value and preserve its value and be transferable was one of the kind of bug bears that I had with the system. So given what Mike said and understanding where I am on the thing, I'd love to get your thoughts on what Mike just said there.

Nic Carter:

Yeah. So I guess there's two big points to address. The first one being that Bitcoin is ostensibly only for



criminals. So then I guess the other one which I'll start with would be Bitcoin as possessing some kind of liability because it depends on the internet. So I'll start with the latter. So, I agree that gold transactions are final in a very kind of physical laws of physics type way. And certainly that gives Bitcoin or gold, strength relative to Bitcoin in certain apocalyptic situations where the internet no longer exists.

Nic Carter:

The ways that Bitcoin improves upon gold are because it's dematerialized because it doesn't have that physical presence. And so it's much more portable, sort of infinitely portable. And it's much more verifiable than gold. If I want to verifying inbound gold transaction that I'm receiving outside the ages of something like the LBMA, I need an XRF spectrometer. I need to inspect the atoms in that gold to ensure that there's not tungsten filling in the gold bar, right. That's kind of difficult. And so that's why you see gold ending up in these walled gardens because the cost of verification is pretty high. And so it's easier to simply authenticate every link in the supply chain and make sure that gold is just circulating between these trusted intermediaries.

Nic Carter:

Whereas with Bitcoin, the way to verify it is simply by running a full node. Running a full node is something you can do on your laptop. It's about 300 gigabytes. That's the entire size of the ledger. That contains every transaction ever made with Bitcoin. About 500 million transactions. And the way you do it is you just simply replay the whole history of the transactions. And you make sure that the Bitcoin payment you're receiving is sort of included in there and it follows the valid protocol rules.

Nic Carter:

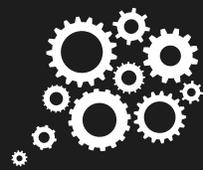
Now, you can run a node for \$10 a month. So that's much, much cheaper and much more accessible to really anyone on Earth than verifying an inbound gold transaction. So there's a trade off, right. The trade-off is, you're dematerializing something. So you lose those really hard sort of laws of physics boundaries, but you gain this crucial right to be able to verify a transaction and to take physical delivery, and then to transport that asset with you anywhere. Bitcoin can be stored in a 12-word phrase, stored in your brain. If you're a refugee, you can take that across borders. You don't even need to bring anything with you. All you need is a memory.

Nic Carter:

So, that is the flip side of the fact that Bitcoin is not material. Let's say you gain these great advantages over gold, but I would say, certainly, part of the appeal for gold is in a truly apocalyptic situation where the grid is down. Nothing else works, commerce doesn't work, but I'm not exactly planning for a situation where the internet ceases to exist. There's not that many scenarios that I'm envisioning where the internet has sort of popped out of existence. And we go back to an analog world. I mean, maybe there's a tiny part of the tail risk that involves the internet ceasing to exist, but more realistically, I'm planning for situations where, for instance, we have high inflation or we have a devaluation. The world looks much as it does, it's just that we're dealing with monetary repression. And in that case, I think Bitcoin is a perfectly suitable asset.

Nic Carter:

I think if your case that you're planning for is one where the internet has gone down, yeah, sure. Bitcoin's not going to be suitable, but at that point we're dealing with the truly apocalyptic situation and that's not a big percentage of the futures that I expect here. Yeah.



Mike Green:

It's interesting that you focus on that, though. Because if you think about the dynamics of keeping the lights on, keeping the power on, keeping the system functioning, ultimately that is dependent upon the state itself. The state employees the police, the state employees the security facilities, the state keeps the enemies from disrupting those networks. And yet what you're encouraging is actually depriving the state of the flexibility of financing itself by opting outside of the system. Functionally, you're declaring that because you disagree with the policy of the US government or whatever government you happen to be a part of, that that entitles you to take your money off because you'd like to have non-state money.

Nic Carter:

Yeah. I think it's absolutely my right to store value outside the purview of the state if I'm expecting a devaluation. I don't see why I have a moral obligation to stomach that. That's what everybody does in terms of asset allocation. They try and construct a portfolio such that they're insulated from the vicissitudes of the future, whatever the cause may be; market turmoil or state action. So I'm not going to sit here and stomach that loss if I can avoid it. Now that doesn't mean engaging in tax evasion. That means engaging in the perfectly legal process of simply buying Bitcoin or buying gold for that matter. I like gold too. I would also contest the assumption that the internet is solely creation of the state. I know certainly DARPA kind of emerged from the US government and so on, but the internet infrastructure is created by private companies. We have private companies putting satellites up now.

Nic Carter:

The internet is a free market phenomenon. Certainly the power grid is something that the government helps administer, but I don't necessarily see the connection between monetary policy and core internet infrastructure. And, certainly, I think the state can continue to finance itself without having complete monetary discretion. That's how things used to work. The notion of a pure Fiat currency is a relatively new idea. That's only been around for the last 50 years or so. So the internet ran just fine before we had this Fiat standard and it will run just fine after it too.

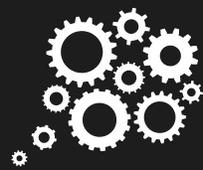
Grant Williams:

Let me jump in because this is one of the things that I struggle with when trying to get my head around Bitcoin, particularly, versus gold. And that's this idea that Mike brought up in a slightly circus way, but this idea that the state ultimately does control access to Bitcoin, and that vulnerability is something, to me, at least. The Bitcoin proponents will tell you that it's outside, it's too big. The state can't do anything about it. They can't disrupt it. But as we've seen in various news, stories that flash across the wires and affect the price at any given time, the idea of being able to control the on-ramps and off-ramps is an important one.

Grant Williams:

And to Mike's point, the state allowing people to switch out their currency in which they tax the citizens of that country for something outside the system. I would argue, and this is one of my big concerns is that ultimately, but we're not there yet, but at some point, that cannot be allowed to exist. At some point, Bitcoin becomes a threat to the taxation powers of a government somewhere, and it becomes a problem that not only can they not allow it to exist, but through the things we've been talking about already, they have a fairly straightforward means of stopping it, Nic.

Nic Carter:



Well, the first regulatory body within the US, I think, to grapple with Bitcoin was the IRS, which is maybe not a surprise maybe behind FinCEN.

Grant Williams:

Exactly, right.

Nic Carter:

They treated as property, which is what it is. And you pay capital gains when you sell your Bitcoin. So they already devised their Bitcoin.

Grant Williams:

But that's for now. That's what they are for now, right? I mean, because to my point, it's not a threat just yet.

Nic Carter:

May well be a threat, but it's a very popular product that tens of millions of Americans use. There's senators like Cynthia Lummis that are Bitcoiners. There's a dozen or so representatives that count themselves as allies to Bitcoin. You got the new head of the SEC, Gary Gensler, who taught a class on crypto at MIT. The putative head of the CFTC, Chris Brummer, wrote a book on crypto assets. So, I think, it's a little odd to assume that the state would take this incredibly adversarial stance towards Bitcoin when it actually is very much an American industry. You've got companies like Coinbase that are going to be IPOing relatively soon here. Literally hundreds of billions, most likely, Bitcoin are custodied in the USA.

Nic Carter:

So it's quite an American industry, the same way that a large portion of the world's financial gold is stored here in the US and nobody really thinks that the government is about to impose incredibly onerous tax rates on gold. So, I would find it very curious if Bitcoin were singled out. I mean, gold is still many times larger than Bitcoin. And gold is certainly an asset that people use to escape monetary repression when it emerges. Now you might harken back to 1933 and say, "Well, listen, the last time the government needed to control the yield curve and impose high inflation and so on, at that point, gold was banned." So private ownership of gold was spanned order 6102. So why wouldn't they do the same thing again?

Nic Carter:

And I think my answer would be that the executive doesn't have the power that they had back then. In the '30s, FDR had pretty unilateral power and he was the closest thing we've had to a dictator in the history of this country. Now, today it's a little bit different. The executive doesn't have that power. We're not dealing with a crisis like the great depression or World War II. I don't necessarily see the citizens of this country rolling over and accepting that. I don't see the moral mandate exactly. So I think it would be incredibly unlikely for the government to effectively expropriate the savings of tons of millions of its citizens at this point. So, yeah. I think Bitcoin at this point has achieved critical mass, which would make it politically incredibly difficult to illegalize it either de jure or defacto.

Mike Green:

So is your assessment of the 1930s that it was a period of high inflation?

Nic Carter:



No, the '40s, but I'm saying that-

Mike Green:

The '40s were a period of high inflation? That's not true.

Nic Carter:

There certainly was significant inflation in the '40s.

Mike Green:

What was the level of inflation in the 1940s?

Nic Carter:

It's high single digits.

Mike Green:

There was low single digits on average throughout that time period.

Nic Carter:

It spiked up to levels that would be considered significantly inflationary today.

Grant Williams:

With 33% of inflation today, that's the first of what we've built for ourselves.

Nic Carter:

The point is that inflation was significantly higher than interest rates in the '40s, and that allowed the government to soft default on its debt and reduce its sort of debt to GDP ratio.

Mike Green:

So that's actually an A-historical take, right? It was not a function of the difference between inflation and interest rates. It was a function of an expansion of the productivity of the United States. We radically increased the number of people working in our economy. The labor force over the course of the 1930s into the 1940s had expanded by about 35% even though the economy had not grown significantly. That created tremendous resources that could be deployed once the soldiers returned from war. The innovations and technological innovations that occurred in the course of the war time period, created the basis for dramatic growth. And what you actually had was real GDP expansion leading to-

Mike Green:

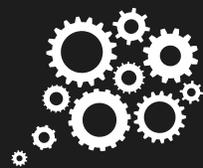
... dramatic growth, and what you actually had was a real GDP expansion leading to diminishment of the debt levels. It had nothing to do with financial repression.

Nic Carter:

Do you disagree that inflation ran significantly higher than interest rates in the 1940s, after the war?

Mike Green:

I agree that it ran modestly higher. When you say significantly, I encourage you to think that we're talking



low single digit differences.

Nic Carter:

Regardless, a lot of us-

Mike Green:

Well, wait. You can't say, regardless, to that. You've made an assertion that inflation was used to eliminate the debt load, and that's just not true.

Nic Carter:

... It certainly helped. It absolutely helped. [crosstalk 00:29:38] I'm not going to pull up charts right now during the interview, but feel free to refer to the chart.

Grant Williams:

Mike, let's get back to the point that we're discussing, which is this idea about crypto being at some point a threat to government taxation powers, at some point becoming enough of a threat, that it becomes something that the government cannot allow to coexist alongside its own power of coinage. What are your thoughts on that?

Mike Green:

I would suggest that if that were to ever get to that point, I agree with you, that it would become a critical issue. My concern is this, that it represents a threat already. Not because of the potential to replace US taxation, although I find it concerning that an increasing number of Americans are being encouraged to decide that their decision about policy, overrides the overall policy objectives of the state. I would suggest that, that's a very frightening development, that we've effectively robbed ourselves of any sense of unity, or alignment behind our leadership.

Mike Green:

The second thing that I would highlight though, is just that if we look at the scale of Bitcoin, and we look at the operations that are underway. It is already being used to an extraordinary degree to provide hard currency, to those that are aligned against us on the global stage. China, Russia, and Iran are all using Bitcoin as a tremendous resource, for obtaining US dollars.

Grant Williams:

Mike, you and I have spoken about this, and I've listened to you talk about it, and I've seen some of the work you've done. Just flesh that out for us, because it is interesting. It's one of the things that you've alluded to. But I think it probably would be good for a lot of people to listen to you talk about that as best as you can.

Mike Green:

Sure. When we look at countries like Iran, or we look at countries like Russia, or we look at countries like China. They all ... if they want to purchase goods from abroad, need hard currency. Ultimately, the Russian ruble is only useful when transitioned to the US dollar. The Chinese yuan is only useful, when transitioned to the US dollar, with the exception of the decision to trade with other countries like Iran, and Russia, who likewise, are short US dollars.



Mike Green:

Bitcoin is turning into a major source of those dollars. That feels difficult for people to understand, because they see the large trade surplus that China will run with the United States, for example. But what that fails to consider is the extraordinarily low value added component of that. The statistic is fairly, typically given that China collects somewhere in the neighborhood of 4 to 5% of the value of an iPhone. So 40 bucks off of a \$1,200 phone.

Mike Green:

That low level of value added means that trade surplus really doesn't create that much cash for them, that much USD. What they're actually doing is buying a lot of commodities, and paying a lot for the intellectual property that's coming from the United States, or coming from Taiwan, which is an important consideration. They're effectively processing that at very low value added.

Mike Green:

A product like Bitcoin, or a product like fentanyl, actually has a remarkably high value added content. Therefore, it can be a tremendous addition in terms of the actual hard dollars, USD, that it received relative to the effort that's put out. Bitcoin would be the poster child for that again, because all you're doing is putting electricity into a process, and you're receiving a saleable commodity.

Mike Green:

What you can do is, you can simply steal from the resources of your own population. You can use underpaid labor to extract those resources in the form of lignite coal, or to build solar facilities, or whatever. Effectively, you're just stealing from your own country, and printing your own currency to generate US dollars. It's an end run around any form of sanctions and control. Individuals that are actively involved in Bitcoin, are facilitating that by providing those dollars.

Nic Carter:

I have a question for Mike though. I mean, China exports. What's China's trade surplus, like 500 billion plus dollars a year? China collects US dollars-

Mike Green:

With the US. They run trade deficits with the rest of the world.

Nic Carter:

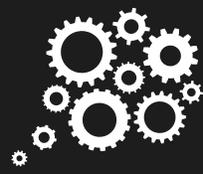
... China collects dollars by selling products to Americans. How is ... let's say the state was mining Bitcoin, which is not exactly the case, its private entities, but let's say they were. How is that any different from just Chinese firms exporting any other good, or service to the US? What's the difference there?

Mike Green:

Ultimately, I would suggest that there are two components to it. Again, when they ship us baseball caps, they are not simultaneously shipping us baseball caps and saying, you're receiving these baseball caps because of the collapse of the US dollar.

Mike Green:

The second component, as I said, is of that \$500 billion trade surplus that they run with the United States.



They have to run massive trade deficits with the rest of the world, in order to obtain the resources to produce that 500 billion.

Mike Green:

The value added content is extraordinarily low. If you look at China's foreign reserves, which would reflect the accumulation of resources, if they were actually getting tremendous amount of additional value, they have been at best flat, and until the introduction of Bitcoin mining, they had been declining.

Nic Carter:

Just to give people a sense of the numbers involved here. I think you might be somewhat overstating the amount of new Bitcoins that are produced in terms of the effect on actual financial flows globally. Today, there's 900 new Bitcoins that are mined every day. A block has 6.25 Bitcoins, is 144 blocks in a day typically. Bitcoin is about \$30,000 give or take. That means the entire Bitcoin mining industry has revenue of \$10 billion a year. Just about.

Nic Carter:

What you're suggesting here is that we've hostile foreign regimes, et cetera. They're mining Bitcoin, they're getting hard assets. The truth is, most Bitcoins have been mined. 88% of Bitcoin has been mined. The rate of mining issuance is slowing. Every four years, it gets cut in half. Annualized inflation rate of Bitcoin, monetary inflation is 1.8%.

Nic Carter:

We're talking about relatively small numbers in the grand scheme here. Like let's say Iran. Iran, the entire mining operation was nationalized, which is not, but let's say it was, and they were using all the Bitcoin they're mining to import. All of the Bitcoin was being collected by the state.

Nic Carter:

Now, if you look at ... there are some great stats on the Cambridge alternative finance website, estimating the location of mining. Iran has about 3.8% of global hash power, according to that estimate. Which I think is fairly credible. Now, 3.8% of the annualized Bitcoin mining reward is \$370 million. How big was the Iran deal? The pallets of cash that Obama shipped over to Iran? I think it was somewhat larger than that.

Nic Carter:

We're talking about relatively small numbers here, and certainly, there are state sanctioned mining operations in Venezuela. We know the secret police went around confiscating Asics, and now they mine. But the numbers here don't really bear out any kind of strategic threat to the US, especially in line with the fact that we have free flow of capital, with most of these countries. So, I think you might be overstating the magnitude of the 'problem here.'

Mike Green:

I actually disagree that I'm overstating it. I think that you're focused one exclusively on Bitcoin, and I understand that the other coins are smaller, but they are ultimately ... there's quite a bit of profitability.

Mike Green:

The second is that, as you've pointed out, you can use Bitcoin, or other older coins as a storage mechanism.



If we look at the flow of funds in the last 36 months, effectively, during periods of low Bitcoin price, we've actually seen an accumulation by countries like China. Where they not only have mined, but they've accumulated by buying on the open market.

Mike Green:

The second dynamic though, is what we've seen in the past year. Which is, in the past year, the estimates are somewhere between 50 and \$150 billion worth of crypto assets, have been sold. I would include in that things like a bit main miners. The actual ... I'm blanking on the name on it right now. But the actual equipment itself is all coming from China. Those dynamics are not inconsiderable. When we're talking billions of dollars, it's important to remember that on an inflation adjusted basis, the Soviet union in the 1970s, ran on a total of \$24 billion in today's terms.

Nic Carter:

I mean, if you look at where those Asics are going though, they're mostly being bought by American entities. The future coin reserve as instantiated in Asics, because that's what Asics are. They're physical embodiment of coins, those are being purchased by American entities.

Nic Carter:

Again, this is just the normal process of trade between the US and China. Now you might say all trade between the US and China is illegitimate, and we should sever that capital markets' relationship. That would honestly be a pretty valid thing to say, and I might even agree with you. But the point is, I don't see anything sinister about trade between the two countries.

Nic Carter:

To your earlier point as to the relative size of the proof of work coins. There's a lot of coins out there. They're not all proof of work. Ethereum is the second largest, they're real and Ethereum is much smaller than Bitcoin too. There really isn't that much outside of Bitcoin and Ethereum in terms of the value proposition for minors.

Mike Green:

Do you dispute the idea that in the last 12 months, China has received Bitcoin, and crypto proceeds inclusive of the sale of mining rigs in excess of \$50 billion?

Nic Carter:

I'd love to see where you're getting those numbers. I don't see any evidence that China is accumulating all the Bitcoins. Quite the contrary, the major buyers of Bitcoins are largely American institutions, American investors.

Nic Carter:

You can look at these flows every single day. The Grayscale Trust Product is probably the biggest single buyer of Bitcoin. You've got American publicly traded firms like Micro Strategy, buying over a billion dollars worth of Bitcoin. Coinbase is the biggest Bitcoin exchange in the world. They have probably about 50 million clients, mostly American, Western European. My former employer Fidelity, they're one of the largest custodians of Bitcoin in the world. That's for US entities.



Nic Carter:

Folks out there with an appetite to buy Bitcoin are largely Americans. We can look at the balance sheet of the Chinese exchanges who will be, and okay coin, and see the number of Bitcoins they've got on their balance sheet. That's what my firm Coin Metrics tracks. I'm not seeing anything to suggest that these Chinese entities are accumulating hundreds of billions dollars worth of Bitcoin, fundamentally.

Mike Green:

I didn't suggest that actually, I suggested exactly what you're referring to. That those have been accumulated in the past, and now they're being sold to Americans.

Nic Carter:

Certainly the case. A lot of Bitcoins were historically mined in China. But I don't really see the relevance of historical sales of Bitcoin to Americans. The fact is, the flow of Fiat currency into Bitcoin is happening largely in the US, and Western Europe. That's really the epicenter of this.

Mike Green:

That's actually quite interesting though. When I think about it in the context of what you said earlier. That the primary rationale for adoption was refugees, or those who needed to fight back against their governments in places like Venezuela, or Argentina, where they were experiencing strongly adverse conditions, and establish the moral case for Bitcoin. What you just told me is, it's largely Europe, and the US that is providing the flow of dollars and euros to China.

Nic Carter:

That's because... first of all, I'm going to completely dispute the fact that China is the sole producer of Bitcoins, because that's not true. Second of all, America just fundamentally has the most capital in the world. America probably represents 40% plus of all the publicly traded equity capitalization globally. Even though the US is more like 20% of GDP. They just are fundamentally large capital markets in this country. That's why they account for a lot of buying power.

Nic Carter:

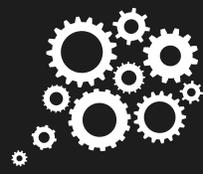
But Bitcoin is a fundamentally global phenomenon. If you look at ... there's a great study by Chain Analysis. They look at the countries where Bitcoin trade occurs. You look at the per capita intensity of Bitcoin trade. They identify a bunch of different places, XUS, where you have a high rate of per capita adoption. Ukraine, Russia, Venezuela, obviously China, Kenya, South Africa, Nigeria, Columbia.

Nic Carter:

A lot of these places, people are adopting it because of inflation. We know for a fact that they're extremely vibrant Bitcoin markets in Venezuela. Now, if you look at it on an absolute basis though, the US is going to dominate because there's just fundamentally more capital here. But you could say that the US individuals and financial infrastructure monetizing Bitcoin making it a liquid commodity, is a way to support its usage globally, because that provides it with a liquidity and stability. That means that it's useful for people around the world.

Nic Carter:

A lot of the software to use Bitcoin is developed in the US, and then it can be used by dissonance world-



wide, or folks trying to escape inflation. There's an enormous positive externality that comes from Americans monetizing the asset.

Mike Green:

Just very quickly though, when you said that ... I want to return to your earlier comment. You said the US has no need for Bitcoin. What you're saying now is that, it is a public good that the US is financing the Venezuelans, or the Ukrainian dissidents, or the Russian dissidents.

Mike Green:

Although, I would question whether what we're actually looking at is dissidence in those last two regions. You're suggesting that the primary role is for the US to accumulate this, to finance the resources of the dissidents, and the impoverished, and the rest of the world.

Nic Carter:

It's a positive externality of the fact that it's largely Silicon Valley firms that have built the infrastructure to make Bitcoin functional and useful. I'm not saying it's exclusively American entities that have done this, but it is a large part of Americans.

Nic Carter:

But of course, Americans are buying Bitcoin for good reasons, too. It's just that, that reason is not immediately apparent if you're looking at inflation. But most of us expect that reason to become very clear, within the next few years. You just look at the growth and then to money supply, 20% annualized. You look at inflation expectations. You look at the fact that direct stimulus has been politically normalized in this country. And sure, a lot of people are thinking, maybe we're going to be the next Argentina too.

Nic Carter:

So, Americans are buying it for good reasons. And all you have to do is just listen to all of those macro investors that are buying the asset. That's the same justification they give every single time. That they-

Grant Williams:

Nic, let me jump in because this is another one of these things that I'm looking to understand about Bitcoin. I'd love to get both of your thoughts on this, because the point you make there about a lot of Americans buying Bitcoin as an inflation hedge. To me, I just don't see that. I don't see that, that's the main driving force behind it. It feels like it's a speculative mania to me. I've seen plenty of it in my time, and what we're witnessing now feels like another speculative mania.

Grant Williams:

I don't think most of the people buying Bitcoin are thinking, this is going to insulate me from inflation. I think that narrative is out there, but I don't think that's a huge component of this at all. The other point about the worlds of Paul Tudor Jones, or the world of Jack Lehman, we've seen a lot of these guys come in and talk about the merits of Bitcoin.

Grant Williams:

But again, the thing that I don't struggle to understand, but I wrestle with, is Bitcoin to me started off as an ideological construct, which has great merit. As I said, I totally understand that ideological component



behind it, and I think it's a very well thought out, and very well constructed ideological construct. But I think what's happened, as I look at it, is that, it has now run into wall street. The ideological construct of wall street is much simpler. Let's make money, period. We don't care how we do it, and we don't care who gets in the way, we're going to make money.

Grant Williams:

When I look at some of the adopters of Bitcoin, and I'm not ... I don't mean this in a pejorative way, but some ... lets take Paul Tudor Jones, for example, right? Paul Tudor Jones, is arguably the greatest trader of his generation. He's a trader, and that's what he does. So when Paul Tudor Jones comes out and says, I'm starting to see the merits of Bitcoin. I guarantee you that he is not planning on buying Bitcoin the following day. I guarantee you when he says that, he has a position in Bitcoin, and he has as big a position in Bitcoin, as he was hoping to establish. I also guarantee you, he's not going to come out and say to you at any point in time, I think I'm going to sell my Bitcoin tomorrow. He may be asked in several years what happened to his Bitcoin, and he might say, I saw that myself, he's not going to do that.

Grant Williams:

These guys understand how. There was Kerry White. They understand how to try to make money from trading. What I see in much of the narrative, and the dialogue around Bitcoin, is absolutely FOMO, it's absolutely get rich quick. It's all the things that you see in speculative manias. Whilst I agree that Bitcoin does to an extent, if not solve, at least ameliorate that inflation problem, I don't think there's any way that Bitcoin is being bought hand over fist as an inflation hedge in the United States. I just don't see that.

Nic Carter:

... Well, Paul Tudor Jones was quite explicit when he made his possession. He said, I came to the conclusion, and I'm quoting, 'I came to the conclusion that Bitcoin was going to be the best of the inflation trades', the defensive trades.

Grant Williams:

Trades?

Nic Carter:

Yeah.

Mike Green:

But that's not the same statement, Nic. That's a very different statement. That is him saying it is going to be the best of the inflation trades, not the solution to inflation, but the asset that would appreciate most as people became concerned about inflation, and exactly to Grant's point, he's been correct. It has performed spectacularly well as a reflation narrative has re-emerged. The problem is when you talk about things like the inflation expectations rising, do you know the level that they have risen to?

Nic Carter:

It's like two point something percent. I haven't checked today.

Mike Green:

No. It's 2.08%. which is lower than it was in January of 2020. The actual pricing of inflation expectations is



determined from an instrument called the tip. The dynamics of how that tip is constructed and priced as a function of volatility in the marketplace.

Mike Green:

As volatility has retreated, those inflation expectations have risen. There's no indication that they have unhinged in any way, shape, or form that would support the idea of the speculation. When you go out to your audience, you start your podcast with the screams of Lehman and bailouts, et cetera. And you talk about prices of 400 and \$500,000, which is not an inflation hedge. It's a speculative bet. Why do you do that?

Nic Carter:

Well, first of all, thank you for listening to my show. I hope you enjoyed it. I think nobody's claiming that we have CPI inflation in the US today. The mere point is that inflation is a specter which could return. Sure, you can buy Bitcoin once inflation is here, and the US is once again engaging in monetary oppression, or you could anticipate that, and buy it today, or last year, or the year before that.

Nic Carter:

Now Bitcoin is still pretty small. So if you're buying it early, you're ... there's a significant risk associated with that. The world doesn't really understand it well. It was extremely volatile as the world rapidly re-priced its expectations of its future growth's trajectory.

Nic Carter:

Look, Grant, to your earlier point, there was absolutely a speculative mania in Bitcoin in 2017. Bitcoin was this flow-through asset to buy ICO's, et cetera. You've had those same market cycles in 2013, 14, and before that in 2011, 12. That's the way that the asset develops. It's this repeated cycles, but the trajectory is generally upwards, as the infrastructure gets built out, and as more capital gets comfortable with the asset fundamentally.

Nic Carter:

I can tell you for a fact, I was there in 2017. No institutional investors, no publicly traded companies were giving Bitcoin the time a day, but they are now this time. Something has changed. Now you might say, well, they've just decided that there's another opportunity to rip off retail investors, and the career risk in owning Bitcoin is slightly less. But I'm just listening to what these entities, and individuals are saying. We're looking at firms like Rougher Investments, a Scottish firm.

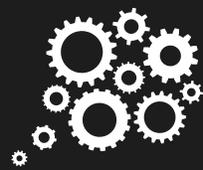
Nic Carter:

Their objective is, wealth preservation, and really mitigating their downside risk. There are conservative firm. They came out and said they bought Bitcoin recently. Now that doesn't strike me as the kind of a firm that's trying to make a short-term play on a speculative mania here.

Nic Carter:

There's a diversity in the types of entities that are Bitcoined, and they're not all announcing their position either, for that matter. In fact, if I was a gigantic family office, or something, and I was buying Bitcoin, I wouldn't tell anyone. I would just buy it and shut up about it.

Nic Carter:



We're only hearing from the loudest voices out there that are maybe more trade, or focused, but there certainly is something that has changed in terms of the acceptability of the asset in 2021, as opposed to 2017. I would say a lot of that has to do with the actual macro environment.

Nic Carter:

It's undeniable that the US is pursuing a really aggressive fiscal approach here. For better, for worse. That's been the reaction to COVID, has been direct injection of cash into the economy. Now it's different from QE. But fundamentally, I think a lot of people expect that a high velocity style issuance of cash directly to households, on a recurring basis, with a fully blue presidency, and Congress, et cetera. That's likely to be more inflationary.

Nic Carter:

I don't think that's that controversial thing to say, now that hasn't shown up in CPI. Certainly, we've seen asset price inflation hasn't shown up in CPI, but I don't think it's unlikely that it doesn't show up in the next five years. I think a lot of people are looking ahead there. You don't need CPI to be 5, 6%, right now for Bitcoin to be worthwhile. I think a lot of these people are anticipating that, and allocating defensively.

Mike Green:

So your workouts would be CPI could rise to a level of 5 to 6%.

Nic Carter:

Sure. I wouldn't be surprised by that by any means.

Mike Green:

That was a level that we saw in the mid nineties. We saw that briefly in the early two thousands with the rising commodity prices. Is that a number that strikes you as indicating financial instability, and a collapse of the US dollar?

Nic Carter:

No. I don't believe that the dollar is going to collapse. Sorry. There's people honking outside.

Mike Green:

Sounds as if it's in New York.

Nic Carter:

I'm in Boston actually.

Mike Green:

Boston.

Nic Carter:

My case for Bitcoin doesn't require the dollar to collapse by any means, and it doesn't require that Bitcoin becomes the global reserve currency. It merely suggests that there's room for an alternative neutral, apolitical, non-state currency alongside the other ones out there. And that Bitcoin offers a non-discretionary monetary policy, as compared with all the other sovereign currencies, where monetary policy is highly



discretionary.

Nic Carter:

That's the only thing we're proposing. We're not coercing anyone. We're not forcing this view on anyone. It's an entirely free market phenomenon, as opposed to sovereign currencies, which are coercive by definition. You're born into them. It's very hard to opt out of them. This is the purest, and least coercive approach to monetary competition possible. I think ultimately it's going to be a disciplinary force, on the established central banks.

Mike Green:

I find it interesting that you identify that lack of coercion. Because to me it explains quite a bit. It incurs, if you have a lack of coercion that effectively says, you have to use this, that you have to create a use case for why you should use this. I would also highlight that you referred to it as a currency, which would suggest that the taxation regime needs to change quite dramatically.

Mike Green:

But with that put aside, let's take that for a second. What you've just established, is exactly my objection to how it is currently being marketed to the American public. Which is one of fear, or one of greed. We're going to capture extraordinary returns. We're going to take your wealth and not only protect it, but we're going to multiply it. You're in a secret club that you got into first, got lots of code phrases, and lots of words, and you get to be super cool when you join it.

Mike Green:

But you have real individuals who are putting their financial futures at risk, and an asset that you're admitting could very easily be made outlawed, and should be made outlawed in my opinion, given the sucker that is providing to our enemies. But when you have that underlying characteristic, you have a responsibility to consider what you're doing.

Nic Carter:

Mike, I don't think it could easily be made outlawed. And if they tried to make Bitcoin illegal, then I would become a dissident. They'd be welcome to throw me in jail, et cetera. But fundamentally, I don't think there's anything that radical about proposing a currency, or commodity monetary commodity. That's outside the purview of the state. That is the historical default. That was the role the gold played for hundreds of years. And we've only had a Fiat standard for 50 years. So all I'm suggesting is a reversion to the mean here.

Mike Green:

We keep coming back to this general idea that gold is somehow money. Gold is not money. Gold was element 79 on the periodic table, that was useful in large format coinage. That's all it was.

Nic Carter:

Mike, the nomenclature we use is completely irrelevant to me. What matters to me is the qualities that you get from these items. The important thing about gold, is that as you described earlier, had the good qualities of durability, malleability, and stable, et cetera. Crucially, was well distributed in the Earth's crust, so that you can obtain gold in a bunch of places.



Nic Carter:

Much like Bitcoin, it's difficult to obtain gold, and so, you have to spend a hundred dollars to maybe mine, \$105 worth of gold. Very similar in nature, I would say. Bitcoin resembles that. To me, it's somewhat irrelevant, what we call it.

Nic Carter:

To me, it's somewhat irrelevant what we call it. The important thing is that you're putting your faith in a hard asset, which doesn't have a monetary policy, which is beholden to the state, right? Because we've seen that fail time and time again and that's why many people yearn for the gold standard.

Mike Green:

Yeah, but see, this is actually another reason why Bitcoin fails ultimately, because what you've done is by making it the ultimate scarcity, but putting it in true scarcity where any Bitcoin lost is a Bitcoin that will never be recovered, you've created an asset that ultimately encourages people not to participate.

Mike Green:

So gold, at least, if there was a shortage of gold, encouraged people to go out and mine and develop and develop new processing techniques, for example cyanide process that dramatically expanded the quantity of gold that was available to individuals and to states to use. Bitcoin goes in the opposite direction. Your best return from Bitcoin is to do exactly what people are encouraged to do, huddle, not participate. That's damaging to society.

Nic Carter:

Mike, I think you might have a somewhat skewed view of the current technologies that we use to transact with Bitcoin. I mean, certainly in the early days it was difficult to manage your Bitcoin exposure properly, as people lost a lot of Bitcoin before it had a market price. That was the news story that everybody saw recently, those coins that Stefan Thomas lost that are worth however many hundreds of millions now.

Grant Williams:

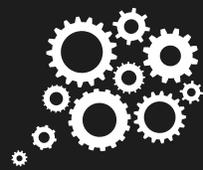
Couple of hundred, yeah.

Nic Carter:

He mined them when Bitcoin literally didn't have a market price in 2009, 2010, so it's not surprising that he didn't invest a lot of energy in his setup. But 12 years have passed and there's a bunch of sophisticated ways to transact with Bitcoin, such that there's no real risk of losing your coins. Obviously we had to go through this learning curve, as an industry, because we're storing value in the form of information, so we need a new way to safeguard information. The stakes had never been that high for storing information. So we developed multi signature wallets and cryptographic protocols and MPC, new cryptographic technologies, in order to facilitate transactions.

Nic Carter:

But that exists now. That's exactly the kind of thing that we invest in as a firm. So, I would encourage you to experiment with some of this stuff and see what it's like. And it doesn't just concern Bitcoin, by the way, I'm sure we'll get to this, but the flow of dollars in a tokenized format too. So the industry has sort of evolved beyond those incredibly primitive early days when transacting with it carried a lot of risk. Today, if



you look at the rate of funds being lost by exchanges, for instance, it's much lower than it has been historically.

Mike Green:

So I think that's true, but again, you opened up an early use case where a refugee memorizes their address, manages to make their way across a border fraught with risks to achieve great freedom with Bitcoin in the future. If that person happens to get bumped on the head and forget their password, it's gone, right?

Mike Green:

I mean, it's no different than being robbed by bandits in the hills. So the difference is, that when the bandits Rob you in the hills, that gold returned to circulation, that gold did not disappear. In this case, it would completely disappear and that individual, through their forgetfulness, would affect monetary policy. That seems absurd.

Nic Carter:

Well, I mean, I think the way you're proposing it is that there's some sort of required amount of Bitcoin that the world needs in order to function, but the amount of Bitcoin that exists is completely arbitrary. We can divide out Bitcoin to as many decimal places as we want, so any quantity [crosstalk 00:03:56].

Mike Green:

So when you divide it, does that involve redistribution, because it doesn't.

Nic Carter:

No.

Mike Green:

All you're doing in saying I have a hundred dollars in my pocket, I split it into one, I can have one, \$100 bill, or I can have a hundred, \$1 bills. That's not redistributing it and spreading the wealth. And in fact, if we look at the Gini coefficient of the Bitcoin economy, it's infinitely higher, not infinitely higher, it's markedly higher than any other economy in the world.

Nic Carter:

Where are you getting the Gini coefficient data from?

Mike Green:

Simply from the storage and the wallets. The value that is held by the wealthiest individuals in Bitcoin relative to the aggregate value that is held by other players is a higher concentration of wealth than any other in history.

Nic Carter:

That's not a like with like comparison, because you're looking at a bunch of omnibus wallets for exchanges that are storing a lot of coins on behalf of many individuals in a handful of wallets, so you're not going to be getting a pure Gini coefficient.

Mike Green:



So you're suggesting that Bitcoin is widely distributed?

Nic Carter:

Well, we know empirically, there's plenty of surveys, the FCA has done surveys, actually the Fed has done surveys. Canadian Central Bank has done surveys. You got good studies from Cambridge Center for Alternative Finance. My best guess is there's around a hundred million people worldwide that use cryptocurrency. That's looking at exchange accounts, KYC and exchange accounts. So, I mean, it's not perfectly distributed by any means, but it gets better distributed every day.

Mike Green:

So a hundred million out of roughly 8 billion?

Nic Carter:

Yeah, I mean, and that's pretty good progress as far as I'm concerned with something that's only about a decade old.

Grant Williams:

Well, let me jump in also, because, Nic, this brings up something else that I'm curious about. You mentioned a little while ago about the difference between 2017, that run we saw up towards the end of 2017 and today, and it definitely does feel different. A lot of that is down to broader adoption, it's down to the MicroStrategies of the world, it's down to the Grayscale of the world. But when I look at that, I wonder if that is all positive? I think it's positive in the fact that it definitely, not until this last week, has reduced volatility quite significantly and that those 90% draw downs that we've become accustomed to in Bitcoin over its first kind of 10 year lifespan, feels much harder for that to happen now.

Grant Williams:

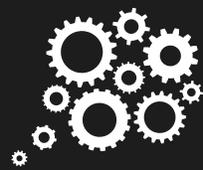
But the flip side of that is, and I think this is a point that you've both been knocking backwards and forwards here, is when you've got something like Barry's Grayscale Trust and you've got MicroStrategy's treasury and you've got a lot of big whales, let's call them, who have a much higher tolerance for volatility than the public, than a retail investor. You do have, optically at least, you have this appearance that this would be a very simple instrument for the transfer of Bitcoin from weak hands into strong, either corporate hands, or strong kind of Wall Street hands.

Grant Williams:

And I see signs of that. I see signs of some of the recent draw downs we've had, feel like, to me, what would ordinarily be something you see at the end of a speculative mania, except this time we have kind of two sides to this, we've got big holders who have threshold for pain and can watch something that retail money has piled into it 40,000 drop 25% in a few days. They can stomach that, they can sit quietly and then mop up all this stuff, so it feels like Bitcoin is being concentrated at the expense of retail investors into the Wall Street mafia, let's call them, for want of a less pejorative phrase. Is there any validity in that or am I smoking something?

Nic Carter:

Well, it's a fair point. I mean, as with any volatile asset that retail participates in, retail will occasionally lose money. 100%, even if the asset typically goes up. There's nothing I or anyone can do about that. Barry's



Trust though, the Grayscale product, those coins are held on behalf of individuals that want to own financial Bitcoin in their brokerage account. So, they have about probably maybe 3% of all outstanding Bitcoin, something like that. That represents probably hundreds of thousands of individuals that want to hold Bitcoin on Schwab and Fidelity and so on, so that's not one entity.

Nic Carter:

MicroStrategy on the other hand, they've accumulated, I think, 70,000 Bitcoins that is under the purview of one entity. But, I would just invite you to look at the blockchain itself. So it's very transparent, unlike other assets. This is one of the really interesting things about Bitcoin. Every transaction is visible. You can run amazing analytics on it, so you can do this query for yourself and I wish I could pull up this chart for you right now. I mean, you can look at the number of addresses that have retail sized amounts of Bitcoin, people holding Bitcoin on chain. So you can look at the number of addresses where they're holding 0.01 Bitcoin or 0.1 Bitcoin. You can see that numbers typically increasing over time. So I'm not seeing evidence for concentration when I look at the blockchain, I see the opposite. I see dispersion, and so that's very positive.

Mike Green:

One of the things that you pointed out, though, one of the things you've pointed out, is that almost all the Bitcoins have been mined, right? So the only way that it gets distributed to the rest of the world is by spending from some group that has a concentrated component of it.

Nic Carter:

That's right.

Mike Green:

How are you proposing that that gets distributed?

Nic Carter:

It gets distributed as long-time holders sell out. They have liquidity needs. A lot of people accumulated Bitcoin early on when maybe they got it from a faucet or there were a bunch of ways to accumulate Bitcoin in the early days and they ultimately need to consume and so they sell their Bitcoins to newer holders and so this is the distributed effect.

Nic Carter:

You can look at the history of, for instance, the Canadian Central Bank has a time series survey, they've run it three years in a row now, counting up how many Canadians own Bitcoin. You see the number increasing year over year. So if you look at any of this data, you'll see the number of coiners is increasing globally. It's hard not to arrive at that conclusion, quite fundamentally.

Mike Green:

But when you look at that underlying dynamic, again, there is no example in history where the distribution of a currency or a good that represented wealth began with a small select group and then scaled in the manner that you're talking about outside of private companies like Apple or Microsoft, et cetera. And functionally, that's what it is, right? I mean, what you're alluding to is the idea that you're buying shares in a company, in a protocol, we've heard people refer to this as the early days of the internet. What if you



could own a piece of TCP IP, right?

Nic Carter:

Yeah.

Mike Green:

The beautiful thing about Bitcoin is it fits every tulip in history. It is all things to all people. It is the mirror that reflects what you desire.

Nic Carter:

Yeah, I agree. I think that's why it's so difficult to discuss Bitcoin, is because it's tinged with whatever your particular perspective is. I don't see it as a corporate entity at all. I see it as an organic bottom up phenomenon. And if you're Satoshi, I don't see how else you would have designed it such that it could achieve this credibility and neutrality and issuance, aside from the way that he did it. And that's the whole reason we've proof of work, because mining is costly, you have to surrender electricity in order to create new units of Bitcoin. The whole reason Satoshi designed it like that is so that there is no seigniorage, so that there's no privileged class of people that have access to the monetary spigot, which is the case with other monetary systems.

Nic Carter:

So, because you have to burn \$95 to get \$100 worth of Bitcoin, it's a free market competitive process and you have very slim margins, that means that the people that are creating the units don't really have an advantage over the rest of the folks, so that's how Satoshi did it. I mean, he could have emailed all the Bitcoins to the folks on the cryptography or cypherpunk mailing list when he announced it in 2008, but that wouldn't have been fair, so he designed proof of work and included that into the system so that there would be this fairness in issuance. I think that's pretty much the best possible way he could have done it. I can't think of an alternative way.

Mike Green:

So if you're saying there wasn't a privileged class then why do we have several centimillionaires or billionaires that have emerged out of the early days of Bitcoin before it's even been proven?

Nic Carter:

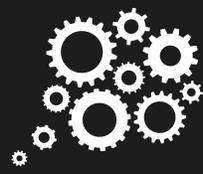
Because they're effectively speculators that made a very correct and very ballsy bet, basically. This is the case with any monetary transition, it's always going to be disorderly. You're never going to be able to air-drop the new monetary system pro rata to everybody on earth.

Mike Green:

But that's, again, that's ahistorical, right? Brazil introduced new currency, Germany introduced new currency, Japan introduced new currency. We've seen currencies introduced all over the world. They've never had the characteristic of a billion and a half drop to one individual and a few dollars drop to another individual.

Nic Carter:

You yourself said that Bitcoin is not a currency. And yeah, of course the state has discretion.



Mike Green:

But you just called it... Nic, you can't go back and forth on this. You can't call it a monetary system and then claim that it's not a currency.

Nic Carter:

I mean, look, I think those are distinct, right? Like if you think currency is the purview of the state, fine, but yeah, certainly Bitcoin is a monetary commodity, so a system is absolutely what it is. But again, look, this is an organic phenomenon, it is new, because we have never seen new internet native monetary systems emerge from scratch before, because the internet didn't really exist before, but cypherpunks had been trying to create digital cash for decades. Bitcoin was just the apotheosis of that. It was the conclusion of their efforts.

Nic Carter:

It was by no means the first one, there are a lot of failures before that, it was just the first successful one. But because we live in a world that's rapidly becoming dematerialized, it shouldn't be a surprise to anyone that we have an internet native currency. And under the circumstances, Satoshi distributed it in a way that was as fair as possible. If you want to get privileged access to Bitcoin, there's no way you can do that. You have to mine it alongside anybody else and so you have to compete in the free market with mining.

Mike Green:

Yeah, unfortunately I actually disagree that. I think the evidence is very clear that it wasn't distributed as fairly as possible. It was distributed to those with inside knowledge. Again, if I'd listened to my wife, perhaps I would be sitting on your side of the table, right?

Nic Carter:

She didn't have inside knowledge, she had outside knowledge.

Mike Green:

That's possible. Well, she is a woman and she is my wife and therefore she is going to be infinitely wiser in all situations.

Nic Carter:

Unless she's part of the group that was Satoshi. But seriously, Satoshi announced Bitcoin in October 2008, gave everyone on that mailing list advanced notice. And then in January 2009 started mining Bitcoin. If Satoshi had wanted to sort of allocate themselves to share, they could have. They could have said, "Hey, I deserve 10% of this thing," Which would have been a more corporate model. That would have probably been valid, but instead Satoshi just made it equal opportunity. It's just that nobody cared about it and nobody thought it was going to succeed.

Mike Green:

It's equal? Nic, come on. It's equal opportunity? He distributed it to a mailing list. That's no different than a friends and family insider route.

Nic Carter:

It was the most salient demographic, because it was an incredibly esoteric digital cash project.



Mike Green:

Yeah, I'm sure every Silicon Valley venture capitalist tells themselves the same thing, that it's an egalitarian spread amongst their friends.

Nic Carter:

It's different.

Grant Williams:

No, but Mike, in fairness I'm with Nick on this, because I think this is something that if he distributed, Satoshi, to everyone in the world, most people wouldn't care, they would have thrown it away or just ignored it. The people that actually cared and were engaged and were keen to build something from the ground up, we're given some. But it was distributed among the people who cared about it, which I think is probably the best thing or it's the fairest you could have been at the time, I think.

Nic Carter:

Just looking at the Russian-

Mike Green:

Again, I think that's part of the reason why it matters that currency and monetary systems are ultimately the province of the state, because in any monetary situation, we've actually established those types of transitions as being a distribution by the state. The taxation is done on the basis of your wealth capability, your income capability, the distribution is a function of individual need. In some cases they do have privileged access, there is no question about that, but the distribution is infinitely more fair, to use the language that you'd like to use, than what you're describing, where it's sent to a technology list. Again, that's just a corporate action. That's no different than a friends and family or insider list on a corporate raise.

Nic Carter:

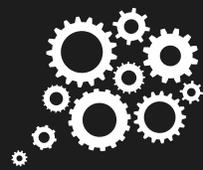
Mike, there was a period of about 18 months when Bitcoin did not have a market price and it just circulated freely. And for years, Bitcoin was worth virtually nothing. So anybody that was remotely interested in digital currency could have acquired it for almost nothing. Today, they can acquire it at a \$600 billion market cap, which is really not that much in the grand scheme. So yeah, it's undergoing the secular decades long process of monetization and realizing its destiny as a monetary asset of consequence. You can invest in it at any stage. You could have taken enormous risk early on, or you could have taken a much lesser risk later on where it was significantly derisked from a regulatory perspective, from a sort of infrastructure perspective, et cetera.

Nic Carter:

So it's just really where you wanted to situate yourself on that curve. But I completely dispute that it was corporate in nature. Satoshi completely understood the need to make it equal opportunity. And now, I suppose he could have taken out an ad in the New York Times saying, "Hey, if you want to be involved in this digital currency of the future, be sure you mine Bitcoin." But fundamentally it was only hardcore enthusiasts that had the wherewithal and the desire to actually run a node.

Grant Williams:

Well, listen, guys, let me pivot this a little bit and talk about Tether a little bit, because this is the story that's



kind of put us all on the same call today. And couple of things occurred to me, I saw this story, it was very interesting, very well-written and I wanted to seek the other side out, because as I read it, it seemed highly problematic to me what crypto anonymous was talking about, particularly given his background. Now in this day and age, we have to say purported background, because who knows? This guy may be nothing that he represents himself to me. I don't know.

Grant Williams:

But this caused an awful lot of back and forth from both proponents of Bitcoin and critics of it. But, Nic, if I can, can I get you to just, because I fully expect me to be the dumbest person listening to this podcast with regards to crypto, but just in case there's someone slightly dumber than me, can you just lay out how Tether's constructed and what the idea for Tether is and what it was designed to facilitate? I think that's the important thing to understand before we go down the rabbit hole.

Nic Carter:

Yeah, so I won't touch on the details of the story just yet, I'll just describe Tether first of all.

Grant Williams:

Yeah, yeah, great.

Nic Carter:

So Tether is effectively a dollar stable token, which circulates on public blockchains and it's meant to inject dollar denominated liquidity and combine it with the settlement insurances of public blockchains and it circulates on a number of blockchains. Ethereum is the main one, Tron is another. There's some on Bitcoin and there's a handful of other smaller blockchains. The purpose of Tether initially was to settle transactions between crypto exchanges that had uncertain access to the Fiat banking system and between their clients and allow them to hold collateral in dollar terms on chain, in a crypto native way, such that they didn't have to constantly make bank transfers with these exchanges.

Nic Carter:

The first exchange that really sort of underwrote Tether or promoted it was Bitfinex and Bitfinex have this history of being de-platform from banks, including Wells Fargo, so they really embraced Tether as this way to allow their traders to sort of hold a US dollar position and trade in and out with Bitcoin, so that was the purpose. And then mechanically, the way it actually works is there's certain sort of qualified participants that create and redeem Tether. They face off against Tether itself, which has this bank called Deltec and if Tether trades above the peg, because there's a lot of demand for Tether in the market, these end-

Grant Williams:

The peg being \$1 to one Tether?

Nic Carter:

Yeah, that's right. Then these annuities will create Tether at par and then collect the difference and if it trades below the peg, they can redeem Tether for a dollar and collect the difference to the market price, and so that's the mechanic through which Tether stays in line with the peg effectively. There's a lot more to the story, but those are the basics.



Grant Williams:

Yeah. I mean, and we'll get to the story. So, Mike, I know that you've spent a lot of time looking at Tether. You've looked into it, you've gained your own understanding of it. Let's start with your understanding of Tether, potentially the problems that you see inherent in the structure of it.

Mike Green:

So the way I would describe Tether is it's a vehicle then of a money market mutual fund. When you invest with Fidelity or you invest a Schwab, you're not actually making a deposit, you are buying shares in a money market mutual fund which is a zero variance or a zero volatility asset. Effectively, the same thing we're describing with the stable coin dynamic around Tether, those entities in a money market mutual fund hold exclusively high quality liquid assets, they regularly publish that information. Now, Tether was introduced exactly as Nic described, onto the blockchain and into the crypto community to provide that type of equivalent, effectively a zero volatility asset that could be held in lieu of being exposed on a continuous basis to the high volatility associated with Bitcoin or other crypto assets.

Mike Green:

The problem of course, is that unlike a money market mutual fund, it has zero transparency. It is being run by a firm that is currently being sued by the New York attorney general for defrauding its investors and failing to reveal that they had taken a substantive loan somewhere in the neighborhood of \$750 million from the deposits that were supposed to be held in high quality liquid assets, to bail out the corporate parent, because the corporate parent had been so irresponsible as to sign up with a Panamanian processor and not even get the terms constructed so that when they gave them roughly a billion dollars, \$850 million, that the Panamanian processors just said, "Thank you very much, we have no obligation to you. We're going to keep that money." Failing to reveal that is sitting at the core of the New York attorney general suit against Bitfinex.

Mike Green:

I would go a step further and say, even after that event, we have no transparency. They list a quote, unquote transparency page that clearly lays out their claimed liabilities in the crypto space, so how much Tether has been authorized or is held against Ethereum or against Bitcoin or against Tron, as Nic was pointing out. But it lists an asset number with no details behind those assets whatsoever. And if you parse the statements that they make, even to the New York attorney general, where they state, "We are 74% backed and we hold X amount in the quantity of cash and cash equivalents." They make no statement as to the liabilities and this sits at the core of the difference between an audit and an attestation.

Mike Green:

All we have for Tether is somebody saying that at some point or another, they saw cash that was equivalent to X percent of the assets. There is no statement as to, was that a short-term loan was that actually segregated customer accounts, et cetera.

Grant Williams:

So now, explain why this is important, because there's a couple of components that I want to help people understand. That is the application of seemingly extreme leverage here and then the potential damage that causes, and also the flows through Tether and into the coins. Nic, perhaps you could go first and just take on the leverage component of that.



Nic Carter:

So, first of all, I don't really dispute anything of what Mike is saying here. I obviously don't have any exposure to Tether. I'm not a user of Tether. I certainly know entities and market makers and trading firms that use Tether and create and redeem Tether and have created and redeemed hundreds of millions of dollars worth of Tether, because it's incredibly useful in the crypto context.

Nic Carter:

The other piece of context I would add would be, I believe that 74% backed claim was in 2019, so unfortunately Tether is incredibly un-transparent and they do not produce a monthly attestation as to the reserves, unlike other stable point issuers and it's unclear to me why they don't do this. I don't believe that they are massively fractional reserve or anything like that, but I think-

Mike Green:

Why do you not believe that? I'm sorry.

Nic Carter:

Well, I personally have no reason to believe that the entities behind a very profitable business would undertake a gigantic fraud for sort of unclear reasons.

Mike Green:

Do you have proof that it is the case that they are not fractionally reserved?

Nic Carter:

No, I have no inside knowledge whatsoever. I'm a complete outsider when it comes to Tether. I'm a market participant, but I don't use Tether out of prudence, of course, if I had to use a stable coin, it would be USDC.

Mike Green:

On your podcast you stated that you knew firms that had done billions of dollars of redemptions of Tether. Is it hundreds of millions or is it billions?

Nic Carter:

I don't know if I said billions of dollars of redemptions, but...

Mike Green:

You did.

Nic Carter:

Okay, well, I'll have to go back and listen, but yeah, we interviewed Dan Matuszewski who said that, if you want to go back and listen.

Grant Williams:

Mike, just explain to people who perhaps aren't 100% au fait with it, just explain why fractional reserve creates a problem here?

Mike Green:



So when you have fractional reserve with something like a money market mutual fund, effectively, what you are doing is you are continually having new entrance by an asset that has increasingly less backing behind it. Effectively, the first person buys it at a dollar, you issue extra shares on top of what you're supposed to issue, so the next person is actually paying a dollar for 90 cents. And the person after that is paying a dollar for 85 cents and the person after that is paying a dollar for 65 cents.

Mike Green:

What that creates is a Ponzi characteristic where absolutely redemptions can occur as long as money is flowing in and this is one of the fascinating dynamics of Tether is that we've seen their pace of activity and their pace of money printing explode. Well, they've been under investigation by the New York attorney general, they've made no statements or claims about what their current financial-

Mike Green:

They've made no statements or claims about what their current financial conditions are. They've been unwilling to have an audited release. We get shadowy reports, as I said, and of course the claim that Nic and others have made is that the reason that they can't speak is because their tax returns are currently being audited. I'm sorry, that was Donald Trump. What they're actually saying is, "Hey, they're being sued and therefore they can't speak." And yet, meanwhile, the Chief Technology Officer of Bitfinex or Tether is out speaking on podcasts and Deltac is out speaking today, their Deputy CIO goes out to speak. So it's one of the two, either they're intentionally misleading us and being obscure in their communications, or they shouldn't be speaking at all. Which one is it?

Nic Carter:

Well, I mean, quite frankly, I'm not a representative of Tether and I fully expect that within the next 24 months, Tether could be shut down by the NYAG, if enough political capital is marshaled in this country. And I think we'd probably be healthy for the overall crypto ecosystem. What you're admitting is the fact that there are certain extravagant claims being made by entities like Crypto Anonymous and other folks, claiming that Tether is being used to support the price of Bitcoin with unbacked issuance, which is then converted into sort of naked Bitcoin buys. Now that is the claim that I contest, right? The fact that Tether is unaccountable and untransparent, that is known, and I obviously support more transparency, but I also contest the claim that basically Tether is responsible for the price of Bitcoin. If you look at the statistical evidence, we don't see that, and fundamentally, I don't really see any evidence that Tether is being unissued on unbacked basis to support the price of Bitcoin.

Mike Green:

So it's interesting that you mentioned that, right, because if you, first of all think about the claims that Crypto Anonymous or others, for example, John Griffin, as in Griffin and Shams are making, it's not that it's being used to drive the price higher instead it's being used to support the price. So when price declines occur, additional Tether are printed that in turn support the price or arrest the fall, giving the illusion that it is a safer and more secure asset. Nobody is disputing the data that you've presented or that you've mentioned in terms of institutional or retail flow of capital coming from American or European accounts. Everybody acknowledges that that's a component. The question is, is Tether being used to support it when it declines. Now there's a paper from John M. Griffin, right, which was released first in 2018 and then again in 2020, that alleges exactly that, and demonstrates it in a statistical fashion.



Nic Carter:

Yeah, so that's the paper in question that I'm contesting because again, so they managed to get published in The Journal of Finance, so congrats to them, but there's other papers that contest that, right? And say, there's no statistical relationship between the issuance of Tether and the price of Bitcoin. So pick your paper here.

Mike Green:

So let's actually refer to those papers because you've been helpful in providing them, right? So firstly, I just want to actually give the background of John Griffin, right, who's a Professor of Finance at the University of Texas, runs a firm focused on forensic accounting and the identification of fraud for the recovery of individuals. He has no interest in Tether or Bitcoin. On the other hand, you cite papers by Lyons and Vishwanath-Natraj, right. And their paper, which you say disputes or disproves the Griffin paper, says on page 30, buried at the back, our results do not discount the possibility that the price manipulation can occur as discussed in Griffin and Shams.

Mike Green:

The second paper that you cite is Wang Chun Wei, who has written papers on trading cryptocurrencies, he's actively promoting it on Tether, and in his view, he says, let's see, "Our paper does not examine whether the Tether coins are backed by US dollars or not, we examine the impact on subsequent cryptocurrency price. We do not find evidence that it causes subsequent increases." They say nothing about supporting the price. There's a difference between a price increase and a support.

Mike Green:

The third paper you cite by Kristoufek, whatever his name is, who was also a Bitcoin pumper on Twitter, and is a professor out of the Czechoslovakian Republic, solo published both of these papers, by the way, neither able to attract co-authors. And in his paper on page 19, it says "The interpretation of this phenomenon is highly dependent on stablecoin backing. If the backing is valid and existent, but not necessarily a full backing, then the stablecoin influx signals an increased demand and investment in cryptoassets. If this does not occur and the stablecoins are created out of thin air, then it suggests that the new stablecoins are being sent to the market to further inflate the other crypto prices, page 19."

Nic Carter:

Yeah, Mike I've read all four papers and Griffin and Shams is the one making an extravagant claim, right? And that's the claim being leveraged by people like whoever Crypto Anonymous is, to claim that Tether is completely unbacked. So what we empirically found during the NYAG case, was that they were at least 74% backed, and prior to that, before they gave the loan to Bitfinex, 100% backed. That's where the loan money came from, right, so that claim [crosstalk 01:32:36].

Mike Green:

Let's actually be really clear on that though, when you say, I'm sorry, I have to interrupt because you said a couple of things that I think are really important. When you say empirically, you do not have an audit, you do not have an empirical demonstration of the existence of those assets. You have the statement of an individual who is accused of committing a crime. The second thing-

Nic Carter:



With the NYAG pointing that out.

Mike Green:

Who cares, people lie to the NYAG all the time. How many criminals say I didn't do it?

Nic Carter:

Do you believe that the NYAG documents where they said that Tether was 74% backed or just false?

Mike Green:

I believe that they worded it very carefully. They said we have cash and cash equivalents equal to 74%. They said nothing about the liabilities or the claims that existed on those cash and cash equivalents. They could have taken a loan from Bitfinex of \$750 million, they could have received a short term cash infusion that immediately disappeared afterwards.

Nic Carter:

Yeah. Look, I'm not disputing that Tether has done a terribly poor job at transparency or that they're being sued by the NYAG.

Mike Green:

But you are doing something really important, right? You're making statements about the paper by John M. Griffin saying that he's making extravagant claims.

Nic Carter:

Yes, his claims are extravagant and his sample period is one year.

Mike Green:

No, they actually aren't. They're actually very well completed.

Nic Carter:

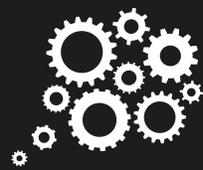
Tether's been around for six years, and his sample period is one year, right?

Mike Green:

Yes, the second to the third paper which admits that it depends on whether the stablecoin is backed or not, right, uses a period of six years as compared to a single year, which was intentional because John Griffin was focused on a particular period. He's released a paper with full support, but you're doing something that I think is really important and very typical in the crypto space, you're denigrating his work. You're saying it's an extravagant claim, that it's unsupported, right? But it is supported, and your saying it's not supported, does not make it so. Just like your statement, that there's empirical support for a 74% backing is not empirical support. It is a statement by an individual being accused of a crime.

Nic Carter:

Mike, the Griffin and Shams papers and inferential analysis of Bitcoin price and Tether issuance, you're never going to find hard facts in a econometric imprints, fundamentally, and especially not in a one-year period where the price of Bitcoin went up and the issuance of Tether went up. Moreover, the supply of Tether at the end of 2017 was in the one to \$2 billion range, if I'm remembering correctly, so that is just a



fundamentally different time in the history of Tether. Today there's something like \$25 billion of Tether circulating, so it's a completely different market environment. I provided plausible explanations as to how to Tether price action actually worked. If you listen to my podcast, I had a bunch of Tether market participants come on and explain how they use Tether, and how the arbitrage flow works, and they described their experience of redeeming Tether.

Nic Carter:

Now this is a central pillar of the argument, that no one redeemed Tether, so I'm presenting you with people that are claiming to have redeemed Tether. My question is, which is the argument that you're making? Are you purporting that Tether is completely unbacked and no one ever redeems it and no one uses it, because that's a very popular view. Or are you alleging that Tether itself is untransparent, that's something I agree with. But there's a whole variety of different news, a cluster of different allegations being made here, with sort of varying levels of evidence and not all of them are really consistent with reality.

Mike Green:

So it's interesting that you mentioned that because I certainly didn't claim that there were no redemptions. And in fact, it appears that there were extraordinary levels of redemption that occurred in 2018, which would roughly coincide with the time period in which Tether issued a third coin or a second coin, I'm sorry, the LEO coin designed to recapitalize itself in an ICO.

Nic Carter:

Yeah, Bitfinex issued that, yeah.

Mike Green:

They have no accounting for... I'm sorry, what?

Nic Carter:

Bitfinex issued the LEO coin, yeah.

Mike Green:

Correct, Bitfinex issued the LEO coin, right. So what appears to have happened actually is that you're correct. Your market participants in a period of time withdrew significant quantities of capital, the underfunded or unbacked Tether issuance began in earnest in the aftermath of that. From everything I can see, there is zero backing to Tether, and if I go a step further and I read the legal claims embedded in the Tether contract, I actually have no claim. It's a completely unsecured plan with at most the backing of \$150 million insurance policy, against the \$25 billion outstanding balance.

Nic Carter:

My understanding is, and again, I would love for the Tether folks and Bitfinex to clarify this, was that the LEO coin was issued, and keep in mind, virtually every exchange has issued an exchange token. The LEO ICO is done in order to remediate that \$850 million that the Bitfinex had to Tether. Now whether they repaid that is another question entirely, but that's the chronology, as far as I understand it.

Mike Green:

I agree, it is another question entirely.



Grant Williams:

So guys, I just want to talk about why Tether is potentially important. Let's talk about why, if the accusations that have been made against it turn out to be true, and one presumes that in the fullness of time we will get to the bottom of it, why is it important? Mike, why is it important if this is a fraud?

Mike Green:

So in the simplest form, let's just imagine instead of the use of Tether, let's imagine I now have a counterfeiting press and I can print dollar bills, right? And let's imagine we have a company where there are a hundred shares outstanding, each share is trading at \$10. If I have a magic printing press, I can go to you and say, "Hey, I'd really like to buy a share from you at \$10." And you say, "No, I'm not going to sell it to you at \$10." I run my magic printing press, I now have \$20, I say, "I'd like to buy a share from you at \$20." You say, "That's fantastic. I'm very happy to sell you one share at \$20." The contribution to the system that I have is I've given out \$20 worth of counterfeit money. There is no dollars going into the system, but the reported market cap of this company has now doubled. That's exactly what would happen if Tether was unbacked.

Nic Carter:

Yeah, so I'm not going to comment on whether it's backed or not, I fundamentally don't know. And I believe that I've made that clear on here because Tether has not been transparent, right? So it's impossible unless you're an executive at Tether to know, and obviously they need to remediate that. However, I will agree, Tether is systematically important to the Crypto industry, not because it's used to inflate the price of Bitcoin, which I don't believe it is. There's incredibly liquid Bitcoin US dollar markets, in the US, that don't involve Tether at all, right, this is something that people don't really talk about very much. It's systematically important because all of the offshore derivatives exchanges use Tether. They denominate their contracts in Tether terms, and it's the main collateral for those exchanges.

Nic Carter:

So, if and when Tether is ultimately taken down by the US state, at that point, those exchanges are going to have a hard time with their contracts. Trades at a discount blows the contracts out of the water and traders have a harder time getting liquidity to those exchanges. It probably helped kill off the long tail of Alt coins in a lot of these offshore exchanges that facilitate crypto to crypto trading. So that would be what I would expect at some point, if in one Tether goes down.

Mike Green:

Well, it's important though also because remember that Tether has held as collateral in those systems, so loans occur against Tether. It's not infrequent if I look at exchanges globally, right, the foreign exchanges that you highlight, that we get 10 to a hundred X leverage against Tether. If I look at the US exchanges only Kraken to my knowledge is actively offering Tether, and you can use two X leverage against it. If you've borrowed two X against something that goes to zero, you are now on the hook for an awful lot of money.

Nic Carter:

What happened historically when they were other episodes of convertibility being suspended with Tether was that it traded at a discount to the pipe, but it didn't immediately go to zero. And that's what I would expect If for instance, Deltac funds were immobilized. People would leave Tether and then arbitragers would come in and buy Tether so that they could redeem it at par, once those funds were dispersed, if there were any funds.



Mike Green:

So wait a second, I'm sorry. If Deltac had its funds seized or importantly, we discovered that there were no funds there, why would an arbitrage players step in to buy it?

Nic Carter:

Let's say they believed that there were funds there, they would step in and buy them the same way that Gox claims, there's entities that are buying up those claims. In expectation of a payout they're providing short term liquidity to the people that want to exit that claim, so it'd be the exact same thing.

Mike Green:

Where are those claims trading in the cents of the dollar?

Nic Carter:

The Gox claims, I couldn't tell you, honestly.

Mike Green:

My understanding is that they're trading in the 12 to 15 cent range.

Nic Carter:

Sure, that's because Gox lost a lot of money though.

Grant Williams:

Well, we saw this with Lehman Brothers, right? I mean, the Lehman Brother claims ultimately ended up getting settled at or close to par in many cases. But obviously there were an awful lot of assets there to be sifted through and unwound. Yeah, it seems to me that if Tether turns out to be unbacked, I think that arbitrage scenario turns out to be very unlikely, to be the way it goes. In the previous issue, you cited there Nic, there weren't claims of fraud necessarily floating around and there weren't an investigation by the NYAG. So I don't know, that's why when I read the article, it seemed to me to be very important because the quantum of this turning out to be true seems to me, to be a very material problem for the entire cryptocurrency space.

Nic Carter:

I mean, if we're talking about the article itself, there's a lot of holes I can poke in it. It's clearly written by a market participant that's not really part of the crypto markets, right? I mean, the critiques of Tether that Mike raises are potentially quite valid, but the article itself, there's less to it. I mean, a lot of it relies on this notion of... this assessment of Bitcoin liquidity as being largely against Tether, and that just relies on junk data, that relies on coin limp data and they take exchange data at face value. But the thing these exchanges that rely on to Tethers do, is they fabricate volume to make themselves look liquid, because these are not exchanges like NYSE or NASDAQ, these are kind of fly by night exchanges set up by a couple of guys in a basement.

Nic Carter:

So the Tether data, the Tether BTC data and the Tether Altcoin data, that is overstated, everyone that's involved in crypto markets knows this, right, Bitwise pointed it out in their application, right? You have a bunch of providers, like Masari like The Block, like Coin Metrics, my firm, that do the work to denoise this



data and to create a white list of exchanges that are credible. But Coinlib doesn't do that, so we're dealing with data which overstates Tether's liquidity impact on the markets. So that's just one of many things that I could point out that kind of poke holes in this particular analysis and suggest to me that the author of this paper is not really a seasoned crypto market participant at all.

Mike Green:

Yeah, I don't know the author of the paper and I actually kind of share in Nic's view that the author comes close, but it doesn't actually get the true story. So from my standpoint, the paper is a distraction and the attempt to use it as a vehicle for dispelling the uncertainty around Tether is disingenuous.

Grant Williams:

Right. Well, okay look, before we wrap this up and it's been a fascinating conversation, I can't thank you both enough for actually sitting down and doing this and in such a civil way, which in the crypto space is not always that easy. But let's just get both of your views about what happens now? What should we be looking out for as the next stage of this? I'm talking particularly about the Tether, are we waiting for the NYAG, does price solve this? What do we think happens next, and what should people be paying attention to?

Nic Carter:

I mean, I can go first. I think it'd be nice to have a resolution to the Tether story. Whether it's a seizure of the funds in the bank accounts, that would remind the industry that they should not be holding collateral which is impregnated with liability, and they should be focusing on liability free assets like Bitcoin. Bitcoin was previously kind of the sole reserve asset in the crypto industry, and then in the crypto industry a lot of these exchanges became Tetherised, right? And it would be a healthy correction if Tether is eliminated from the markets and either Bitcoin returns as the crypto reserve asset or other stablecoins which are more credible, return and grow their market share, right?

Nic Carter:

So there is plenty of very valid stablecoins, which were either backed by crypto collateral or which are backed by dollars, and they perform monthly out of stations. So Tether is definitely a black cloud hanging over the industry, and I would love to see it resolved. I don't believe it is catastrophic, I think it's failure would be felt by every industry market participant for sure, but I fundamentally would dispute the allegation that Bitcoin is trading at non-zero prices because of Tether.

Mike Green:

So I wouldn't dispute that Bitcoin is trading at non-zero prices because of Tether, I would suggest that the price is dramatically inflated because of Tether. As I look at what happens next, my expectation is that, in advance of the NYAG making a ruling, we'll ultimately find that Tether is not backed and the Deltac is not the entity that it presents itself to be. I would suggest that that's going to have a significant impact on the Bitcoin price and the crypto universe, and that many of the institutions that have been in my opinion, hoodwinked into investing into a momentum asset will reconsider their perspective.

Mike Green:

I know many of the players involved, including the ones that Nic mentioned, and I would suggest that they do indeed view it as a trade, they do not view it as a long-term investment. I think unfortunately,



what will end up happening is that the output from this is going to result in significant regulatory action from the US government, and that on that event, unfortunately, as Nic says, he's going to become a dissident and a rebel against the United States. I think many others will be likewise encouraged to do so, and it contributes to the fractioning of our society, which I think is a true problem we have.

Grant Williams:

Nic a final word, before you become a dissident.

Nic Carter:

Look, I find it comical that Mike portrays Crypto as something that's deepening the divisions in our society. Our society is divided regardless of whether or not a niche asset class exists or not, okay. But the way that society is going is clearly, we have an enormous debt overhang, and that's going to have to be remediated through inflation because the US is not going to default on its debt, right? And there's a lot of entities positioning themselves to protect themselves from that inflation, that's fundamentally what's going on. Outside of the US you already have monetary oppression, devaluation and inflation, Bitcoin is quite relevant in these places, but I'm sure it will be much more relevant in the US. And Tether is an extremely convenient stick to bash Bitcoin with, ornamentally, it allows otherwise smart people to dismiss the Bitcoin phenomenon without engaging with it completely.

Nic Carter:

And quite frankly, the Bitcoin phenomenon is much bigger than any single stablecoin that's attached to it. Bitcoin is about monetary freedom and freeing yourself from the tyranny of monetary discretion. And it has been tyrannical, whether it's through inflating asset prices and making young folks feel like they don't have a stake in society because they can't obtain a 401k at reasonable prices, or they can't buy property in an urban center, or whether it's through the more direct form of inflation.

Nic Carter:

That's what people reject, and I think you should look at this movement of especially young people to embrace alternative monetary rules like Bitcoin, as evidence that the monetary authorities in this country have failed and are continuing to fail, and their hands are tied now. And they're not really going to be able to extricate us from this current mess without devaluing the dollar. And so, I would encourage you to think of Bitcoin as a longer term phenomenon than simply momentum trade. For sure, it has cycles, it has these booms and busts, but the longer-term trend here is a secular trend of monetization and becoming an asset of consequence and it's well on its way to being that.

Grant Williams:

Yeah, if I find that really interesting Nic, because I think you're absolutely right about the failure of Central Bank, the failure of policy makers. And Mike, to your point about this division in society, what troubles me potentially about this is, the Bitcoin movement are an extraordinarily smart tech savvy idealistic group of people. And I think they have built something remarkable over this time, but what troubles me is that when you have young, smart, idealistic people who suddenly turn into very wealthy, young idealistic people, at that point, if the government was to do something about Bitcoin, whether outlaw it, make it illegal, confiscate it, whatever they may do... And perhaps another time we can get into whether that's possible or not, because I feel like it is, and I'm told it isn't, but I'm not sure about that. But I can't think of a more problematic situation for our government to face.



Grant Williams:

I think if you take the wealth component out of it, if you just assume that the Bitcoin movement are young, smart tech savvy idealistic, and you take away that dream, then the reaction from them is wholly different to the reaction you might get if you take away hundreds of billions of dollars from them as well. Because you're not only taking away their dream, you're taken away the future that in their minds, they've built for themselves. And I cannot think of a worse enemy to create within your own borders than that group of people, young, smart, pissed off, incredibly tech savvy. It just seems, to Mike's point, potentially a very problematic situation for a government to let's face it, saddle itself with. And I do worry about that, I have to say.

Nic Carter:

Is that directed at me or Mike or is that to me?

Grant Williams:

No, that was just me kind of saying that out. Feel free, if you would like to address it, feel free to, I was just actually ranting.

Nic Carter:

I mean, I think Mike deserves a closing statement as well because I had one.

Mike Green:

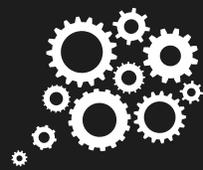
Sure, so I am actually not going to dispute many of the complaints that you have about the system of society that we have today. I agree that the Federal Reserve stepping in to prop up asset prices has contributed to many of the ills that you described, right? The solution to that, however, is not Bitcoin and unfortunately, by encouraging many young people in particular, to invest their futures in what is ultimately a very dead end technology, and again, that's my assessment, you're entitled to a different one. I would suggest that we've encouraged way too many people to take way too concentrated a bet on a very low probability outcome, under the idea that they can't stop it. They absolutely will stop it and the ramifications, I think Grant did a very good job of eloquently describing it.

Grant Williams:

Well, gentlemen listen, seriously I can't thank you both enough for doing this. I've thoroughly enjoyed it, I've learned a lot from both of you and my hope for this when we agreed to do it, was that we could have exactly the kind of debate which we've had, which is testament to both of you. And I hope that when we put this out into the wider community, I hope that both sides of this argument will do what you've done, and listen to the other side and process that information and disagree where you want, but it doesn't turn into just the kind of usual shit fight. Which I just feel is such a counter productive use of everybody's time and intellect, because there's some remarkable intellectual firepower on both sides of this argument.

Grant Williams:

So hopefully this discourse will kind of blaze some kind of trail in allowing both sides of the argument to talk to each other with the respect that you guys have done, so kudos to the pair of you. Before we go, just for those in either camp that don't follow the other, just let people know how they can follow you and how they can follow your work and where they can find out more. Nic, do you want to go first?



Nic Carter:

Yeah, so I'm on Twitter [nic_carter](#), and if you want to find out about my firm it's [castleisland.vc](#).

Grant Williams:

And, Mr. Green.

Mike Green:

Michael Green, I'm confusingly on Twitter as [@profplum99](#), and you can read more about me and my firm [www.logicafunds.com](#).

Grant Williams:

Fantastic. Gentlemen, sincerely, thank you both for your time and for this wonderful discussion. I've really, really enjoyed it, you've taught me a lot, thank you.

Nic Carter:

Thanks Grant, thanks Mike.

Mike Green:

Thank you both.

