



The Future of Money Is Decentralized

Episode 47: Featuring Economist and Author, Saifedean Ammous
Hosted by Addison Wiggin.

Addison: Hello. Welcome to *The Wigg Sessions*. I'm your host, Addison Wiggin. Today I have with me Saifedean Ammous, who is the author of [The Bitcoin Standard](#) and *The Fiat Standard*, two best-selling books. I believe *The Bitcoin Standard* has been translated into 30 different languages. And is the first academically rigorous examination of the impacts of Bitcoin on the global economy and geopolitics.

Saifedean is speaking to me today from Amman, Jordan where he's living temporarily. He wouldn't tell me why, but he says it's a long story. Maybe he'll tell us.

But I want to welcome Saif. Thank you for joining me. This is the first time we've met, so this will be an interesting conversation. Just a word before I welcome you. We have a mutual friend, Jeff Dice, who runs the Mises Institute and he was helpful in connecting us. So, I'll ask you about that in a bit. But first of all, welcome, and thank you for joining me today.

Saifedean: Thank you for having me. It's a pleasure.

Addison: Okay. So, I'm going to jump right into it. You wrote *The Bitcoin Standard* first and then you wrote *The Fiat Standard*. Both books are excellent, but I'm curious why you did it in that order. Because it seems like *The Bitcoin Standard* is the solution to the Fiat Standard, at least the way I understand things. And so I'm curious how they came out in that order. And also I should note too, in your first book, *The Bitcoin Standard*, we share a publisher. I was with Wiley for 15 years.

Saifedean: Oh nice.

Addison: Yeah.

Saifedean: Well, inspiration is a fickle muse. She comes in all kinds of shapes and forms. So, initially the idea was to write something about Bitcoin and I'd been interested in Bitcoin for a while. Like everybody, I initially dismissed it and thought it was obviously doomed and then it just continued to refuse to be doomed and continued to stick around. And so I had to pay more and more attention to it and then I found myself spending more and more time online explaining Bitcoin to people and then decided, well, thanks to my wife telling me basically, "Stop wasting all of your life on Facebook, do something productive with your life."

So, I decided to buckle down and write a book instead of continuing to write Facebook comments. And I wrote it also as part of my job. At that time I was a university professor, so I was doing it to get a publication to keep my job. So, I decided I was going to just approach the Bitcoin system, the Bitcoin network, and the Bitcoin software, from first principles. To just look at it and try and understand what it is, what it does, what problem it solves, and what is it likely to be doing in the future.

Addison: No, I was going to say, you did a deep dive and on the jacket cover, it suggests that this is the first real academic study of Bitcoin from a rigorous perspective. That's the way I look at it. And I've been talking to a lot of people about cryptocurrencies and blockchain and that kind of stuff. But this is really just a look at the potential of what Bitcoin could mean to the monetary system. It's a big understanding of what's going on and you did a deep dive. So, I guess I'm wondering what you learned during the process of writing the book because it goes deeper than a Facebook post, like you said.

Saifedean: Very much so. Yeah, I'd been interested in Austrian economics for quite a while before that. I was a gold bug and I had read a lot of Mises and Rothbard and Hayek and I'd had these ideas and I thought Bitcoin is extremely interesting from that perspective. If you think money is not an invention of the state, if you think money should not be imposed by the state, then Bitcoin should be very interesting for you. And that's exactly what happened.

I kept digging into it and I found that in Austrian economics, I could offer really the most satisfactory framework for approaching and understanding the significance of Bitcoin, and I think the success of the Bitcoin standard probably is a testament to that. It's been out for four years now and it's still the best selling book on digital currencies or Bitcoin or blockchain technology, almost always there, and it's been translated to about 30 languages so far. And I think it's a testament to the Austrian school of economics, that if you listen to what mainstream economists say about Bitcoin, essentially the most sophisticated thought they have developed is to just draw analogy with the 17th century Dutch agricultural products by just saying, oh, well, tulips.



Saifedean: There were a few in which the price of tulips went up in Holland in the 17th century and there's a couple of folk songs about it. And therefore, Bitcoin is uninteresting. The longer Bitcoin survives, the more absurd this becomes because tulip bulbs went up in price for a few months and life went on, but the tulip bulbs were not a replacement for the monetary system. But Bitcoin can replace the monetary system, it's certainly done so for me.

I used to live in Lebanon and I was saved from the hyperinflation that hit Lebanon because I did not use the central bank and the banking system, except as a basic checking account and Bitcoin was a satisfactory alternative to me. So, for mainstream economists, if you tell them facts like this, they freeze like when your computer freezes, it can't handle too much information, and they can't process this, it doesn't make sense. There can't be money outside of the state. Money in Lebanon is whatever the Lebanese government says is money and money should not exist outside of the state.

But of course, the Austrians, they know that money is not a creation of the state. Money is a product of the market and the state then adds its imprint on it in order to try and legitimate itself. It is not legitimate money.

Addison: Maybe just for clarity while we're talking about it, maybe just in a very short form, explain what you mean by Austria and economics. I'm sure a lot of people that are watching today or listening or reading understand what it is, but just from your perspective, when you were researching Bitcoin and you were talking about money outside of the state, just talk about the Austrian perspective that you were approaching the subject with.

Saifedean: Yeah. I think the difference between mainstream economics, the Keynesian economics that you learn at university, and the Austrian school is probably as big as the difference between astronomy and astrology. They nominally talk about the same thing, but they're entirely different ways of approaching the topic.

From the mainstream Keynesian perspective on economics, the question is asked from a collectivist perspective and the questions are always presented from the perspective of what it is that the government should do in order to make the economy better, in order to fix unemployment, in order to prevent inflation from being too bad. It's a top-down central planning perspective on the question.

Whereas in the Austrian school, it's an individual approach where you look at individuals as the decision-making units, and it's an approach based on reality as it is. It's not about policy, it's not about fixing reality. And therefore, it thinks of economics as the product of human action as the fundamental thing.

Saifedean: So, in Keynesians and in mainstream economics, that all these aggregate numbers that they make up and they come up with and the idea ... It's physics envy, that you can find these properties, these aggregate values of numbers, and you can establish relationships, scientific relationships that will hold across space and time for how these numbers will work with each other.

So, the percentage of unemployment and the percentage of inflation, there are thousands of PhDs in the world out there trying to figure out what the relationship is between that. And they're constantly churning out publications as if you could do it just like physicists can discover the relationship between pressure, volume, temperature of a gas in a container. That these things are constant in physics and in science, these constants and these relationships hold and they're very strong. But in economics, they've not had much luck in trying to establish this and the reason is because the...

Addison: Because human beings are involved.

Saifedean: Exactly. Because human beings are involved and human beings are not predictable lumps of matter. You kick a ball and you can calculate how much strength you put into it, and you can know exactly how long it'll travel and you can replicate that in a lab. You kick a human being, you have a very different reaction every time.

Addison: Okay. All right. So, now that was a good description of how human beings interact with one another in the economy and I think a lot of, especially since it started gaining some traction in around 2009, 2010, the promise of Bitcoin was that we could actually develop ownership of money outside of the state. And I think that's an important development and a lot of people have been excited about it, and working with that.

So, human beings acting within the economy, just like you suggested, if you kick a human being, each time will result in a different action than if you kick a ball. You know what's going to happen when you get the ball. It rolls. I'm thinking of football myself. But with human beings, they act irrationally all the time and when Bitcoin came onto the scene, it seemed like the promise of Bitcoin was that we would have non-state money, that we could operate as human beings do within the economy.

Saifedean: Yeah. I would not say that human beings act irrationally. I think the key thing is that human beings act, and it is their action that is the fundamental driving force of social phenomena. It's not a physical phenomena where there's the predictability of physical laws that you can construct. So, if you're looking at a train station, if you're trying to understand what's going on with the train station, you can't treat the people there as just being molecules that show up. Why is it that the train station is busy in the morning and why is it busy in the evening and it's not busy at night and it's not busy during the day?

Saifedean: You can't just think of that like you think about molecules of gas in a container. You have to understand that it is the humans that are acting and humans tend to go to work in the morning and that's why they fill up the train station and they tend to go home in the evening, and that's why the train station fills up again.

So, it's the action of humans that drives the social phenomena that we observe. Mainstream economists try to abstract away from human beings and try to find regularities in the physical phenomena that they witness, the material phenomenon. They try and see if they can establish these regularities and then turn this into a scientific law. Because then if you have human beings .. If you know how human beings are going to behave with the same certainty with which you know how gasses will behave in a container, well, then you can control the human beings very effectively and that's ultimately what it is.

But the Australian economists aren't about controlling human beings. Ultimately because the mainstream economists want to control human beings so badly, the Austria economists end up. Even though it's not really primarily about this, it does end up being primarily explaining to the mainstream economists, why, as Hayek says, explaining to people what they don't understand about what they think they can design.

Bitcoin: Government Money vs Individual Freedom

Addison: All right. So, I'm going to switch gears here because you wrote The Bitcoin Standard first and you just explained that it was because you found yourself spending a lot of time explaining it to people who don't really understand what cryptocurrencies represent historically and potentially in the future.

But then this book just came out recently, is The Fiat Standard. And I want to suggest that they are two standards that are diametrically opposed. And I guess if you take the Austrian approach like you're talking about, the Fiat standard is government controlled money that the Fed or central banks around the world will regulate the amount of interest that goes on it and how much people get, how much they pump into the system.

And it's based on this economic theory that you're talking about, where they feel like they have enough information at any one time to make decisions about how much money should be in the system. And then that's a Hayekian idea in and of itself because he was just opposed to bureaucracy in general, because he didn't think that any one human being could have enough information at any one time to make good policy, especially regarding money. So, let's just talk about Bitcoin Standard versus the Fiat Standard in the way that you've posed them in your books.

Saifedean: Yeah. So, in *The Bitcoin Standard*, I think the main idea of the book is, the book is 10 chapters, the first seven chapters don't even really mention Bitcoin. They're about the history of money. And the idea is, if you look at the history of money, you can understand what money is as a technology. And then that will make you figure out the significance of Bitcoin because Bitcoin is just another technology for doing money. But I argue in the Bitcoin Standard, it's the most advanced technology for doing money and-

Addison: Most efficient too.

Saifedean: Most efficient, most advanced, what is it that makes a car most advanced? Well, what do cars do? Cars travel and they have speed and comfort and all those things. The more comfortable, the faster, the more efficient, the more reliable the car is, the more advanced it is. And in a sense, or I believe Bitcoin is the most advanced because historically, if you look at what is money, I argue the most important property ends up being money's hardness. Money's ability to resist the basement. That is what makes money. So historically at any time at any place, whatever ends up being used as money is whatever is the hardest to make. And that is the case for you look at prisons, people will use cigarettes because nobody can make cigarettes. If you look in ancient cultures, people used seashells.

In places where they didn't have limestone, they used limestone in islands that didn't have them because it was very difficult to make limestones in those islands. And eventually, once metallurgy advanced people started using metals because it was very difficult to make metals. And then within metals, people started using the precious metals, that are ones that are the hardest to make and who supplies the hardest to inflate. And if you follow this trajectory over time, you see that by the end of the 19th century, the entire planet was on a gold standard. So why gold? Why not nickel? Why not copper? Why not zinc? Why not silver? And I think answering that question is really the key towards understanding money. Because once you answer that question, you see, the reason it was gold is because gold has the lowest supply growth rate every year.

And the reason for that gold's chemistry means that it's indestructible. So over time, we're accumulating stock bars of gold over time, and they don't get consumed. There's no way of consuming gold. You can't consume it. It's just piling up. So the gold that was worn by Nefertiti thousands of years ago is today in somebody's gold coin or in somebody's gold necklace, it's still gold. We don't ruin the gold. So as a result of that, we're constantly accumulating larger and larger and larger quantities of gold. And so at any given point in time, in any year, even today, even as the production of gold continues to advance every year, and we're making more and more gold. We're adding more gold onto a growing stockpile. And so we are never able to massively inflate the supply of gold because it doesn't get consumed.

Saifedean: And so, as a result, if you look at the supply growth rate for gold, it's around one and a half to 2% per year, and it's been like that for the last century and 20 years or something like that. We've got data for about 120 years. We see that the supply growth rate is always roughly around one and a half to 2%. That's the lowest inflation rate for any kind of metal. For silver, it used to be something like 5%. It's probably closer to 20, 30% today. And so I think that's why silver is the only other metal whose stock to flow or whose supply growth rate was significantly low. At some point it was about five or 10%, but for all other metals, the supply growth rate is somewhere in the range of 100%. In other words, these are not metals that we stockpile. These are metals that we consume. So annual stockpiles of copper, if you look at all the copper stockpiles that are held by copper distributors around the world, they're roughly in the range of annual copper production. It could be 50% more, 50% less, or whatever. Maybe 100% more, but it's in that kind of general ballpark. So we're constantly consuming copper. It gets put into machines and it gets destroyed and it rusts. And so we're making new copper.

So the percentage increase in the supply of copper every year is large because we're consuming it. And so that is what prevents copper from playing a monetary role. As the price of copper goes up, if people decided that they wanted to use copper as... There's a very common meme, particularly among Marxist economists. Oh, well, that's an oxymoron. There's no such thing as a Marxist economist, but people who are Marxists who think of themselves as economists, they have this meme that anything can be money. Money is a shared illusion. It's a shared hallucination. If people hallucinate enough about something being money, then it'll be money. And that's nonsense. If everybody in the world tomorrow decided that they wanted to use copper as money, what we're going to end up with is the destruction of money. We're not going to have the money in the world.

We're not going to be able to make copper as money. And the reason is no matter how much money we put into copper, even if everybody sells all of their other forms of money, all of your dollars, all of your gold, all of your silver, all of your Bitcoin, everybody sells all of that stuff and buys copper with it, copper is not going to work as money. It's going to fail. And the reason for that is the producers of copper are just going to keep making more. The more copper we buy, the more the price goes up. The more the price goes up, the more the copper miners make copper and they dump it on the market. And so now, people who want to hold copper as money are going to end up holding large amounts of copper, increasingly large amounts. They're going to have to have giant warehouses of rusting copper in order to have money.

Instead of having say a kilogram of gold, you need to have five tons of copper rusting in a warehouse. A kilogram of gold, you can have it the size of your iPhone, roughly, but you'd need many, many tons of copper in a rusting warehouse in order to get that amount of value. And guess what? It's going to rust, it's going to be consumed. And the miners are just going to keep making more and more and more of it.

Saifedean: So what ends up being money is the thing that is hard to produce. And that's why gold wins. That's why gold has become money all over the world by the turn of the 20th century. And then of course, government banned money, effectively banned gold from being money and introduced their slave script, essentially as money throughout the 20th century. But even within the government monies, we see that the dominant monies are the ones that have the lowest supply growth rate. So at the dollar, as growing at around six, 7% per year, over the last 60 years on average in terms of its supply, and of course it's far, far more valuable and far more dominant and contains a lot more stored wealth in it than your average third world currency, which is inflating at something in the range of 20, 30, maybe 50, maybe 100, maybe 200% per year in terms of its supply.

The Bitcoin Standard and Its Crypto Alternatives

Addison: And how do you put that into context when during the pandemic Fiat currencies around the world were printed in order to give stimulus checks and those kinds of things to help keep the economy afloat, when by government decree, they had shut everything down. And so I don't know what the exact figures are right now, but there was some \$7 trillion US dollars bumped into the economy in a very short amount of time.

That increases the supply. And we're seeing the result of that, which is inflation in goods exacerbated by supply chain issues and stuff like that. But the dollar has less purchasing value than it used to. And that speaks directly to your point, which is the more there are, the less advice.

Saifedean: Yeah, I think we've crossed the Rubicon over the last couple of years since 2020, really two years ago exactly. Since two years ago, the strongest best currencies that usually would grow only at around six, seven, 10% or so, took a giant leap forward in their inflationary debasement. And now the supply is increasing at around 20, 30% per year. And price inflation is increasing massively as well. We saw the new number today, 7.9%. And of course that's CPI. So you could multiply by three, four in order to get to number four, the things that you actually want to buy, the desirable things that people actually want to buy, like say a house in a safe neighborhood or good healthcare.

Those things are increasing by a percentage that is much closer to the increase in the money supply. But the significance of all of these early chapters of the book, the significance of it is that it really helps you appreciate why Bitcoin is a big deal. And the reason is Bitcoin's supply increases currently at around 2%. So currently it's somewhere in the range of gold's annual supply increase, but it's declining and it's constantly declining.

Saifedean: So we have the hardest money ever because there will only ever be 21 million Bitcoin. We're never going to have more than 21 million. So we are already at around 19 million Bitcoin right now. And over the next 100 years or so, we're going to be producing the next 2 million Bitcoin. And that's it. There's not going to be any more Bitcoin. They can't make them. And in my book, I explain why I can say this credibly and why that's not true for any of the other digital currencies, which I think are completely pointless. All of the other digital currencies, there's no guarantee what's going to be the supply. You have no idea how many there's going to be tomorrow or in a year, or in 500 years. With Bitcoin, I can very credibly say, we know exactly how many Bitcoin there's going to be at any point in time. So right now we have 19 million. Everybody in the world can verify this by running their own software and then all over the world... And then throughout the time, that growth rate is only going to decline. So I think that's enormously significant because we've basically invented the strongest, hardest money ever.

Addison: There's a lot of people that are interested in say Ethereum or other Doge coins, other crypto based currencies. But from my understanding of just watching the way the market works, those are mostly just speculative plays. People are trying to get capital gains through trading it in the US dollar.

That's mostly what is happening with the other coins. If there's only 21 million Bitcoin available, like say by the time those eventually get mined, what is the difference? Like what's the cap? I mean, it just establishes the value for Bitcoin over the long term, but the other cryptos continue to use blockchain for ownership, but to me it's a much more of a speculative purchase. Ethereum seems to be gaining a lot of popularity, mostly because it's cheaper than Bitcoin.

Saifedean: Well, the thing is all the other currencies. If you've heard about any of them, there's more than 16,000 other currencies, and if you've heard about any of them, it's because there's a very effective centralized marketing team behind them. And so the rankings, if you look at the different market capitalization of all the other currencies, the rankings are really a product of how good the marketing is. And Ethereum's definitely got the best marketing of all of these and it's definitely one of the most centralized. So there's a small group of people that decide whatever needs to happen. And very few people are able to run their own nodes. So very few people can be peers on the network. And I think it's not just a purity thing where, oh no, you're not decentralized enough. You're not cool enough to sit with us. I think at a fundamental level, it's a pointless Rube Goldberg machine.

The whole point of having this extremely sophisticated and expensive infrastructure of a blockchain is precisely to make things that are decentralized. And Bitcoin's the only one that's decentralized. There is nobody in charge of Bitcoin. There is nobody who can change the supply. Bitcoin has no admins. It only has users.

Saifedean: So if you're going to have this kind of system where you do have admins, you do have people who have basically admin keys to control the system. They can roll back transactions. They can do whatever they want. They can change the money supply. They can increase the supply. If you have all of that stuff, then you don't need a blockchain. And the only reason they use a blockchain is to just basically market it as if it is decentralized. Essentially it's securities fraud, all of the other digital currencies are securities fraud.

It's security and it's pretending to be decentralized so that they don't have to deal with the SCC, but they are not decentralized. And we saw this with Ethereum. And the other thing is, of course, these things are made for marketing. So the actual engineering behind them is hilariously shotty. So Ethereum has been a giant comedy of errors and the people who are into it, most of them aren't technically competent enough to realize what's going on, but there was a point which in its early days, when somebody hacked into the program and managed to get \$150 million worth of Ethereum out of it, and the admins basically rolled back the chain. And because they stood to lose a lot of money from that and they rolled back the chain and they made their money back and they canceled his transactions.

And every couple of months they meet and they change the money supply. They have something similar to a central bank where they decide, oh, we're going to do this rate of increase. No, we're going to do that rate of increase and they keep switching it around. So it's very different from what Bitcoin is. And I honestly don't see any value in any of the other digital currencies. I would not recommend anybody hold them. I think they're highly liable to blow up at any point in time. And I don't see a long term future for any of them.

What About “The Fed Coin”? The Move Toward A Digital Dollar

Addison: What do you make of the president's comments when he said at one point he said that 68% of the US citizens are using some form of blockchain crypto? And most of those people are men between the age of 18 and 49, but he was setting the stage to introduce what we believe is going to be a Fed coin, like a digital currency that is representative of the US dollar. What do you make of the kind of wide held belief, especially among gold bugs and older people that eventually the government's just going to come in and try to regulate cryptos? I mean, if it's decentralized as Bitcoin is, that's going to be very difficult to do.

Saifedean: Yeah. Well, that's another reason why you shouldn't touch all of the other digital coins because spend 15 minutes researching them and you'll figure out the 10 people that you need to get into a room and very easily get them to change whatever you want in the protocol.

Saifedean: With Bitcoin, it doesn't have those 10 people. There's nobody that you can get and have changed the rules of the network. So that's really the key thing. I think governments are likely to be introducing central bank digital currencies. They've been making a lot of noise about this. And I think if they do introduce them, many people will say, "Oh, well, when the government introduces digital currency, that's going to take away Bitcoin's raison d'être. On the contrary, I think it's not competition for Bitcoin, I think it is... It's an advertisement for Bitcoin. The interesting thing about Bitcoin is not that it is digital. It's not that it is an app on your phone. The interesting thing about Bitcoin is that nobody controls it, the money supply is fixed and nobody's able to censor transactions. Yeah, nobody can censor transactions, nobody can change the money supply. And those are the two reasons why central banks exist: central banks exist to censor your transactions to prevent you from making transactions and to inflate the money supply to finance government spending.

So Bitcoin is the only way that you can escape central banks. And that's why the subtitle of my book is, *The Decentralized Alternative to Central Banking*, and that's what Bitcoin is. That there are no alternatives to central banking other than Bitcoin, it's the only working alternative. And I think central bank digital currencies are just going to be central banking on steroids, and that's the only thing it's going to do. It's going to be a more efficient way of surveying the society, of being able to control everybody's spending, of being able to impose the political vision of the few anointed at the top. You can already see this when it's going to come down to things like lockdowns, where they're just... Think about the possibilities, when all of your money is on a central bank server, they can decide, "All right, well, it's lockdown time, your money isn't working right now. You need to stay home."

And you're only allowed to spend your money on Uber Eats so they can deliver you your soy burgers, because that's the only thing that you're going to be allowed to eat because inflation's going to make everything else more expensive, and so they're going to obviously continue to finance a lot more science that says all the things that are good for you are actually not good for you, and you should eat all the cheap crap that makes inflation look good. I think the possibilities with central bank digital currencies are enormous and the more horrific they are going to be, the more people are going to understand the value proposition of Bitcoin.

Bitcoin In The Corporate World; Why It's Capped at 21 Million Coins

Addison: I was just looking at the back of the book, and also the forward is written by Michael Saylor who famously founded MicroStrategy, but also moved a big chunk of their capital into Bitcoin not too long ago. He's also on *The Fiat Standard*, so I'm assuming you know him fairly well.

Saifedean: Yes.

Addison: Maybe talk a little bit about your discussions with him, and then his thinking behind moving capital of the company into Bitcoin, is sort of the famous example that people like to refer to as corporate or pioneer, I guess, in using Bitcoin to capitalize his company.

Saifedean: Yeah. I mean, I wrote the book. I essentially made the argument for why I think Bitcoin is the best form of money, and a lot of people started reading the book and liking it and buying more and more of it. And then one day this man shows up like a knight in shining armor and announces that he's buying 200 million dollars of Bitcoin. And the interesting thing is, before then, before Michael Saylor came about, there had been a lot of companies that would make noises related to Bitcoin. They'd say, "We were going to start accepting Bitcoin from our customers. Or, "We're going to start exploring blockchain technology." Or, "We're going to start using blockchain databases." And basically anybody that says blockchain technology doesn't really know what they're talking about, it's one of these red flags. Blockchain technology is like calling cars radiator technology, that's not the point. You're not buying a radiator, you're buying a method of transportation. And the method of transportation in this case is Bitcoin. It's the currency, it's the money. It's the monetary network. It's the store of value. It's the ability to send money around the world very quickly.

So Michael Saylor came along and he basically said we're holding Bitcoin as a treasury reserve asset, which is essentially... I mean, when I first heard about that I was shocked, because for about a year or two before that I'd been going around telling people, "I don't think it makes sense for McDonald's to start taking Bitcoin right now from its customers, it's just going to be a lot of overhead to try and install Bitcoin services. And the vast majority of their customers don't even hold Bitcoin, but it does make sense for them to hold some cash on their balance sheet." And generally I'd get laughed at by people saying, "Well, no, that's going to be an accounting nightmare, it's going to be a taxation nightmare and corporations aren't going to do that." And I'd nod and say, "Well, I'm an academic, what do I know about corporations? These serious lawyers and accountants probably know better than me."

But then Michael Saylor marches in, and he is like, "Yep, we're just putting half of our treasury into Bitcoin because it's better money. Why should we hold treasury bonds, which are offering negative yields in real terms? Why should we hold cash, which is a melting ice cube? And why should we hold any other assets when we have Bitcoin? Bitcoin is the best. It's limited, nobody can debase it, and so it's the way that we can capitalize the company for a hundred years and a thousand years, we can just keep holding onto this, and we know it won't be debased." And I'm very happy about this, and I'm very proud that he credited my book. He said that that was the most influential thing in our thinking as a corporation.

Saifedean: And he started with 250 million dollars or 200 million dollars, and now they're up to something like five billion on their balance sheet of Bitcoin. They started borrowing to hold Bitcoin. So it's been quite amazing.

Addison: Yeah, can you explain that a little bit, because I was reading about this and I was wondering the logic behind it. He was borrowing money from US banks in dollars, and then putting it into Bitcoin. And the logic there is that Bitcoin would go up in value over time, but it still felt like, at least the way that the writers were writing about it, that it was still kind of a speculative play on the capital gain that Bitcoin was experiencing at the time. But maybe there's more to it than that, other than he wants to hold Bitcoin because he thinks it's the one true money.

Saifedean: Yeah. Well that's the kind of starting point. It is the one true money. It's the best money. And yeah, once you really understand it... I mean, what you want in the money is the scarcity, and nothing is scarcer than Bitcoin, there's never going to be more than 21 million. So 20 years from now, we know exactly how much Bitcoin there's going to be, it's going to be something like 20 and a half million Bitcoin.

Addison: How is it that it gets capped at 21 million? I've heard that number a lot, and I believe I understand the limitations of the ability to mine beyond that, but maybe you could just explain why there will only be 21 million?

Saifedean: Because the way that it works is every 10 minutes there's a new block of Bitcoin transactions that's added, and then we add new coins that are added to the supply. So when you make new coins, they get added to the supply, but the rate of increase continues to decline. So initially we started off with 50 Bitcoins every 10 minutes for the first four years. And then the next four years, it was 25 Bitcoin, every 10 minutes. And the next four years, it was 12 and a half Bitcoin. And now we're in a fourth, four-year epoch, we are doing six and a quarter Bitcoin every 10 minutes.

So that number continues to go down by half every four years, and then after about a hundred years from now, it's going to just flatten out to zero and we run out of decimal places basically. So it's just going to continue to decline. So the supply curve increases quickly initially but then flattens out. So that's why we've already mined 90% of all the Bitcoin that will ever exist, and there's only 10% to be mined over the next century or so, most of which is going to be mined over the next few years.

Addison: And what happens to the price when it zeros out completely? What happens to the price then? Then it becomes a valuable commodity, right?

Saifedean: I mean, it's already a valuable commodity. I mean, it's increasing at two percent and it continues to increase at a decreasing rate. So generally, this is what we like to call Bitcoin's Number Go Up Technology. Demand can only go up because more and more people learn about it, and more and more people become comfortable with it, and more and more people get to know about the value proposition. And so demand can only go up, but supply cannot go up to match the increase in demand. The only way that you can satisfy the increase in demand is if the number goes up, the price has to go up or the real purchasing power market value of the good has to go up.

And that's what we see with Bitcoin, it just continues to go up.

Bitcoin Out In The Wild, On A Global Scale

Addison: Last week, I was writing about the events that happened in Kazakhstan in January. Kazakhstan, because it's a cold place, the servers that are mining for Bitcoin, they run hot, so it's cold. Energy was capped by the government, the price of energy was capped so the price of energy to run the servers was very cheap, and so it became a very popular destination for Bitcoin miners. And then China banned Bitcoin mining, which shares a border with Kazakhstan, so a lot of the miners just moved over and they were using so much of the energy in the country the government decided to uncap energy and prices went through the roof. And everyday people who weren't even involved in mining Bitcoin and that kind of thing took to the streets because they couldn't even heat their homes anymore in a cold country. And then the government turned around and sent troops in and they were actually shooting people in the streets, it was like a Bitcoin revolution or a Bitcoin-inspired revolution.

And then I think the next thing that happened was Kazakhstan also shares a border with Russia and Russia started providing more energy at higher prices to the Kazak people. That's just very strange... I was telling a friend of mine who is 78 years old, and he actually said this to me, and, "Man, this is a 21st century problem. I'm glad I'm checking out of here soon." This is a real world impact, people in the streets and the government trying to control them and that kind of thing, all based on Bitcoin mining.

Saifedean: Yeah. To be honest, I'm not very familiar with the situation in Kazakhstan, but I do suspect it was more than just about Bitcoin. Yeah, the thing about Bitcoin mining is that it is really only profitable when electricity is really expensive, so Bitcoin miners can't really compete with civilian uses. The average price of electricity around the world is something around 14 cents per kilowatt-hour, at that price if you're trying to mine Bitcoin at that price, you're not going to make it. And I explain this and discuss it in both books actually, because really ultimately both books are about Bitcoin, both books talk about Fiat and Bitcoin, and they're kind of compliments.

Saifedean: But the way that Bitcoin mining works is that it's like a tournament. The supply of Bitcoin that's going to be produced every day is fixed. It doesn't matter tomorrow if five people around the world are going to be using Bitcoin or five billion people are going to be using Bitcoin, we're going to make six and a quarter Bitcoin every 10 minutes or roughly 900 Bitcoins a day. There's going to be 900 Bitcoin a day regardless of the demand. And so who gets the... No matter how many people want to mine Bitcoin, there's only going to be 900 Bitcoin.

So who's going to get them? So who's going to be able to mine these Bitcoins, it's going to be the people that are the most efficient at mining those coins, the ones who can mine at the lowest cost, and that means the people who have the lowest electricity. So it's not going to be people who have electricity at the average rate that anybody can get in their house at 14 cents a kilowatt-hour or whatever. It's going to be people that have electricity at something like four or five cents, or maybe even less.

And so when you have that kind of cheap electricity, you don't have it anywhere that is connected, mostly it's off-grid, or it's only on-grid electricity in places that have massive electricity surpluses like say a small little town that has a giant hydroelectric dam next to it. In that kind of place electricity is so cheap because they have an enormous surplus of electricity. And in these places, yeah. It's three cents per kilowatt-hour, people will start mining Bitcoin there. But for most of the world, electricity runs on generators that run on fuel and it costs around 14 cents. So that's not going to be competitive on the Bitcoin network, these miners are going to get wiped out.

Bitcoin: Better Technology and Control of the “Inflation Narrative”

Addison: Yeah. I haven't been able to follow up on the story, but I wonder what's happening to the miners in Kazakhstan. It sounded like a good deal for a little while, but now it's causing problems. I want to ask you too about, and I think this relates more to The Fiat Standard than The Bitcoin Standard, but there is certainly an interplay. We have a lot of discussions going on about The Great Reset, the government in the US needs \$30 trillion to square up its books. And then you have a whole discussion about reorganizing the global banking system from the top down, and that was discussed in January in the Davos World Economic Forum meeting, where they were talking about how they were going to push forward banking regulations to reset the value of Fiat money, essentially.

What do you think about discussions that you hear that come out of those kinds of meetings where it's the command and control idea related to money and the banking system? Bitcoin is entirely out of that scenario, it seems like they're sort of diametrically opposed to one another.

Addison: I guess, I'm sort of looking for a context to think about the types of reports that come out from Davos and the people that talk about it.

We just had the whole trucker revolution in Canada, and Chrystia Freeland, who is the number two behind Justin Trudeau is on the board of governors at the World Economic Forum, and she was the one that ushered in the idea that they could use the emergency act to punish people in their bank accounts for supporting the Trumpers and that kind of thing. So there's an interplay between their sort of globalist vision and that one related to mandates about the pandemic and vaccines. In that context, if they're controlling money and resetting the global banking system, then they have an actual impact on people's ability to make a living and they can impose changes to behavior based on just changing people's ability to access money itself. And Bitcoin gets people out of that. That's, I guess, the long way that I'm trying to get to.

Saifedean: Absolutely. I think technology allows us to build better guns, but it also allows us to build better defenses, bigger walls, but also higher ladders. That's just how it is. And so in this situation, what we're seeing is that governments are really, really enjoying the enormous capabilities for surveillance that digital technology allows them. I mean, governments are just always looking for ways to increase their power everywhere, whatever kind of country it is. The people in power are always looking to make more or to have more power. And so what we saw in Canada, I think, is a prelude to what's going to happen increasingly all over the world, that having access to money, being able to eat, being able to feed your kids is going to be contingent on political obedience. And I think it's going to go even further, I think. And in *The Fiat Standard*, I described this in detail because I look at the genesis of the fiat standard over the last century. In the 1970s, when the fiat standard was completely coupled from gold and the price of everything shut up during the 1970s, you'll notice that that's when we had the birth of these insane pseudosciences that have diligently tried to convince the world over the last 50 years that eating meat is bad for you, eating meat is bad for the earth. It's destroying the planet and it's destroying your health. And also, fossil fuels and modern energy sources, essentially what built the modern world, what built modern industrialization, they're bad for you because they're boiling oceans or whatever.

In the 1970s, it was, "Oh, we're going to run out of all of these energy sources and that's why the prices are rising." And then we didn't run out and then the price crashed. And then they had to come up with another explanation. And then what stuck was, "Oh, we have so much of it. Nevermind. Oh, we thought we didn't have enough. It turns out we have too much." But the conclusion is still the same. You know, we're all going to die and we should stop using this thing. We should go back to primitive pre industrial technologies where we rely on the wind and the sun, like primitive preindustrial societies. And that's the future, the future is the past. Once you really think about the inflationary story driving those things, you realize how ridiculous pseudoscientific nonsense this is.

Saifedean: And I think what we're seeing now is, these messages are being amplified in a very much stronger way. So they still want you to believe that meat is bad for you, which is insane. It's absolutely insane. Meat is the essential part of every single diet, traditional diet in history. No matter where you are in this world, no matter what part of the world you come from, your ancestors were only able to have each other and bring you into existence because they ate meat. There is not a single culture anywhere in the world that does not eat animal products at the very least. You need meat to thrive but you need animal fats to survive. So there are some vegetarian cultures, but they rely very heavily on dairy and animal fats in order to survive. There's never been a record of a culture that has survived without animal products. And now, we are being told by these insane hysterics that this stuff is bad for us and that we should replace it, coincidentally enough, with things that are extremely cheap and extremely disgusting as well, bugs or soy or whatever.

So I don't think this is a coincidence and I think that this is just inflationary propaganda to try and alleviate the impact of inflation to try and make inflation look better than it actually is. What I think is very dangerous is that now, they have the technological capabilities to enforce this. It used to be that it was just propaganda. They publish nonsense like the Dietary Guidelines, and universities would publish hysterical studies about how carbon dioxide is boiling motions and cow farts are destroying the planet.

Addison: Exactly.

Saifedean: Yeah. I mean, you could disagree with that, but now we are moving to a world in which that's not going to just be an opinion, it's going to be how your currency works. You download your central bank's digital currency on your phone, and then your central bank is going to decide, "You know what? You shouldn't be eating meat," or, "You're only allowed 10 grams of meat per day." And that's a very effective way of fighting inflation. You can keep inflation cheap, you can keep inflation low if people won't be eating all of the things that people actually want. And instead, you feed them industrial waste, hydrogenated seed oils, soy burgers, and bug burgers. That stuff is extremely cheap. And that's what's been happening to the American diet and the global diet over the last 50 years.

We're replacing the food of our ancestors. The Americans of the 19th century ate more meat than the Americans of today. And we're replacing that meat with industrial waste essentially, heavily flavored industrial waste, and it's causing massive problems for people's health. But now, I think we're going to move into a world in which that becomes not just government policy, but that's just the operational reality of your money. The only way that you can spend money is to use the central bank digital currency, and that's going to come with a lot of political agendas. And it's going to be, you can't buy too much fuel because fuel is destroying the earth. We need climate lockdowns. We need you to stay home.

Saifedean: And you can only buy small amounts of gasoline. And so I think this is an effective way of fighting inflation if you get everybody to move into tiny little pods in the city, and then people don't get to drive. People just have these glorified golf carts where they can drive very small, little ranges.

Addison: Electric cars.

Saifedean: Electric carts, exactly. And these are fully centrally controlled. The company that makes them can just switch them off and they can decide the range of your driving, they can decide where you can drive it. So your money will only work in specific places, specific times. You can only buy specific goods and your car can only take it to specific places. Living the life of people in the 1990s is going to become a luxury. The idea that you have a big house, everybody gets their own room and you can afford to heat that house is just going to become increasingly unattainable in this world where inflation is essentially constantly redistributing your economic wealth and your economic value from you to the people who get to print the money.

Addison: Yeah. How far off do you think something like a fed coin is? The world that you described doesn't sound very pleasant. And technological revolutions, usually ... How did Lennon say it? He said there are decades when nothing happens and then there are days when decades happen.

Saifedean: Mm-hmm.

Addison: I feel like if the technology is there to create a fed coin, that's what we keep calling it, it's really just a flip of the switch. It would happen in a very short amount of time, as long as a very small number of people agree to make it happen.

Saifedean: Yeah. It's very difficult for me to be able to make a prediction because, I mean, if you look at the last couple of years, who could have predicted that we would end up with this just insane lockdown taking over the world and the whole world being locked up?

Addison: Right.

Saifedean: I don't have a crystal ball.

Addison: But certainly, the president of the United States bringing it up in a speech to the nation, bringing up currencies and the idea of a digital currency that the Fed or reserve controls, that's got to be a signal that they're at least talking about it behind the scenes. I mean, he's making a major public speech about it. I don't know. It's kind of frightening to me.

Saifedean: It is. It should be frightening. You should be staking Bitcoin.

Addison: All right. Well, with that, I'm going to hold up your book again. I think everyone, especially given this conversation, it's worth the read. Actually, it's only a couple hundred pages. It's a very good read and easy to understand. That's one thing I wanted to talk to you about because you go through monetary history and then you kind of put Bitcoin in its context of evolution, but you do it in a very entertaining and easy to understand manner. So I appreciate that. And then also, your latest book, *The Fiat Standard*, which I also recommend, I actually haven't read all the way through this one, but there's a lot of material in there that I've researched and written about myself. So I feel like I could probably get through this one pretty quickly too. But I appreciate you taking the time to talk to me. And I encourage everyone to at least get *Bitcoin Standard*, available now in 30 languages. Is that correct?

Saifedean: Yeah, approximately. I've lost count, but yeah, something in the range.

Addison: That's awesome. That's great. All right. Thank you, Saife.

Saifedean: Thank you. Thank you so much for having me.

Addison: And also about that, I wanted to comment on this too. I think this is a really cool idea. You published the second book *The Fiat Standard* under your own banner of the **Saife House**.

Saifedean: Yep, self-published it.

Addison: Yeah. Very clever, Saife House.

Saifedean: Yes.

Addison: That's how I learned how to pronounce your name. All right.

Saifedean: Excellent.

Addison: Great. Thank you.

Saifedean: Thank you. Cheers. Have a good day.

Addison: Bye.



Meet your host, Addison Wiggin

The Wigg Sessions, conceived during the COVID-19 pandemic and tornado warning in Baltimore, Maryland. Addison started interviewing key thinkers on Politics, Science, Economics, Philosophy and History to find out how their ideas impact financial markets and our financial lives. Key thinkers include Jim Rickards, Bill Bonner, George Gilder, James Altucher and over 50 others.

In 2020, he launched a new project called *Consilience*, which is an enlightenment era term that means “the unity of knowledge”. He is the co-author of the New York Times best-selling books *Financial Reckoning Day* and *Empire of Debt*, as well as *The Demise of the Dollar* and *The Little Book of the Shrinking Dollar*. Addison is the writer and executive producer of the documentary *I.O.U.S.A.*, an expose of the national debt, shortlisted for an Academy Award in 2008.



Saifedean Ammous

Dr. Saifedean Ammous is an economist, educator, and author of *The Bitcoin Standard: The Decentralized Alternative to Central Banking*, the first study of the economics of bitcoin, and the best-selling book on bitcoin, translated to more than 30 languages.

Dr. Ammous teaches economics on his online learning platform, saifedean.com, and also hosts *The Bitcoin Standard Podcast*. He just released his newest book, *The Fiat Standard: The Decentralized Alternative to Human Civilization*, and is working on a university-level economics textbook, Principles of Economics.

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