

# Is Cryptocurrency a Good Bet?

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## SUMMARY KEYWORDS

bitcoin, trust, system, technology, ethereum, people, cryptocurrency, world, decentralized, central bank, built, crypto, aetherium, validators, theorem, aspen ideas, digital currency, money, fiat currencies, currency

## SPEAKERS

Joseph Lubin, Tricia Johnson, Gillian Tett

- T** Tricia Johnson 00:03  
This is Aspen Ideas to go from the Aspen Institute. I'm Tricia Johnson. Joseph Lubin co founded the blockchain computing platform Ethereum. After Bitcoin, Ethereum is home to the largest cryptocurrency. As Lubin points out, Bitcoin came first and has the largest monetary base. But Ethereum wants to be the foundation of the decentralized web. He says the rise of crypto is a revolution on how trust and financial systems are built.
- J** Joseph Lubin 00:32  
So essentially, like what the web technology and the internet technology did for access to information around the world and the ability to publish information, the ability to engage in or build e commerce or social networking. It's the democratization of finance.
- T** Tricia Johnson 00:52  
Aspen Ideas to Go brings you compelling conversations hosted by the Aspen Institute. Today's discussion is from the Aspen Ideas Festival. Cryptocurrency or non fungible tokens are beloved by some and raise suspicion and others. What is digital currency? And is it a good bet? Lubin who is the CEO of the blockchain tech company ConsenSys says it's a brand new way of thinking about money. Instead of trusting a central bank or authority figure, a crypto investor trusts other investors and computer technology. He calls it a new

trust foundation for the planet. In a conversation with Financial Times editorial board chair Gillian Tett. Lubin explains why this open source, decentralized financial system deserves our trust, and what Ethereum is doing about the carbon footprint of digital currency. They spoke in late June. Here's Tett.



Gillian Tett 01:47

I am absolutely thrilled to be moderating this conversation for two reasons. Firstly, as an anthropologist, some of you may early have heard me talk about my new book, *anthro vision*, this one here, I'm fascinated by the really fundamental changes that are going on right now in terms of how we see money, and also by the fact that there's really nothing new under the sun. And some of this is actually going back to the future, rather than being quite so forward looking. But as a journalist, I am thrilled to talk about cryptocurrency, because for us at the Financial Times, crypto is a bit like the Kim Kardashian of the financial journalism world. It's a story that we know if we put it on the front page, we will get everyone reading loads of clicks, and really, really strong passions, because some people absolutely love it. Some people absolutely hate it. And in just the last few weeks looking back at the headlines, we've had a whole series of better times and worst of time stories about crypto currencies. worst of times, China's clamped down on the Bitcoin miners sending the price crashing. We've had the UK and Japanese and just the last couple of days clamped down on by Nance, or been answered and how you pronounce that. We've had people like Warren Buffett say he thinks the whole thing is pointless. I think he was talking about Bitcoin. We've had outflows apparently from aetherium funds, and we've had wild price volatility, partly sparked by people like Elon Musk, complaining about the environmental impact of all this. What took him so long to notice, one might ask on the best of times, though, we've also had groups like Goldman Sachs, JP Morgan, fidelity, lots of mainstream players jumping in. We've got Jim Cramer coming out just yesterday saying he loves a theorem and wants to buy lots of it. And we've got most importantly, the central banks themselves saying that they want to get involved in this through Central Bank digital currencies. So Kim Kardashian of the financial world let me let me quickly start before I start asking you questions by asking the audience how many of you in the room own some kind of Bitcoin, a theorem or cryptocurrency? Okay, good number a pretty good number. Yeah. Let age be no barrier barrier. How many of you in the room think it's a really exciting positive development? And how many of you think is actually just a gigantic Ponzi scheme dreamt up to distract your kids? Okay, is it a Ponzi scheme? you've actually got more supporters in the room, then detractors of Ponzi scheme.



Joseph Lubin 04:32

To the extent that the Federal Reserve Notes are Ponzi schemes. So it cryptocurrency is essentially built on top of a new kind of database technology. It's a database technology that enables many different independent actors to all hold the data, inspect the data, and agree on exactly what happened and when it happened with respect to transactions. On this globally shared ledger. And so what that does, it's basically an invention of digital scarcity. And so I can give Jillian an mp3 song. And I can give that same song to many people in the audience. And there is no real digital scarcity there. But on this new kind of database, database technology, we can create digitally scarce assets. So it's a new kind of trust foundation for the planet, we've lived for millennia, using subjective trust systems that are based on centralized institutions that imbue transactions and relationships with trust. And we're living in a world where there is loss of trust in those centralized institutions and things are very complicated technology is very complex. And it is possible to wield those centralized systems in ways that don't serve the general population.

G

Gillian Tett 06:03

So basically, you work through scarcity of asset just like gold, unlike the currency, and the trust is not vertical, and you're trusting into a central bank or an authority figure. You're trusting each other. And you're trusting the computing technology.

J

Joseph Lubin 06:19

Yeah. So at the foundation of this new paradigm, is horizontal trust. On Ethereum One, it's around 8000, Ethereum version 1.0. It's about 1000 validators running the system right now they share their resources and process transactions, and they get paid for that. Bitcoins about the same size in terms of number of validators. If theorem two is already started, and we're at around 150,000 validators, and the two are going to merge soon, I'm sure we'll be able to talk about that. But essentially, this base layer is a new trust foundation for the planet, it enables us to build systems going forward. With automated and objective trust, rather than the subject of trust that we've built on forever.

G

Gillian Tett 07:09

I'm going to ask you a minute, just to quickly define the difference briefly between Bitcoin and aetherium, or Dogecoin, or the other coins out there. Apparently, someone's dreaming up hamster coin right now. But before I do that, though, I'd like to ask you, in terms of why people should trust anybody else on the internet, or trust the computing system? What do you say to people who say, how do we manage to trust that at all? Because it seems to be one of the problems with cryptocurrencies is that, to understand it, you have to have knowledge of three things which are almost never taught together, you need to

understand economics, you need to understand cartop, crypto cryptography and computer science. And you need to understand game theory, because game theory appears to underpin, essentially the trust. And I don't know if anyone, the room's got a training and all three of those, but I certainly don't tell us why do we should trust any part of this system.

J

Joseph Lubin 08:10

So with any complicated technology, like automotive technology, pharmaceutical technology, they're always experts, and they have their own tribe, ality, and they have their own vocabulary. And in the global financial system, there's also the same sort of situation and the difference between the current global financial system and the proposed decentralized financial system that is being built right now on this new trust layer, is that the current global financial system is largely built in closed source software, in backrooms. It's basically a bunch of siloed systems, and effectively a private infrastructure. And some of it is made public, certainly, but in the in the open, open source, decentralized financial system that's being built, everything is open, it's all open source. There are hordes of very smart people who understand those technologies, who are constantly poring over these systems and making them better than fixing bugs when they arise. It's essentially like what the web technology in the internet technology did for access to information around the world. And the ability to publish information, the ability to engage in or build e commerce or social networking. It's the democratization of Finance. And so the the world of creators the world of entrepreneurs are now focused on building decentralized finance which will be very fluid and global.

T

Tricia Johnson 10:05

Thanks for listening to Aspen Ideas to go. The global pandemic has accelerated the shift to a digital economy and exacerbated inequality. This October, a group of purpose driven leaders will gather for a day long summit to take action toward rebuilding an economy that works for everyone. Register now for the Global Inclusive Growth Summit. It's free and online, October 14, go to [globalinclusivegrowthsummit.com](https://globalinclusivegrowthsummit.com) to register. The virtual summit is a collaboration between the MasterCard Center for Inclusive Growth and the Aspen Institute. Let's get back to today's show. Here's Gillian tett.

G

Gillian Tett 10:52

So you're second after Bitcoin -- that's how it's usually seen.



Joseph Lubin 10:59

In only one measure. Two measures. First, Bitcoin came first, right? And second, they have the largest, it has the largest monetary base. But I'd be happy to explain the difference when you're ready.



Gillian Tett 11:13

Okay. Well, tell us tell us briefly because I've got so much I want to cover but tell us briefly how Ethereum is different from Bitcoin, or Dogecoin Doge Doge, three Dogecoin. As I said, I'm on a learning journey to tell you on prefers, okay. Dogecoin, as said by Elon Musk.



Joseph Lubin 11:29

So Bitcoin was invented, based on a couple of decades of explorations, really, it was invented or released into the world in 2008, started 2009. And it was essentially, this new trust foundation applied to a very narrow use case, the issuance of a token that was intended to represent money. In my opinion, the nomenclature, cryptocurrency has caused the industry to suffer very much, because it's not a good currency in many in a couple of respects of currency, it is a good growing store of value. And so I like to think about it as basically an NFT, the big, incredibly valuable conceptual, non fungible token. And it is fractionated. So that many people in the world can own this concept, essentially, unlike a valuable piece of art, it will potentially grow in value. And that's very similar to gold in that respect, where gold is fractionated. And many people in the world own some gold and treat it as, as a store of value. So very narrow financial use case. And that it's been easy to explain to early adopters and financial institutions, it's a store of value. Ethereum is the next generation or foundation for the next generation decentralized web, you can build any sort of application, including many applications in decentralized finance on it. And so the ecosystem of aetherium developers is enormous. It's much larger than any other ecosystem in the cryptocurrency space. And Bitcoin has a very small ecosystem of developers.



Gillian Tett 13:16

Well, some people would say, and I think for some reason that you know, Bitcoin may end up looking like the MySpace of the social media world, and you are aspiring to be the Facebook -- I mean in terms of market positioning.



Joseph Lubin 13:32

We are not aspiring to be Facebook. We're aspiring to be the next, the foundation of the decentralized web.



Gillian Tett 13:38

So you want to be the Google of crypto cryptocurrencies -- Is that what consensus is?



Joseph Lubin 13:42

Google is built on the web. Ethereum is aspiring to be the foundation of the decentralized web. It's a platform for running applications.



Gillian Tett 13:52

So you're aspiring to be an instance of Google Plus, Amazon, Amazon Web Services.



Joseph Lubin 13:58

One way to think of Ethereum is as a global open super app. So the same way that there are certain super apps, especially in China, where you can do all the things that you want to do rent a car, pay your bills, etc. What's happening right now is that on this permissionless platform, many people around the world many companies around the world are building applications. And unlike building applications in and delivering them through the Apple store, or the Google Play Store, or on Facebook or on LinkedIn, even there's virtually no platform risk, right? Apple isn't going to or a theorem can't bump people's applications off the network. And in my opinion, reducing platform risk on the planet is a very important thing to do right now because platform power is we yielded in concerning ways.



Gillian Tett 15:03

So you present yourself as a decentralized system that cannot be controlled by any one government, or any one tech giant. Is that fair?



Joseph Lubin 15:15

So there are ways of attacking the system and reducing the interest in building out the system or using the system if you're a very well resourced actor, and you decide that you don't want that system to have impact on your nation state, China, for instance, potentially, you can forbid it, you can make it illegal to bring it down. No, China can bring

it theorem down inside of China of China. And in order to do that, they kind of have to shut down the internet there or drastically reduced the functionality of certain aspects of the internet. So you could do that in America, but you'd have to really shut down the Internet, and you'd have to suspend free speech. And so I'm not worried that that's going to happen.

G

Gillian Tett 16:06

Well, that's a debate. (Lubin: Currently, I'm not worried.) Okay, we can go that another time. But, um, but just to quickly pick up on this point, though, about decentralization, because one of the really important things that's happening right now to you is you're going from crypto 1.0 to 2.0. In terms of having a system where aetherium 1.2, point zero, in that you're going from proof of proof of work to proof of stake.

J

Joseph Lubin 16:36

Proof of work is the very energy consumptive version.

G

Gillian Tett 16:40

Can you just very briefly, because we're dealing with an audience has probably both kindergarten and PhD here today. I'm about sort of grade two right now, second grade, but you're going from a system where people actually own the currency and create the currency by mining it through intensive energy consumption, and computer systems into one where they just have to use the computers to prove they own a piece. Is that right?

J

Joseph Lubin 17:02

Yep. Well, so. Um, so backing up a little bit. We have built the early stages of a new trust foundation for the planet. That trust characteristic derives from massive decentralization, if you can get hundreds of 1000s of independent actors, running nodes on the network and validating transactions on the network, then it is enormously difficult to cheat the system basically. So you have to get to all the different actors, if you want to change a historic entry in in this database. What bitcoins one of bitcoins central inventions was to require miners to do lots of computations to solve a puzzle, to have the right to propose the next state of the system to basically package up a whole bunch of transactions in a block and link that block to the history of blocks. And as the history gets deeper and deeper, it becomes virtually impossible to change or repudiate the history of the system. Unfortunately, it has turned into a hardware and energy arms race. And in order to mine a Bitcoin block, the world is burning a lot of electricity in order to mine an aetherium block

the world is burning a bunch of electricity not nearly as much as, as for Bitcoin. We have worked from the start of the theorem project on something called proof of stake which replaces the specialized hardware and the consumptive nature, the energy consumptive nature of the system with essentially an economic bond. So you take some ether, you put it in a program on the theorem network, and then you are probabilistically selected to process the next block. And there's a lot of randomness in there so that you don't out of 150,000 validators, you don't know when you're going to be selected, and there's redundancy and selection. But basically, it is a much more decentralized system, it is much fairer because there are no efficiencies of scale, I can run one validator. And if you're running 10,000, in your warehouse, you don't have any non linear advantage. And it's a system that has low barrier to entry. So anyone can can participate in it, and it 99.999 something percent more energy efficient.



Gillian Tett 19:43

What about the criminal aspect of it, which often is seen as being one of the reasons why regulators might want to shut it down? Does it worry you that criminals might be using this that people can reuse it for ransomware and things like that, or is that you'd say that's just Bitcoin.



Joseph Lubin 19:58

Ransomware is is an unfortunate problem. But there have been ransoms and kidnapping and setting up companies to receive ransom payments for a long time. So the US dollar is used in lots of criminal activities. And any new technology can be used on the fringes for for some nefarious acts. But this is a revolution in how we build trust systems and financial systems and many systems architected on top of those things. And so we should not throw the baby out with the bathwater. Right?



Gillian Tett 20:38

Well, before I go to I think we have time for a few questions in just a moment. Before I do, though, what about central banks? I've spent a lot of time talking to central banks in the last couple of years about this. And they've moved from a position of absolute horror, and scorn, to very suddenly, in the last two or three weeks the what I call the Basel tribe, the group of Central Bank, governors around the the big asset in Basel has suddenly indicated that they're not only running their innovation centers, but they are planning in some cases, to issue central bank digital currencies, which are not the same as Bitcoin. But they're moving into this space. So two questions, are you worried that they're basically going to displace you? And disintermediate? You? Because if the Fed were to issue a

digital currency, how on earth would you possibly compete with that? And are you in any way seeing potential to try and collaborate with them instead, and for those, you know, dusty, old central bank governors to start working with a cool kid on the block like you.

J

Joseph Lubin 21:48

So we've worked with the Monetary Authority of Singapore with the South African Reserve Bank, currently, we're working with the Hong Kong monetary authority Bank of Thailand. pboc is in the mix on our regional experiment, the the is, is overseeing a lot of that work. So we are very happy to facilitate the use of the technology for those kinds of institutions had talks with the with the Fed. It'll be interesting how these systems are rolled out. So China's currently ahead of the pack. I'm not so worried about China rolling out their digital currency system early. Part of their interest is similar to the one Belt, One Road initiative, where they entice partners to get into their system. But ultimately, the rule of law is gonna win in the situation in the United States is is going to be just fine from a reserve currency perspective. The United States has, has a project going on, and very recently, Randal Quarles, who think he's the chairman of the is in charge of Financial Stability Board, and he's a board member at the Fed. He indicated that he wasn't concerned about stable coins. So stable coins are a monetary construct on a theorem that basically either represents a digital asset in a bank one to one to the dollar, or there are mechanisms where there are they have they're over collateralized in different ways. And so it's nice. So that's, that's a cryptocurrency that that is a stable unit of account, which is really valuable. He indicated essentially that, hey, we shouldn't be worried about these stable coins. private organizations have been issuing money. Since the start of the Federal Reserve, that's how money gets created. Private commercial banks are essentially given permission based on reserve ratios to right to issue new money into the world. And so there doesn't seem to be a philosophical concern about having these systems out in the world. And if some of them are competitive, if some if some of them have different capabilities, then that's just that's just choice. That's optionality.

G

Gillian Tett 24:25

I suspect there may not be a philosophical, philosophical problem. There may be a political and power problem, because I don't think anywhere in history, a group of elites who control things have said, Yes, we're dying to give power to the crowd.

J

Joseph Lubin 24:36

Sure, but this technology is very aligned with free market capitalism. It's very aligned with liberal democratic philosophy. And so at its base, it is a very free market, capitalistic, and

you can also create these governance systems that are basically collectives and they can issue their own currency and make proposals and enact proposals according to whatever philosophy, right they prefer. And so you can have a socialist looking collective or, or any color on the spectrum.

**G** Gillian Tett 25:16

Right, I socialist Ethereum coin, they'll be interesting. We have time I think literally for one question maybe two, if anyone's got a question they'd like to ask. If not, I would like to ask about Elon Musk. Is he a friend or foe?

**J** Joseph Lubin 25:33

I've never met him. I think he's a brilliant individual doing great things for humanity. And, unfortunately, he tends to use his platform, sometimes in perhaps slightly irresponsible ways. And so I think he should be much more careful about things he says because they, they can have real impact on people's lives.

**G** Gillian Tett 26:01

And Two other quick questions. I've got barely any time. Do you own any fiat currency? Is all of your money in Ethereum these days?

**J** Joseph Lubin 26:09

So there's a few dollars in my wallet, a couple of credit cards, and I have a little bit of money in the bank.

**G** Gillian Tett 26:19

Right. And I guess the other question I'm curious about is, so much of your excitement about this is based on an assumption that fiat currencies are going to die, you often talk about. (Joseph Lubin: I never said that.) Okay, well, where do you see fiat currencies going?

**J** Joseph Lubin 26:37

As long as people live near one another, we're going to need governance and governments are good at governance. And governments should of course, issue their own tokens. So the technology that has been used by nation states to issue currency has

evolved or tribes to issue. Money has evolved for long time shells and notches on sticks and beads and pieces of paper and rounds of metal and entries in centralized databases. And so we have a better database technology and of course, nation states are going to use that.



Gillian Tett 27:15

Well, thank you. Well, that's been very interesting. I've certainly learned a lot by listening to you. I hope you and the audience have to. Can I just quickly ask one last question, based on what you've just heard. Does anyone now feel more confident about investing in cryptocurrencies in aetherium than before? You did well, I think you're the salesman here. Anyway, thank you very much Kardashian. Kim Kardashian.



Tricia Johnson 27:49

Joseph Lubin is co founder of Ethereum and founder of consensus of blockchain technology company. Previously, he served as vice president of technology and Private Wealth Management at Goldman Sachs. Gillian tett is the editorial board chair and us editor at large of the Financial Times. Their conversation was held June 30 at the Aspen Ideas Festival. Make sure to subscribe to Aspen Ideas to go wherever you listen to podcasts. Follow Aspen Ideas year round on social media at Aspen Ideas. Today's show was produced by the Aspen Ideas Festival team, Kitty Boone, Killeen Brettmann, Katie Cassetta, Christen Cromer, Libby Franklin, Ava Hartmann, Marci Krivonen, Jonathan Melgaard, Azalea, Millan and me. Our music is by Wonderly. I'm Tricia Johnson. Thanks for joining me.