



# The Perch Pod Episode 30

## Garry Golden on Cryptocurrency, Decentralized Finance and Cardano

Jacob Shapiro:

You're listening to The Perch Pod from Perch Perspectives. Hello listeners, and welcome to another episode of The Perch Pod. As usual, I'm your host Jacob Shapiro. I'm also the founder and chief strategist of Perch Perspectives, which is a human centric business and political consulting firm. We've got a great episode for you today. Garry Golden joined us to talk about cryptocurrency, decentralized finance and Cardano. Garry is an academically trained futurist, he helps clients bring structure and discipline to exploring the implications of long-term change. I've always felt that Garry and I were kindred spirits in a way. We're both very focused on the future.

Jacob Shapiro:

I obviously think about the future from a geopolitical perspective. So I'm trying to think about how geography and political power is going to shape future decisions. Garry comes at this from a futurist perspective and he's thinking about energy and technological advances, and other sorts of things. We have a very similar focus, even if we have very different approaches in how to get there. And that's why I love talking to Garry so much. Sometimes we disagree at things but often we end up in the same general points from very different directions, which at least for me, is heartening because I respect Garry a lot. And that makes me feel good that we're sort of ending up in the same place.

Jacob Shapiro:

We recorded this on Friday, March 26th. This is not going to come out until early May for all I know Elon Musk is going to be accepting Ethereum by that point for Teslas. So, that's enough of that. Let's get on to the conversation with Garry. Cheers all. Listen, so it's not so often we have a futurist on the podcast, and I want to take advantage of this for our listeners who are mostly thinking about politics or who are politics nerds. But I want to start just with, in layman's terms, what is blockchain? A lot of people use that word, they're throwing it around. I think oftentimes, if you ask them, well, what does blockchain mean? They're like, "I don't know, I buy some Bitcoin on eToro." Or something like that. So, what do we mean when we say blockchain? What does that mean?

Garry Golden:

Yeah. So, by definition, a blockchain is simply a distributed ledger, which in the cryptocurrency context will hold the transaction history of the value exchange between a cryptocurrency, so Bitcoin is arguably



the first blockchain application. It's the first cryptocurrency project that was built on top of this distributed ledger infrastructure. And the real differentiation with blockchain is that the transaction ledger itself is managed not by a central authority, but by the network itself. So, it is by design, censorship-resistant, it's resilient, and very difficult to attack and kind of take down. So, blockchain is basically just a new database for the modern world. And the first applications have been cryptocurrency, but it's quite possible that we could start to see blockchain-based data solutions outside of cryptocurrency at some point in the future.

Jacob Shapiro:

Yeah. I think that one of the things that maybe people don't think about basically every transaction you're making in your life, there's an intermediary. Your car payment, your mortgage, buying a cup of coffee at Starbucks, your insurance policies for all the things that you just bought with the money that I just talked about. All of those go through intermediaries. And like you said, there's the centralized authority that is in charge of keeping track of the legitimacy of that information. And blockchain to me, it basically just gets rid of the third party and in some ways, it's not really a cutting-edge technology in the same sense that fracking is not a cutting-edge technology. It's the combination of technologies, right? Fracking is just the combination of hydraulic fracturing with horizontal drilling. Blockchain in some ways, is it fair to describe it as a similar way? It combines cryptography and peer-to-peer networks and programming or am I simplifying things there too much?

Garry Golden:

No, I would say that's accurate, and I think the big thing is the digital currency piece. Uh, you and I can exchange physical currency, I could give you a \$20 bill and without the use of a bank or a payment rail, but a blockchain takes away the need for that broker, um, when we exchange value. So, so Bitcoin is essentially a bank without a bank. And this, this idea of, of disintermediating that broker, that, that middleman is the ideological root of the cryptocurrency movement. So for this, this largely kind of libertarian egalitarian world, they, they see Bitcoin as a bank, without a bank. They imagine that on top of blockchain, we'll be able to build Uber without Uber, eBay, without eBay, iTunes, without iTunes, healthcare data marketplace, without healthcare insurance provider. So it, it is, it is at its ideological root about radical decentralization. In reality, when we see blockchain mature, I think you will see new types of brokers, but those brokers will not control the network - their role will basically be to add features and layers that bring value when you pay the; and you'll never be locked into that broker, or that third party, you'll never be locked in. Uh, as long as you have that baseline blockchain interoperability at the bottom.

Jacob Shapiro:



Yeah. You'll, never be locked in and also, they'll never be able to change the rules of the game, which I think one of the things that makes people uncomfortable is they're like, "Oh, Bitcoin, it's the Wild West out there, whereas if I go through these intermediaries that "trust" due to inertia or because I've never imagined it differently, that's how somehow more secure." But it's actually not because those third parties all the time they change the game. And the idea behind as you said, with the blockchain and the ledger, is that even if you don't trust each other, you can actually exchange the currency or make the contractor do any of the stuff until you've resolved certain conditions. And that's it. That's how it goes, it actually almost guarantees that there's no manipulation and that sense, right?

Garry Golden:

Yeah. So, you're really hitting on kind of this second layer of the ideology behind particular Bitcoin, which is that no governance is a feature. So, blockchain evangelists will argue that one of the appeals of Bitcoin in particular is that you can't change it. In order to make certain adjustments and upgrades to the protocol, you need to have a little bit of luck and persuasion, where you get these miners that operate the network to agree on this new protocol, and do what's often called as a hard fork or a soft fork where you basically create new protocol. So, that idea of something cannot be changed is part of the appeal. Now, there are other cryptocurrency blockchain projects beyond Bitcoin that believe that governance, indeed is a benefit and a feature. We can talk about that later but really, what launched this era was the idea of no governance is a benefit to Bitcoin, you know things won't change.

Jacob Shapiro:

Okay. So, that's blockchain, I think we've defined that nicely and we've mentioned Bitcoin now. Define cryptocurrency for me? We've kind of talked about it in circles, but what's a two sentence or just a quick definition of cryptocurrency?

Garry Golden:

Yeah. So, we're going to give a bit of a circular definition. So, cryptocurrency is a digital currency, where the transactions are verified and maintain on a blockchain database. So, a cryptocurrency is basically a digital currency that is managed on this decentralized ledger. And in some cryptocurrency projects, it is simply a store of value. The cryptocurrency doesn't have any features or programmability. And then other cryptocurrency platforms, you can actually code to the money. So, it's this idea of programmable money, where I can not just give you equal to one Jacob coin, but I can give you one Jacob coin that says, "This coin may only be spent on equipment made in the United States or food at a grocery store." So, that ability to program cryptocurrency is probably the direction that the sector is headed.

Jacob Shapiro:

And just to drive it home for listeners, so what is the difference between say, a digital currency? So a digital dollar or a digital RMB and a cryptocurrency? Because I feel like those things are often conflated and in some ways they're actually opposing ideas.

Garry Golden:



Yeah. Well, digital currency in my mind it's based in the digital world so it can be transferred and transmitted across internet protocols, et cetera. And cryptocurrency itself secured through cryptography. So, what secures that store of value, that currency is a set of what are called consensus mechanisms that protect the network and protect the record of that cryptocurrency. So, a digital currency is probably less secure than a cryptocurrency on the spectrum.

Jacob Shapiro:

And then one of the questions I get most often from crypto skeptics, once they finally kind of get these definitions lodged into their head. I feel like the first question is always, okay, so what backs cryptocurrency, why is the cryptocurrency worth anything? So, if I was to throw that skeptical question at you, how do you answer it?

Garry Golden:

Well, I would agree that it's one of the reasons why you want to be skeptical about cryptocurrencies. So, we live in a world where fiat currencies are backed by governments, backed by the nation state. And the policies of that nation state can increase the money supply or decrease the money supply, so we can print money, or we can buy it back and take it out of the circulation. But it is backed by the government, and there is a lot of political certainty or uncertainty that gets embedded into that fiat model. Cryptocurrencies are basically backed by the protocol of the cryptocurrency project. So, it's essentially math that backs the cryptocurrency. So, in the Bitcoin case, there are only 21 million Bitcoin, according to the protocol that will ever exist in the world.

Garry Golden:

And again, because of that lack of governance, that lack of changeability, we know that in 50 to 100 years, there will only be 21 million Bitcoin. So, there are people that believe that entities, like governments that back money are inherently corrupt, or subject to manipulation, and they simply want to avoid that. And cryptocurrencies for those players are more appealing because of this idea that math or the protocol itself is what backs the currency. Now, the challenge there is, things change and someone may not agree with the big government macroeconomic policy, their whole lives until something happens, and then they suddenly want the Fed to print more money to keep the economy afloat. So, it's an ideological bet at the end of the day.

Jacob Shapiro:

Well, yeah. And I want to dive into that a little bit, because I feel like cryptocurrency and in particular, Bitcoin and gold are often sort of compared to each other as storehouses of value, even though confusingly gold is a physical tangible asset. And I guess, there is a finite amount of gold in the world, unless we've got an alchemist who figures out the secret key to gold wealth. Which I'm sure will happen at some point, you got to think they're making diamonds already. But I won't go down that rabbit hole. But, do you make the comparison between gold and crypto in that sense or do you think it's a faulty one?



Garry Golden:

Yeah. I think the most appropriate analog for gold as a store of value is Bitcoin. And I know we're going to move beyond Bitcoin soon here but Bitcoin is the store of value equivalent of gold in the digital crypto world. There's no cash flow, right? There's mechanisms to get savings and financialize it, but Bitcoin is essentially a store of value, much like gold is, and like gold, it's finite. So, I think that store of value application of currency is valid but there are other uses of currencies. We use currencies in payments, we use currencies as commodities. There's a blurring of the definition of currency ahead of us if we truly embrace crypto. So, I think Bitcoin, gold is a good analog, I wouldn't go much further than that, at this point.

Jacob Shapiro:

I think it's also important for listeners who are in developed markets, whose maybe experience of life is only with a stable currency to broaden their perspective a little bit here, because it seems kind of crazy, if I'm telling you the dollars is being manipulated, the euro is corrupt, the yen, the system is rigged. That's true, in some sense, but that sounds kind of crazy and conspiracy theory-esque. The real application, I think comes if, let's say you're somebody in Turkey, and you're watching the Turkish government, really just tanked the value of the lira. I can't tell if Erdoğan is senile, or if he's incompetent. I'm not sure what's going on there.

Jacob Shapiro:

But if you're a Turk and you have your savings in lira right now, you're getting slammed. You're watching like the value of your life go down 20, 30% because of what this government is doing in a crazy way. And I think the argument behind Bitcoin in that sense is nobody can do that. So, even if the government is doing crazy things, even if the value of the currency explodes, or falls, or whatever, you have some kind of reliable sense of what you have. And I don't know, like I said, I think in developed countries that concept is not there yet, because we haven't dealt with runaway inflation, I don't know for a generation is it fair to say. We're watching how even the scepter of inflation is driving people crazy right now in the market.

Garry Golden:

Yeah. And because to Venezuela and Lebanon, there's a growing list of countries and regions where inflation is really taking hold. So, I do think that experience limits the perceived value among certain populations. And then the other component that I think aligns well with that is, for the most part, you and I don't have any problems with the financial system. We have bank accounts, we have economic identity, we have insurance backed savings and checking accounts. But if you go to Ethiopia, and you're talking with a coffee farmer, you're going somewhere else in the world, where there is more of this unbanked population, there is greater potential for cryptocurrencies to play a more positive role in that setting. So, I think part of the challenge in imagining like the so what? Of cryptocurrency is really being able to step out of our own lives. And imagine the needs and conditions of hundreds of millions and billions of people that are unbanked today by our traditional system?



Jacob Shapiro:

Yeah. I can hear the sound of the birds, but before we get to the birds that you're talking about. I just want to have one more definitional sort of question we lay it out before we dive into some of the wonky stuff. So, we've talked about blockchain, we've talked about currency, digital currency that divide, what is decentralized finance, and how is that different than say blockchain are some of the things we've already talked about?

Garry Golden:

Yeah. So, decentralized finances is only possible with a blockchain cryptocurrency world. And DeFi, which is often the shorter term used, refers to many of the things that we can do in the world with the help of that third party broker. So, lending money, borrowing money, establishing insurance contract, doing swaps, currency trading, all of that stuff requires a central financial stack, and a set of central financial players to handle. DeFi is simply the ability to do all those things on that blockchain network. So, right now, if you are part of the Ethereum blockchain world, and let's say you have \$100,000 worth of Ethereum, in your account that you own, that you control. You can use a smart contract to basically collateralize, let's say, 50% of that value, and take out a loan for 10, 15 \$20,000. And then pay that loan back to yourself at whatever interest rate you deem fit, which for most people is going to be 0%.

Garry Golden:

So, DeFi refers to this ability to bank yourself and still control your asset, you're just simply leveraging it, and establishing the rules, and establishing the escrow and all the accountability mechanisms on your own. And if you fail to pay back that loan, then the contract will seize your collateral. So, DeFi is really the big story here. The big story is not the emergence of cryptocurrency, the big story is decentralized finance, which truly takes away the value proposition of many of these financial service providers. If I can do it myself, or I can do it in a shared liquidity pool with other people, I don't need a bank. I don't need to insure. So, DeFi is in its very early stages.

Garry Golden:

I think the amount of money currently locked in DeFi contracts is about \$50 billion. And you and I are speaking now in March of 2021, we need to imagine that over the next decade that there will likely be one to \$2 trillion globally locked inside of DeFi contracts where individuals and institutions are giving themselves loans, lending money, borrowing money, establishing contracts without the need of a traditional financial player. So, DeFi is really the big story right now. And just the final piece on that is right now DeFi is largely bound to a single blockchain. So, Ethereum really is the dominant player in this space. But when we move forward in the years ahead, DeFi will almost certainly for liquidity sake, be a multichain sector. It will go across these different blockchain projects. So, from Ethereum, to Cardano, to Polkadot, Algorand et cetera.

Jacob Shapiro:

That seems to me to be one of the biggest hurdles that they're going to have to overcome, the interoperability of these things. Because one of the nice things about currency right now is the dollars,



the dollar you can go traded at a bank for euros or whatever else you need. Getting all these networks and platforms to talk to each other, that feels like the biggest hurdle. Are you worried that it's an insurmountable hurdle? Or do you feel like it's just a matter of time?

Garry Golden:

It's just a matter of time. So, I think a great analog would be the Microsoft and Apple battles back in the day, and the lack of compatibility. And that was really the result of just passionate tribes of customers and fans just locked into this platform. And now I use this application over the web across this platform. Today, cryptocurrency platforms like Ethereum and Cardano and Polkadot, are really being driven by the core founding early adopter communities, and they don't like each other for the most part. It's definitely a mindset of a zero-sum future, so the prospects of interoperability over the next few years is probably slim. But as the world matures, and more institutions and less passionate players capitalize these blockchain platforms, the more likely we'll see interoperability.

Jacob Shapiro:

Well, why don't they like each other? Do you have an explanation for that?

Garry Golden:

I wish I did it. Anyone involved in cryptocurrency is really going to come at it from no one of two places. One is they just want to make money and their day trading. And they don't care about the mission of the project, they don't care about the mechanics, they just see this very volatile dynamic trading opportunity and they want to capture the flows. And then the other type of person is really committed to the principles and the ideology of the project. And they want to see that social mission realize. And everyone in crypto from either side is criticized by the mainstream world. If you say you own cryptocurrencies at the family dinner during the holidays, you get the look from the rest of the family, right? Like, what is it? Why are you doing that? You're going to lose your money, didn't it crash? So, there's a defensiveness associated with being a fan of cryptocurrency.

Jacob Shapiro:

Yeah. Although I think that defensiveness is melting a little bit, not from the ideological standpoint. But I'll throw my sister under the bus here on the podcast, love you, Leah. But she called me the other day, out of the blue. And she's not interested in this kind of stuff. She wouldn't have known what Bitcoin was a couple years ago, she wouldn't know Bitcoin from a cup of coffee, probably. And she called me a couple weeks ago, and said, "Hey, how do I buy bitcoin, is that something that I should do?"

Jacob Shapiro:

And I was like, "Whoa, let's stop for a second talking about that. Who are you talking to in your rural Georgian community that is trading in crypto?" And everywhere I go now, it's like the new hot thing to do, in the same way that stocks [Stonks 00:23:33] were really popular six months ago, now everybody's moved on to crypto, and they're talking about their big gains. So, I think some of that is melting. I don't





think there's any appreciation of what it means, that ideological challenge the status quo. That I don't think is apparent at all.

Garry Golden:

Not at all. And I think if they've got a sense of the kind of ideological underpinnings, it's probably rooted in like an anti-Wall Street or anti-bank less of a little bit more nuanced sense of centralization versus decentralization. Blockchain and cryptocurrency really is about decentralization as the primary theme. The decentralization of power or pushing power to the edges. And we're just not there yet with the mainstream world. But as you said yeah, I've got friends and family reaching out to me, asking me about it if they should buy. And I've started within just a friends and family circle, I've got a crypto investor club. So, I am now actively onboarding people. So, it is certainly more mainstream. But if we look at just past analogs of so called disruptive platforms, and technologies and business models, usually it takes five to 20 years for the full maturity to really unfold. So, I would say we're probably at least five to 10 years away from cryptocurrency. And a world where individuals have multiple cryptocurrencies in their life is truly mainstream. But we're closer than we were in 2018.

Jacob Shapiro:

Yeah. And in some ways, I think the pandemic has accelerated things a little bit.

Garry Golden:

It's accelerated. And then I think there's a generational component. So, if you were to look at the kind of younger millennial and older set of Gen Z, I think that cohort is going to look at, let's say, a 30% portion of their wealth portfolio in cryptocurrencies as not just acceptable but smart. So, we're just a couple years away from a generational attitude tipping point.

Jacob Shapiro:

All right. So, that's the shallow end of the pool, let's start to dip our toes into the deeper end. Bitcoin, I don't think we need to do a whole lot about Bitcoin. I think you've sort of explained rightly, it's like gold, it's like any other commodity, you can speculate with it. I guess, if you want to pay Elon Musk for a Tesla with it, you can do that now too. Mazel Tov, Elon, I think you're crazy. But you centered in on DeFi and decentralized finance being the real thing here. And you've mentioned Ethereum, you've mentioned Cardano and I know that you and I both want to talk about Cardano. But in that DeFi sense of what are the currencies? Is it just those two, are there some more vying for it? Who were the ones that are really focused in on that ideological aspect that you're identifying as so important here?

Garry Golden:

Yeah. So, I think that distinction we want to make is, because DeFi is more of a like a level two, a layer two. What you want to talk about are the development platforms, the platforms themselves that have their own unique protocols and consensus mechanisms. And we'll just look at the analog, it's like, there was Friendster social networks, then there was Myspace. Then there was Facebook, and then Instagram, and Twitter, and Pinterest, and it kind of exploded. Bitcoin is that first generation it's the mothership.





Ethereum was the second generation blockchain platform, and what Ethereum brought to the table, was this idea of smart contracts, where we can program and bring functionality to cryptocurrencies. So with Ethereum really was that first smart contract based platform, but has its own challenges based off of architectural design choices that were made.

Garry Golden:

And then projects like Cardano are what we would consider to be third generation blockchain platforms. And really, the best way to think about Cardano is that it is infrastructure for three things. One is crypto assets, so your cryptocurrencies, the second is economic identity and then the third is governance. So, when you look at the landscape today, 2021 of cryptocurrency projects, it's mostly third generation platforms. So, Cardano, there's Polkadot, Algorand, Avalanche, Elrond. There's a whole host, it's really, it's a Cambrian explosion era.

Garry Golden:

And then I think very quickly, the tendency is going to be to think, which one is going to win? And have a zero-sum outlook, rather than think of the software world, as a world where there's SAP, Oracle, Microsoft, Amazon, Apple, Google, IBM. There will be multiple blockchain platforms but I believe we're at the tipping point of growing past Bitcoin and Ethereum. I think that's the next stage for the world.

Jacob Shapiro:

And I think this is where we can zero in.

Garry Golden:

Yeah.

Jacob Shapiro:

You think Cardano is the one to kind of open up that door to that new future. And full disclosure, I hadn't heard of Cardano until you were tweeting about it a couple months ago. And honestly, I was kind of skeptical of cryptos in general. I had even said to a friend of mine, six months ago, he asked me if I wanted to buy cryptos. I was like, "I'm never buying crypto, I don't get that stuff. Like I'm old fashioned, thing is good enough for me." And then you started tweeting about Cardano. And I started reading about Cardano, and listening to Charles Hoskinson, and all this other stuff.

Jacob Shapiro:

And I started singing a different tune, because I had gone from that sort of, oh, this is just speculative trading to, no, there's a meteor thing here underneath all this, that is actually incredibly disruptive, almost revolutionary. I don't throw that word around lightly sort of thing. So, what why do you think Cardano though, is the one that's going to, not rule them all because like you said, we don't want to think about this in zero-sum terms. But why is that one going to sort of kick the door into this new area?



Garry Golden:

Yeah. So, my full disclosures are one, I am a member of the global Cardano community, I'm a voice within this community. I'm an investor, so I have a confidence in Cardano that at this point is kind of unshakable. I believe that Cardano is going to become over the next 10 years, the number one cryptocurrency platform in the world, because of its comprehensiveness in its design and approach to growing the market. So, again, Cardano was rooted in crypto assets, economic identity and governance. Whereas the other blockchains are rooted in the idea that no governance is a feature, we don't want to be able to change. And Cortana was saying, "We will change if we have to, we need to build that mechanism in."

Garry Golden:

If you look at the technology underneath everything, Ethereum was developed largely between 2013, 2017 by... Let's just kind of stereotype things here a little bit. By a bunch of largely young people sitting in coffee shops in Brooklyn, Berlin, Toronto and London. It was built by people that do not have PhDs in cryptography or economics. And they just built it. And they made certain design choices that have now led to a lot of growing pains in Ethereum. About that same time Cardano, which was founded largely by a gentleman named Charles Hoskinson, went around the world and they found the people that have the PhDs in cryptography. And have the PhDs in game theory and macroeconomic policies, and programming language design.

Garry Golden:

And Cardano really embraced this idea that the slow way is the fast way. And Cardano is built on rock solid foundations, it uses formal methods that are essentially correct by construction, you can see the mathematical proof of the code. It uses what's called functional programming, which is a much better programming base to build financial applications, then what Ethereum uses, which is called Solidity. They just created this language. And Cardano was taking an approach of working with institutions and governments. So, Cardano is much more about integration and interoperability. They want to bank the unbanked and not just take down Wall Street. So, there are many reasons why I think Cardano is going to be successful but those are just a few. It's just the smartest people in the room, and I think Cardano just has the best roadmap and approach to long-term sustainability.

Jacob Shapiro:

Yeah. And I think it's kind of ironic that you say that it wants to integrate and all those things. But it's also, I guess, as of the last month or the last couple months, it's the most decentralized of the crypto.

Garry Golden:

Yeah. So, we're at in the weeds part of the conversation here. So, just two terms for people to understand. You can secure this network, you can secure the transaction ledger using one of two consensus mechanisms. One is called proof of work, and this is what is currently used by Bitcoin and Ethereum. And this is the minor model, where you have a bunch of people that have very specialized hardware, and cheap electricity. And they are basically solving these complex mathematical problems.



And then if they solve that problem, they get to write to basically verify all the transactions. Proof of work is very secure, it's very stable. But it's very energy intensive and expensive.

Garry Golden:

Cardano has embraced what's called proof of stake. And instead of using all that energy to solve some mathematical proof, you basically have a network of stake pool operator that validate the transactions based off of their stake in the game. So, I'm basically saying, "Here's a million ADA, I'm going to be a stake pool operator and verify these transactions. And if I incorrectly verify it, then you're going to take away from that stake." So, they've kind of got skin in the game. So, proof of stake, it uses less energy, it is more democratic. And you could even argue that the way proof of stake is set up on Cardano, it's more secure than Bitcoin. Like, the amount of money you would need to try to hack the Cardano network now is basically unachievable for any players.

Jacob Shapiro:

Does that mean that there's... One of the things that has happened with Bitcoin is that it hasn't just become a storehouse of value, it's become a way to evade sanctions or to engage in black market trading, whether that's drugs, or weapons, or things like that. There's that great story of, I forget what the Germans arrested this guy for I think maybe it was drugs. And he had the equivalent of 60 million or something in Bitcoin, and they wanted to requisition his 60 million Bitcoins.

Jacob Shapiro:

And he said, "No, I'm not giving you the password to my account." So, it just sits there forever in perpetuity until he decides to get going. But then, Iran is mining Bitcoin to get around sanctions. And Iranian cities have had electricity blackouts, because of the energy of these Bitcoin mining farms has been sucking up so much energy. China kind of a similar thing and its relationships with the United States. Is Cardano going to be immune to that sort of thing, or do you feel like that can happen to any of these cryptocurrencies?

Garry Golden:

I think it can happen anywhere. I mean, it happens with the U.S. dollar. I think the narrative of Bitcoin and cryptocurrencies being a preferred medium of exchange for criminal activities is probably overstated. Certainly the bypassing sanctions, that's a different use case. But by definition, every transaction is verifiable and visible to the entire world. So, if I somehow know that you are a criminal, through other methods I determine this. I can basically find out your wallet and find the transaction of one of your exchanges, and then find out which wallet had that Bitcoin prior.

Garry Golden:

So, the forensic and analytics associated with cryptocurrencies is very transparent. And I think if I was a criminal, the last thing I would want to be doing is stealing a cryptocurrency. It's much harder to evade the history and the record. So, there are obviously going to be other use cases. But if criminals are going



to use any form of currency, it's just going to happen. It could be a dollar, it could be Cardano, could be Bitcoin.

Jacob Shapiro:

The funny thing, inherent in what you're saying though, is that the real problem is actually cash. Because you mined the Bitcoin, and then you take the Bitcoin and put it into hard currency, and then use the hard currency. And when you do that, when you get to the hard currency land, that's where you lose visibility. And that's where all of that stuff can happen. So, a lot of people are, I think, afraid of some of these things, because they think it's going to be used in nefarious ways. And to the extent it can be used that way, it's only because we have cash as this sort of way around the system. If you eliminated that which China is trying to do that right now. They're trying to do it because they want a digital RMB. They want to control everything at the Chinese state government level. But if you get rid of cash, you're closing the loopholes in that sense.

Garry Golden:

Yep. And this opens up kind of another thread here, which is where are government's going to try to get their strength, where's the leverage? Within the cryptocurrency world, there are centralized exchanges. So, Coinbase and Gemini or Kraken are some of those better known mainstream platforms. This is where I go in and I can put in my bank account, my debit card, and I can buy a cryptocurrency. They have to use the KYC, Know Your Customer protocols based off of that jurisdiction, the state and the nation they're in. So, that's government's already placed kind of their thumb on that scale. There are also what we refer to as decentralized exchanges, which are basically exchanges that do not require KYC. And there's going to probably be a race between centralized offerings that are regulated, decentralized offerings and the government will constantly chase.

Garry Golden:

But the end game is going to be based off of the decision for people to either exist within the cryptocurrency space, and I have a wallet full of Cardano ADA, Bitcoin, whatever it is. And I am buying things and spending that ADA without anyone knowing or I exit into the fiat world. And when I exit into that fiat world, it's going to be really hard to exit without a government entity, knowing what I had. So, that's kind of the wallet player of this whole experience. And pause in a moment here, but this really is an important uncertainty to explore. Will people exist within the cryptocurrency world or exit? That is the question at the end of the day, because if you're just cashing out for fiat currency, then you're really not a revolutionary. If you're existing within a cryptocurrency space, then you're truly bringing something new into the world.

Jacob Shapiro:

Yes. But again for that, and this is where states get really involved here. I mean, India is talking about banning all Cryptos now, Nigeria's banned them for I think two years, China doesn't want Cryptos, they want their own digital RMB. So, I think a lot of these states are waking up to the threat of this to their sources of power. And like you said, to exist in the crypto space in some sense. I don't know that the



government can stop people from existing in the crypto space I they want, but they can certainly make it hard for you. And the harder it is and the more barriers there are for entry. I don't know maybe the more time it takes maybe you have subsets and factions of the population that they're never going to do it. It's actually pretty hard I think, even for tech savvy people to start getting things like ADA and getting them into wallets is not easy.

Jacob Shapiro:

Kraken, if you're listening right now, your customer service sucks, by the way, from a disgruntled person who doesn't like your customer service people. So, I think that's a big thing. I want to ask now about some of the stuff that ADA he is doing. Well, actually, before we do that, there was one thing you said I wanted to zero in on, which you talked about how Bitcoin, Ethereum, they can't change. It's programmed in so it is what it is, that's a benefit or a negative, depending on your perspective. You mentioned that at Cardano they recognize that there has to be the ability to change. How does that work? Who gets to make the changes? How is that all decided? Because that seems to be a little bit of a weak point because if they're integrating, and they're trying to do all this stuff and suddenly you can change things, that would make me a little bit uncomfortable.

Garry Golden:

Yeah. So, this is basically the last piece in the roadmap of the Cardano project. They've decentralized the network, they are basically the largest and most functional proof of stake cryptocurrency project. There are smart contract functionalities coming online here in the months ahead. But the decentralization of governance is the final piece, how it's going to be done is incredibly detailed, but it essentially comes down to a democratic vote, that people that own ADA, that are investors in the project, they've helped to capitalize the value inside of the Cardano network will be able to use proof of their Ada ownership to vote on certain parameters. So right now Cardano is experimenting with governance around something called Project Catalyst. So, Cardano is unique among most cryptocurrency projects in that every time you have a transaction, there is a fee to pay for the servers, et cetera, the costs of storage.

Garry Golden:

And part of that fee goes into a centralized treasury. And there is a way through Project Catalyst to submit proposals. So, I want to build a new wallet, I want to build a training program for African developers, I want to build a podcast for Cardano. I submit that to Project Catalyst, and then ADA holders, members of the Cardano community vote on giving you money for that project. So, that is a essentially a decentralized governance mechanism for a VC firm. Project Catalyst is a decentralized investment organization. Now, it's centrally monitored and operated right now, so it's not fully decentralized. But the vision is that you will be able to submit documents that are brought on chain, and if you want to make a change to the protocol, that document has code in it that will be injected into the protocol.

Garry Golden:



And that if a vote passes, that document that is now on chain will be injected into the core protocol of the project. So, the governance is basically a voting system, and it will be a combination of direct voting and then likely delegated voting. So, you could probably see senators of Cardano in the future, which might drive a lot of people nuts. But you could see delegation of my ADA to another person that's more closely involved in the day-to-day of Cardano. And that any change in the protocol itself will basically be brought in from the offline world into the on chain environment and automatically updated. So, it's incredibly technical and philosophical and not guaranteed to succeed. This is the biggest hurdle.

Jacob Shapiro:

Yeah. That feels like the biggest stumbling block. Because I mean, if we're going to boil it down, in a sense, to the real philosophical issue, it's almost the age old argument of technocracy versus democracy. Do you want these decisions in the hands of people who are experts and who are somehow sworn or legally bound to do what's ever in the best interest of the state, or the government, or elected them, or appointed them? I don't know it depends sort of what polity you're in at that point, versus democracy. Democracy is not always good. There's such a thing as tyranny of the majority, if 75% of people are saying yes to this thing, and it really screws over the other 25%, it's bad. Democracy, obviously can create wonderful political systems and representative government, it can also go the other direction. Democracy is the starting point for liberal democracy, it's also the starting point for fascism. So, that that feels tricky.

Garry Golden:

It is without a doubt the most complicated piece of the whole Cardano picture. You have to imagine, let's go out 10, 15 years Cardano is a trillion dollar network. The amount of value inside the network that provides liquidity to all these different players is a trillion or \$2 trillion. And they want to change that protocol. Well, there are going to be sides of that coin, for people to stand on. So, it won't be perfect, it will be messy. But I do believe that the ability to change the system is more important than being just tied to something that was created in a world that may have already changed. Right?

Jacob Shapiro:

Yes. If you're just sticking with what's already there, because it's there, you're a little more than a fundamentalist. And that's not going to work.

Garry Golden:

Yeah. So, it will be messy.

Jacob Shapiro:

I know, we're running up on time, but I have two more things I want to hit with you. And in some ways, these are devil's advocate things because I see the promise of Cardano and I also see some of the problems. And I want to kind of draw both of those things out of you. The first though is, what is Cardano doing in Ethiopia and why should people care?



Garry Golden:

Yeah. So, Cardano, as a community has largely embraced this idea of a Pan-African strategy. So, it's not a belief of strategy held by everybody, but it is certainly part of the larger whole. Cardano again, is integrating the cryptocurrencies economic identity and governance. And when you look at places like Ethiopia, Nigeria, Ghana, Senegal, the deficits that exist for individuals within those environments, is not simply currency based. Like there's a deficit in their ability to have economic identity, permanent records, do you own this land? Health records, things that nature, business ownership records. So, what Cardano is doing is it's trying to work with governments across Africa, most notably in Ethiopia to onboard millions of people into Cardano economic identity platform, which is called PRISM.

Garry Golden:

And then use that onboarding of economic identity based off of this PRISM identity system, to then provide everyone with a wallet that they can then use to have, and store, and trade ADA. So, we don't know exactly how Cardano is going to unfold in Africa. But I think that the expectation is that it will be initially used as a foundation for supply chains. So, if you're looking at farmers in Ethiopia that are generating coffee, and that in the world today, there is a premium for coffee that's developed using sustainable practices, or developed by a small farmer versus a large farmer. You can use Cardano to authenticate the origin of that coffee. And you can use Cardano to bring true price information to the farmer. And you can use Cardano to settle all the supply chain financing requirements from the beginning to the end. And there are people that believe that Cardano first play in Africa is going to be supporting supply chains that are built on top of the economic identity platform.

Jacob Shapiro:

And this is where I mean, investment, money, currency, all of that is sort of tangentially related or depends if I have a financial or investment climate client. It's a super big deal. And they want to talk about politics and geopolitics. But this use case is actually the one where it starts to really traipse on where I think of myself as somewhat of an expert. And it makes me nervous, because on the one hand, I can absolutely, and Ethiopia is a great example. I love that Cardano chose Ethiopia because it shows the best and worst of this. It's a noble sentiment to try and get a community that is mostly unbanked, banked to give Ethiopian coffee farmers or whoever it is control over their own money and a sort of independence from vicissitudes of foreigners or their own government. There's a real empowerment aspect to that.

Jacob Shapiro:

There's also a flip side though, because it's a partnership with the Ethiopian government. And this Ethiopian government has dreams of a much greater and more unified Ethiopia. That sounds good theoretically but in practice, I mean, we just had a mini civil war in Ethiopia because the Tigray region didn't like what the central government was doing. Central government sent in tanks, and bombed them and put them into submission. And Ethiopia is an incredibly diverse country with lots of different ethnic groups, lots of different languages. And the leadership in Ethiopia right now led by Abiy Ahmed couple





years ago, won a Nobel Peace Prize before he was bombing his own people. He really does believe in that dream of a greater Ethiopia.

Jacob Shapiro:

And maybe it's an end's justify the means sort of thing. But you can also see in the use of Cardano, a way to extend that political desire. I mean, one of the things that they're talking about is it's a national identification system, based on some of Cardano technology or on the Cardano platform. And so that sounds good, it's good to have records. On the other hand, if the central government is controlling your identity in that way, and it has those overtly political goals, it can all sort of get uncomfortable. And especially when Charles goes on his YouTube channel and talks about it, I hear a lot about the good stuff. And I hear less about, "Hey, not everybody's desires are as noble as yours are, not everybody is intellectually pure." It's nice that you've got all the PhDs and experts in the room. But when you're going into the Ethiopian government, you're not necessarily dealing with people who have this vision of purity. So, I just throw that at you and wonder what you think.

Garry Golden:

I agree. Within the Cardano community and beyond, we don't spend enough time talking about how centralized authorities, and individuals and organizations may use cryptocurrencies in ways that were unimagined or unintended, during the ideological revolution birthing phase of crypto. So, at the end of the day, cryptocurrencies are used within cultures, they're used within government jurisdictions. And I don't believe that cryptocurrencies will just like the internet, be able to overcome culture and government control. It may make it harder, it may change things, but I don't believe that cryptocurrency will somehow be a magic antidote to that type of abuse. So, I agree with that analysis. And I think that we need to spend more time imagining how central authorities could abuse this potential.

Garry Golden:

And then just to take it into another level of what to watch out for. Another thing we hear a lot of talk around is the CBDC, the central bank, digital currencies. This is China, the U.S. creates a U.S. stable coin. I mentioned at the beginning of the conversation, this idea of programmability. I can program in incentives, I can program in behavior. So, let's say there's an individual that's receiving government assistance, and they receive that in the form of a cryptocurrency that's backed by the U.S. government. And they can only use that cryptocurrency to pay their rent, or only use that cryptocurrency to buy food, and they can't use it to do anything else. So, that's another example of how could unintended or unimaginable use cases emerge in the years ahead. And the crypto world doesn't think enough about those scenarios.

Jacob Shapiro:

Yeah. And to be clear, I'm not trying to make the perfect the enemy of the good. There's obviously no perfect solution here. I'm just pointing out that there does feel like a certain naivete that hasn't quite been crossed yet. And that if you're really going to get your hands dirty, and what you really want to do is make change, like real transformative structural change. We got to think about these things a little bit



more. Lastly, before we let you get out of here, I just wanted to ask about Charles Hoskinson in general because he played a role in Ethereum. He's obviously the brain behind Cardano, or the organizer behind it. He's the most charismatic and eloquent proselytizer of crypto that I've come across. I found him to be incredibly charismatic when I discovered him a couple months ago when I was watching his videos.

Jacob Shapiro:

And then after a couple months, I got a little uncomfortable. Because there's a little bit of, I don't know what it is, charisma cuts both ways. And I can even pinpoint the video that made me uncomfortable. He came out with a video when Rush Limbaugh died, talking about how he kind of liked Rush Limbaugh and throwing Limbaugh in the same category as people like Christopher Hitchens, who's a hero of mine. And I was kind of like, I'm not sure what's going on here, Charles. And I feel like there's you have some kind of magnetism and some kind of pull, and it's making me a little uncomfortable. And it's even in the sense that Cardano, was so tied to one person, it's the ultimate decentralized thing. And yet, there's this prophet out there talking about it, and people come and tell him how much they love him, and send him his gifts and stuff like that. Does it make you uncomfortable at all, either or is this just me?

Garry Golden:

Absolutely. If I had to put together a list of top risks to Cardano, the number one thing is Charles. So, Ethereum has Vitalik and a few other people, there's always going to be that founder culture. And for me, the only thing that we need to focus on right now in Cardano is outgrowing the origin story. What Cardano needs to grow into is a world where a young girl in Ethiopia uses ADA one day, and she has never even heard of Charles Hoskinson, that's the goal. So, Charles is indeed incredibly visionary and charismatic. And he's a human being and he's triggered by trolls. And he's triggered by the woke gone crazy people, and he's triggered by the black and white, no nuanced world that we live in.

Garry Golden:

And I cringe every time he has, AMA's asked me anything. Charles, when he's delivering the voice of Cardano like, update, nothing better. Charles in the AMA, asked me anything and I say, "Hey, Charles, what do you think about George Floyd?" I'm like, "No, don't say anything, Charles." And that video with Rush Limbaugh that soured many people. I think his argument is going to be like, look your crazy uncle, you still love that person. He's going to kind of argue a nuance thing. But Charles needs to be less vocal on issues that are not related to Cardano.

Jacob Shapiro:

Yeah. And well the part of it that made me most uncomfortable to was, people listen to Rush Limbaugh. I think some of the things Rush Limbaugh said and did were reprehensible. I don't think that's arguable. I mean, he had a segment where he would celebrate gay people getting aids in the '80s and '90s. He apologized for that afterwards, credit to him, and he built up his own image after that. But there are a lot of problems with wrestling, but we can talk about them. There's nuance there, and I'm happy to talk about it. But he seemed to land on this place that Rush Limbaugh was a self-made man and he got to where he was going, just doing it his own way.



Jacob Shapiro:

And it just felt like this kind of, one you could sort of feel that he liked that narrative of being that self-made of creating some kind of empire out of nothing. And I guess, I'm also reading The House of Morgan right now, which is Ron Chernow book that maybe everybody's obsessed with Hamilton. This House of Morgan book is unbelievable and so good. But it gives you a front row seat to the Rockefeller's, and the Carnegie's, and the Morgan's and all these robber barons that are running around the United States in the 1890s. And they sort of talked the same way, they believe their own self-importance and built these monuments of wealth to themselves that are still around today. And there was just a whiff of that made me think twice it's there.

Garry Golden:

It's there. And Charles is a big fan of Elon Musk, who is someone that I really struggle to embrace. And I think Elon is full of faults and it's a house of cards but Charles thinks that Elon is just the greatest thing. Look for me Charles Hoskinson is someone who is human, he has faults. I do not agree with everything that he says but I believe I share in his vision. I am grateful for all of his work in assembling this team. And look people have left his company but not really, like the core team is still there. And again, I want to outgrow Charles Hoskinson, and if Charles was sitting in front of me, I would say it, and I'm sure he would look at me and he would clap. Because Charles has an ego like every one of us, but I truly believe that for Charles, he wants to build Cardano, turn it over to the community, and then go live on his ranch in Wyoming.

Jacob Shapiro:

And to be fair, I doubt he will listen to this. But I hope if he does, I would also say this to his face too, if I was lucky enough to be sitting in a room with him. His vision and Cardano's vision it's the whole reason I wanted to have you on the podcast to talk about because it really is compelling and it's very different. It's a vision of a different world.

Garry Golden:

Yeah. And if we were in the front row at the beginning of other Steve Jobs. Most of these leaders have pretty serious faults. And Steve Jobs wasn't around in the age of asked me anything's. Charles puts himself out there on these shows, and it's like, well, that's as part of the world. But we're very polarized society and I think it's a huge risk. I would love to see a Cardano project and Cardano community there's more voices that are shared. And I think that's coming, for sure. Last night, we were just on a session with a group of individuals from WADA, which is the West Africa Decentralized Alliance. And these are people that are part of the African diaspora, they're on the ground and they live in Africa. And they are a voice globally for the Cardano community. So, my hope is that decentralized Ethos grows genuinely.

Jacob Shapiro:

Yep. And that it can be used to empower people rather than persons. I guess is the right thing to say.

Garry Golden:



Yeah. Absolutely.

Jacob Shapiro:

Garry, I know you've got to go. And thank you for being so generous with your time. We super appreciate it. Hopefully you'll come back on soon, I hope.

Garry Golden:

Yeah, let's do it. Take care. Thank you, Jacob.

Jacob Shapiro:

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