The PODfolio Podcast – Season 2, Episode 6: Crypto – not just price speculation and ape pictures

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JUSTIN YANG: And once you have that control and ownership, suddenly this token looks a lot more like a share in the equity, and you can then value it based on that.
SPEAKER: Welcome to The PODfolio, WTW's investment podcast series aimed at institutional investors, industry professionals, and enthusiasts alike.

LOK MA: Hello and welcome. You're listening to The PODfolio investment podcast with me, your host, Lok Ma. Blockchains, crypto, Bitcoins, NFTs or Non-Fungible Tokens. These are all the things we'll be talking about today. And mostly, we're going to focus on what on Earth these things are, how they work at a high level, and only lightly touch on the pros and cons of these digital assets as an investment opportunity.
With me are my two non-fungible guests from our research team. First of all, Justin Yang, who specializes in alternative credit and private credit strategies. Thanks for coming.
JUSTIN YANG: Thank you for having me here.
LOK MA: And we also have Simon Legrand-Green who specializes in liquid diversifying strategies and especially hedge funds. A warm welcome to you too.
SIMON LEGRAND-GREEN: Thank you very much for having me. Great to be here.
LOK MA: And just to set the expectations for our listeners, this conversation is more, what are these digital assets? Rather than going into lots and lots of jargon and trying to be 100% technically robust and accurate in how we describe those. So we're going to talk about two main categories of digital assets, the cryptocurrencies and the crypto tokens.
So let's do the currency first. Let's start with you, Simon, and with this idea of a blockchain, which is a type of newish technology, a way of calculating recording information. So Simon, how does a blockchain work?
SIMON LEGRAND-GREEN: Great, yes. So a blockchain is a new type of technology which is based on databases. Historically, database technology relies on one central master version, which is updated by any of the users. However, this is vulnerable to accidental historical changes, and so the blockchain technology is a solution to that.
Within the technology, the idea is that all users have their own copies of the same database, and all of these are updated simultaneously, subject to at least half the users agreeing that none of the historical records have maliciously or accidentally being updated.
LOK MA: One analogy that I've come across for a blockchain is it's a bit like a Google document that lives online. In other words, it's a file that many people have access to over the internet, and you can edit the content on it. And in this case, you're using the technology, as you say, to record financial transactions, who owns what.

So the transparency that gives you, being able to see what's happening is, of course, what stops people from being able to cheat and pretend to have a billion bitcoins or whatever. So that's kind of blockchain technology. But of course, the term that everyone would have come across is Bitcoin. So how is that related?

SIMON LEGRAND-GREEN: Bitcoin, slightly confusingly, is the name of a blockchain and also a cryptocurrency. This was initially thought up by a mysterious figure called Satoshi Nakamoto back in 2008.

LOK MA: What a name.

SIMON LEGRAND-GREEN: Yeah. [LAUGHS] An alias, not a name. But the idea is in order to update all of these copies of the database, computer power is required. And in order to incentivize people to use their computer power to update these databases, a reward needs to be given. And in this case, a Bitcoin or a portion of a Bitcoin.

Now if I want to-- if I want an update done to the database, I have to pay in Bitcoin in order for somebody to do that update. And generally, the first source I can go to in order to get such Bitcoin is people who have historically provided the computing power to update the databases. Given the price volatility of Bitcoin, there's also a very large secondary market for this, for speculators who come in and interact with either the people who want the updates or the people who have historically done the updates, or even interact with each other.

LOK MA: I think you're alluding to it, this thing in the headlines about all this energy being used to mine the new bitcoins. Apparently, it's a practice that burns through more electricity than the whole country of Finland, or something. So what is the process of mining, and why is it using up so much energy?

SIMON LEGRAND-GREEN: Yeah. So mining is the technical name that's given to the updating of all of these databases using the computer power. There's an additional thing that's required, which is to solve what's called a cryptographic puzzle. So to you and me, a difficult mathematical puzzle, but I'm just throwing that out there to give people the idea of where the name cryptocurrency comes from.

LOK MA: Yeah.

SIMON LEGRAND-GREEN: So in order to solve these cryptographic puzzles, there is a lot of computing power that's required. There's computing power required from the servers. But also, in order to make these servers run optimally, normally they have to be run at a very cool temperature, which also requires a lot of energy to cool the room. But also, let's not forget that each of these components requires some form of power in order to produce them.

There's two other comments I'd like to make around power if I can. So the first one is that as the rewards for doing the mining increases, so the value of Bitcoin increases, so by Economics 101, people are incentivized to come into the mining industry. And thus, more computing power and more energy is used in the competition to do the mining.

Further, a lot of the blockchains themselves have some sort of response function where the higher the computing power being used to mine the network, the harder the problems become. The idea behind this is to make sure that the updates to the blockchains are regular. But the obvious secondary impact is that that increases the power needed to do so.

LOK MA: So the people who help maintain the system by making these updates, there's a reward for them. But because for each update you can only reward one person, they then create this arbitrary

puzzle, which I think is like a number guessing game of sorts, just so that they have only one person who gets a reward.

And you know, that ends up burning through so much energy, which seems to me to be a bit disproportionate to the original goal of verifying these kind of transactions, and it doesn't sound to me like it's bringing a lot of obvious benefits to the wider world, shall we say. So I'm not sure if that's what Mr. Nakamoto really meant to happen. But of course, he's not around to answer that question.

So moving over to you, Justin, let's talk about the wider pros and cons of cryptocurrencies. And when we're talking about crypto, Bitcoin, obviously it's the prime example, but there are various other varieties. Our listeners may have also come across Ethereum or Dogecoin. Talk about the pros and cons.

So first of all, Justin, why is something like Bitcoin useful? Why might people prefer using, say, a Bitcoin to buy and sell things over a traditional bank transaction?

JUSTIN YANG: Yeah, thanks. That's a very good question, Lok. And if I'm going to be honest, if people had a choice between Bitcoin and a traditional bank transaction, chances are they would definitely 100% prefer a traditional bank transaction.

And the reason for saying that is because getting a Bitcoin transaction is actually expensive. So sending Bitcoin from one person to the other. Bank transaction, usually free. Bitcoin, you need to pay someone to go mine a Bitcoin or if in Ethereum, you'd pay some gas fees. There is some friction involved in actually transacting through the blockchain.

If people had a choice, I actually think the vast number of people would prefer bank transactions over Bitcoin. But we tend to forget that a lot of people don't actually have that choice.

So if you think about people living in third world countries who are extremely under-banked, when you open a bank account the UK, for example, you need something like a home address. You need proof of identification. We take those things for granted, because in a lot of countries, that stuff is hard to come by, and they may not necessarily be able to have access to a physical bank branch or be able to provide the right documentation to open a bank account.

In those instances, Bitcoin suddenly becomes a very, very viable alternative in countries where they don't trust the banking system, for example, or there are banking institutions that have failed previously, or a banking system generally deals in very volatile currencies anyway. Suddenly, something like a stablecoin becomes a lot more interesting to transact in rather than traditional fiat currencies in those countries.

I think finally as well, the other general use case for Bitcoin that has been quite advantageous is remittances. So cross-border transactions. Those are actually where things like Bitcoin suddenly become a lot more attractive, because it's one system, one platform.

Whilst remittances do seem seamless between developed market countries, if you're sending currencies across to less developed countries, I guess, it can get quite complicated. You need to have a bank account in one country. It needs to go from one clearing bank to another clearing bank, and then you have to have another bank account in another country. And that actually suddenly becomes much more complicated than actually transacting through just a blockchain network.

LOK MA: So the cases, which, by the way, I wasn't aware of some of those things that you said. So I mean, it sounds to me like the main advantages are banking isn't always available, or in some places kind of trustworthy. But also, this advantage of cross-border transactions. So kind of learned something new. So I can see those are advantages to the user.

But as you can imagine, new technology, very often a kind of double-edged sword. So let's talk about some of the murkier aspects of cryptocurrencies as well. Staying with you, Justin, I mean, I get the point about sometimes that is the only thing available. In a wider sense, is it really a kind of good thing for the world and wider society for lots of people to have a way of buying and selling stuff without going through a bank?

JUSTIN YANG: In a utopian world, technologically speaking, this is definitely a step forward. It's an improvement. Going back to what you talked about in terms of technology, I feel like with every technology, there's a potential for it to be used good and bad. And technology is usually neutral. It's how you use it, and the frameworks and the guardrails you put around it that make a technology either good or bad.

So let's take a step back and even think about the internet. The internet allowed people to have free speech, to publish anything they wanted to. Then that was all good stuff. People started sharing news and information, and things like Wikipedia comes up.

But then you have the dark side of the internet as well. You have things that are illegal. And let's not mention them here, but there are a lot of things that happen on the internet that are probably unsavory. But we over the years have come up with regulations and controls and frameworks around them in order to control that.

I think the same thing is true about blockchain and Bitcoin as technology. In and of itself, it's an improvement in the way we do things. And there will be good use cases and there'll be bad use cases. I think the regulation and the control for some of the frameworks to make sure that they are used for good are still developing. But I have no doubt that eventually, it will get to a point where it will do more good than harm, and it'll be something that will be advantageous for society as a whole.

LOK MA: Yeah, thank you. And I absolutely agree with you, drawing that link between Bitcoin and blockchain and the internet, kind of all the amazing things you could do. But equally you look at some people and you think, that's how you choose to use it.

JUSTIN YANG: As an investment professional, I'd be remiss to say that allowing people to buy and sell Bitcoin that's a very volatile asset without much education, which a lot of people can do today, whether that is a good thing or a bad thing. A lot of financial literature has historically said that it is a bad thing. Now that's not specific investment advice, but having lots of retail investors being able to transact in a very volatile asset I would say would probably be on the-- closer to gambling than it is to investing.

LOK MA: I would agree as well. Park that thought, Justin. We're going to come back to that, kind of these digital assets in an investment class. So we've talked about blockchain technology, a bit like Google Docs. I think more precisely, a shared ledger for recording financial transactions. We've talked about how the technology is used to develop things like Bitcoin, other things. We've also touched on pros and cons. Let's now move to the other family of digital assets, the crypto tokens. So Simon, crypto tokens and especially NFTs, these non-fungible tokens-- and by the way, non-fungible means not interchangeable. I have no shame in saying that I had to look that one up.

We have, of course, all heard about people paying extraordinary amounts of money, tens of millions of dollars for digital pictures of kittens and apes and stuff. So Simon, what on Earth is going on?

SIMON LEGRAND-GREEN: I think the first thing to say is that crypto tokens is just a catch-all term for everything that's not a cryptocurrency. Most of these tokens live on the Ethereum blockchain at the moment, which I know you mentioned earlier, Lok.

But what the tokens actually are can range from something as simple as an ownership record to something that can be fairly complex around some kind of rules-based program. NFTs in particular, as you've specified, are non-fungible so unlike something like Bitcoin where one Bitcoin is the same as any other Bitcoin, every NFT is unique.

The most mainstream ones, as you've said, are things like digital images of apes or sports highlights. But NFTs have the potential to disrupt markets such as the ticketing market where every ticket to an event is a unique thing and could give you access to different areas of the event. But also, for more utility-type things such as medical records.

LOK MA: So when you say ticket to a concert, I completely get that. It's proof that I've paid for access to something. Medical records, completely get that. There's a digital form where that could be helpful.

It's when it comes to the value or maybe the speculative value of some of these things, and the prime example being artwork, that I get kind of lost in the logic of it. So can I just ask the obvious, stupid question? I can, if I want to, print off a picture of the Mona Lisa or something, or buy a poster and hang it in my house.

And of course, it'll never be quite as good as the real thing. You don't get the exact colors. You don't see the undulations of the brush strokes, and so on.

With something like a piece of digital art, I mean, let's say I am massively attracted to a particular cartoon picture of an ape. Can I not just take a download or a screenshot of the thing and have pretty much an exact replica? So Justin, why would anyone pay to be the-- I guess the official owner of something that anyone else can essentially enjoy in a similar way?

JUSTIN YANG: It definitely does start there in terms of just having that picture and having just the ownership, the ability to say, this is the piece I own, and being able to point to an immutable record that you actually own that thing.

But I think just stopping there kind of doesn't do the NFTs justice. And there are a lot of other use cases for that. So you might think it's a picture of an ape. OK, let's take Bored Apes to start with, and that's a picture of an ape.

Then we've now seen third-party apps starting to integrate an Ethereum platform. So Twitter and Instagram have both launched pilot programs and said they will have-- you know how we have the little blue checkbox beside Twitter? Now you can use NFTs that are verified on the blockchain and use those avatars as your pictures. That's one thing where you can have a-- saying, only the person who's verified on a blockchain who owns this thing can now start interacting with these private apps.

Now these don't have to stop at avatars. These can be toys and particular perks in games where we start to see a little bit more of this metaverse and Web3 thing come in where you start trying to interact with more and more pieces that are unique within the blockchain.

But as we start to see sort of third-party integration of apps with these NFTs, it gives it a bit more value than just a particular picture you can print and download. And it goes back to what Simon was saying earlier. It gives you a bit more utility.

So Bored Apes, so that's just a picture, right? If you actually have a Bored Ape or NFT, you can actually go onto a particular website. And if you connect your wallet to it and it verifies that you own a particular NFT, it gives you access to a forum or a community.

Now it sounds like you're buying [INAUDIBLE], and you are in a way. But access to something has a value, and access to the community has a value. So it's no different than joining a private golf club or a

country club. It is the same way, except this is digital. And that has value. What it is on the market today, that's debatable, but it has a value probably more than zero.

I mean, there are also other bits that can get built into NFTs. So there's this actually quite interesting one that's called Zero Zed Music, I believe. And it's actually a picture-- if you go into an app, it plays a music based on the elements that are stored within that picture.

Now you can't actually use the app if you don't own the NFT, so you have to own the NFT before you can actually hear the music that comes out of it. And so it's an interesting implementation of the ownership thing where only the owner of the NFT can benefit.

Other things that have been built into NFTs that are interesting are, for example, royalty streams. So for example, once you do sell your particular creation, you can always write into code that every time it gets transacted, the original owner or creator does benefit a little bit from it. And that royalty stream can then be sold on for other things, so there is some value in that too.

I think taking a step back, what is actually means is that NFTs don't just stop at pictures, but there's a lot of additional code and logic and possibilities that has value that can be created into multiple different use cases that an investor may be interested in.

LOK MA: So thank you both for that explanation. So from what you both said, I'm getting the impression that NFTs equals pictures of slightly offbeat things is a bit of a red herring. I think if you read the newspapers, NFTs equals people paying for pictures of Bored Apes and, you know, cats and stuff.

It sounds like that might be a kind of early application, almost a slightly gimmicky thing. And that actually, when you talk about using it as proof of access or paid for access for music, whatever, a specific area of a website, interactions with other people, et cetera, et cetera, in a forum, I can understand that's got value, and that's something that is potentially tradable. So that was extremely helpful.

SIMON LEGRAND-GREEN: Yeah. And I think it's very similar to the idea of everybody kind of jumping on the idea of, what is Bitcoin? And kind of projecting from that, what is the whole ecosystem? Rather than understanding all the potential and all the nuances within the space.

LOK MA: Wow. So how are our listeners doing? I hope you're still with us and you're finding these explanations are useful. Let's now move on to the investment case quickly for these digital assets. And I do feel like things are a bit different with the cryptocurrencies and tokens compared to more traditional asset classes.

And just to be clear, I don't think it's our job here to tell people on a podcast, as you say, Justin, whether crypto is a good investment or not. I think what we're aiming for is to point to some things to think about and be aware of.

So let's do currencies first. Justin, how much is one Bitcoin, say, currently worth in dollars, I guess? And is investing-- to put you on the spot there. And is investing in it similar to holding any currency and hoping it will appreciate?

JUSTIN YANG: Yeah. I mean, the first question, it depends-- well, we have to timestamp exactly when-- [LAUGHS] when we say it, because it could be worth anywhere between $0 and $100,000 by the time this podcast comes out. But I think it's about $30,000 at the moment, having taken a big hit in the last couple of weeks.

But the important question is, I guess, is it similar to investing in any other currency and hoping it will appreciate? I think that is one way to think about it where you think about it as a currency and you try and

value it based on how much it gets adopted, the network that it has, and the amount of people that have bought into the network.

So the thing about cryptocurrencies, or any kind of currency really, is that it's only really valuable if somebody else thinks it's valuable. And so trying to use a similar kind of currency framework to think about the network and how it's being adopted could be helpful. And hopefully, as it gets wider adoption and use in more applications and transacted more, it becomes more valuable.

There's another aspect to think about Bitcoin as well in thinking about that as a commodity. So as Simon mentioned earlier, there is supply-demand dynamics, which are very similar to how commodities actually work as well.

Cryptocurrencies do have mechanisms to burn the actual cryptocurrency itself over time to limit supply. And supply actually has a relationship with how many people are using a network. There is ability to model the supply and demand of the actual cryptocurrency, just like you would any other commodity, and try to put a value on that.

Either way, though, it is incredibly difficult to pin down a number on cryptocurrencies at the moment. And a lot of it will be driven by technicals and flow, given today's current climate. But I'm sure that if it becomes a mature asset class, you know, methodologies like what we've just mentioned could become more useful and it would be less down to technicals and flows.

LOK MA: And then similarly for kind of NFTs, whether that's a painting or whether that's something else like proof of ownership or a right of access to something, is that like buying, I guess, a permit and hoping it appreciates in value in some way?

JUSTIN YANG: Holding it and waiting for it to appreciate is, I guess, one way of getting returns from the asset class. With NFTs, actually, or with tokens in general, there's actually multiple aspects to potentially get cash flows from it.

So as we talked about earlier in terms of royalties, that is a cash flow stream that could potentially come from an NFT. There are other things that can come from tokens. For example, some tokens represent ownership in specific real assets like real estate developments or organizations. So they're actually tokens that are backed by organizations, which allows you to vote for it. And once you have that control and ownership, suddenly this token looks a lot more like a share in the equity, and you can then value it based on that.

So there are other alternative ways to think about tokens. And then obviously, there are also very simple investment strategies with tokens that will get you some interest on it.

So there's an area that is up and coming within the crypto space called DeFi. That stands for Decentralized Finance. And one of the strategies there is being able to lend out your tokens. So if you own a certain set of tokens and someone else wants to borrow it, you are able to lend these tokens out and gain interest on them.

So there are other ways to think about it that we'll be able to use similar analogies from finance and use that to value it. But I would say that the volatility relative to fiat currencies at the moment is still incredibly high relative to any other asset class.

And as an institution, as pension fund, you can either take that volatility and adjust that and hold a small portion of that in your portfolio, and that's how you could probably risk adjust it. Or you can wait for that asset class to mature as it will do, and then invest in it later.

LOK MA: And for me, I mean, something new like crypto always brings out this tension between two opposing arguments. On the one hand, there's the argument that you should only invest in things that you understand well. On the other hand, I will quote again from Robert Arnott who says, "In investing, what is comfortable is rarely profitable." So that's an argument for going into these less mainstream areas partly as a diversifying strategy, appropriately sized, as you say, Justin.

So I think if we want to square this circle, we can aim to understand the overarching premise of the asset class along the lines that we've just talked about. And if we do decide to invest, we're better off doing it through people with the right expertise. So does that, Simon, for you point towards either hiring specialist managers dealing in crypto, or similarly managers who can look at crypto as part of a wider multi-asset portfolio?

SIMON LEGRAND-GREEN: I would make the same kind of argument here for any asset class. There's a case to be made in most asset classes. Cryptocurrencies in particular, there's so much depth. There's so much breadth. There's so much nuance within the space that if you want to get fully in, you should find a specialist manager who spends all of their time, all of their working hours looking at the space and trying to understand it to try and find the best pockets of opportunity within it.

However, there's also a way of just kind of dipping your toe in and kind of investing in a solution which offers a broad range of assets, which may include cryptocurrencies. Now this probably has the added benefit that given the volatility of a lot of these crypto assets, re-balancing is a key consideration. And you essentially outsource that re-balancing to the fund manager within this multi-asset solution that you've invested in.

LOK MA: And of course, nowadays, investing is not just about risk and return. We have this important third dimension now of sustainability as well. We've already touched on this practice of mining for the new coins and how that burns up lots and lots of energy. Are there other ESG-type considerations for digital assets as well?

SIMON LEGRAND-GREEN: Yes. There's lots to think about in considering ESG in cryptocurrencies. Obviously, power consumption, which we've mentioned, we've talked a little bit about earlier. There's a bit of a counter argument that says that as the technology's being developed, there is some emphasis on finding more efficient or less power-driven ways of mining the assets.

However, to the point that you made earlier, Lok, there's still a question of whether the societal benefits of using the power within this technology or using it for other things is the right thing to do.

Something else we've touched on a bit is around dodgy actors and dodgy money in the space. Now given the irrefutability of the transactions within a blockchain, actually there have been some cases recently where investigators have been able to trace the flow of this through the ecosystem.

And actually, as you get increasing-- it's becoming increasingly difficult to anonymously move money in and out of the ecosystem. So it's becoming harder to do this, but that's not to say that there isn't still dirty money in it.

JUSTIN YANG: I mean, that is a really good point, Simon, that people think that blockchain is anonymous, but it actually isn't. It's only anonymous if you never, ever convert it into real-life things. As soon as you change fiat money into digital money or vice versa at a bank or at a financial institution, that doesn't become anonymous anymore.

The blockchain is actually fully transparent, and all transactions are fully available for everyone to see. And so by going to Coinbase or Binance and buying some stuff and then sending it to another blockchain, immediately it comes-- it's no longer anonymous, and it's actually incredibly transparent.

SIMON LEGRAND-GREEN: I think also we can't talk about cryptocurrencies without mentioning regulation. Don't want to get into all the details of it, but regulation, depending on how it comes in, could be a positive or a negative for the space.

And then there are a couple of positives that I want to flag. As we alluded to earlier, this idea of banking the unbanked, allowing people who have access to a sMatphone but not to the traditional finance sector, they should be able to access lots more financial products should they want them, should it be right for them via something like DeFi on a blockchain.

And there's the transparency and the irrefutability point. We touched on it a bit earlier. But if you're thinking about structuring organizations around blockchains, then you get much clearer decision making, much clearer accountability for the running of the company.

I guess just in sumMay, where most people get to on this is that most of the negatives are measurable and are apparent today, whereas the potential positives are just out there, potential things that can happen in the future. And therefore, you have to make decisions on your own as to how you balance between those two things.

LOK MA: Sounds like a lot of the principles we use to think about investments will apply here. It's just about understanding them, but applying them in a kind of first principles way. [INAUDIBLE].

Thank you so much for the both of you. And let's finish with some predictions, please, and maybe your views on how blockchain technology can develop. Will crypto be an even bigger thing in the future, or is it more like a bubble that's about to burst? Any other predictions. Let's go to you first, Justin. Where do we go from here?

JUSTIN YANG: [LAUGHS] I would say that we're still extremely early in actually figuring out what blockchain, crypto, and all this means. No one can be sure about what it would look like in the future, but what we are probably sure of is that it will look like nothing that it is today. [LAUGHS] It's going to evolve and it's going to look very different.

You know, it's kind of like internet in the early days where no one could actually envision what people use the internet for today. But what we can be sure of is that given the amount of financial and human capital that's been thrown in this area and this problem, it is going to evolve into something that is going to be useful. It will definitely be a very important part of technology in the future.

LOK MA: Right. Thank you for coming on to the show, Justin.

JUSTIN YANG: Thank you very much.

LOK MA: And also Simon, final thoughts and predictions from you, please.

SIMON LEGRAND-GREEN: My overriding thought here is that we've just scratched the surface here. There's so much more we could do. Look, we could do a whole podcast series just on this topic probably. So I think the one thing that we haven't touched on but is an interesting potential for the technology is stuff like digital currencies, whether that's issued by central banks as we know them or whether they are issued as part of independent, decentralized organizations.

I agree, we're at an early stage in the technology. It is very interesting and possibly unique that everybody has access to the technology in a liquid way.

LOK MA: Thank you very much, and thank you for coming on to the show as well, Simon.

SIMON LEGRAND-GREEN: Yeah, thank you very much for having me. It's been great.
LOK MA: And of course, a thank you to our listeners as well for tuning in. And until next time, do take care.
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