

Do I Want To Invest In Other Crypto Assets Besides Bitcoin?



I'm a 'kinda/sorta' Bitcoin maxi who recently dedicated some time trying to take an objective look at alternative crypto assets. This is what I came up with.

### **My Current Status**

I've invested a good deal of money in Bitcoin over the years. I've spent a great deal of time researching it and developing the confidence to support my investment. It has been about as much as my little brain could do to keep up with everything going on in this space. I've researched other crypto assets at times over the years. I've never had anything pique my interest enough to make me want to do too much research or allocate any capital to it, however.

Bitcoin has been my primary position within crypto. It is the largest single asset that I own in my investment portfolio. It is close to becoming the largest asset class in my portfolio. If it does what I believe it has the potential to do it will pass and then dwarf all other assets in my portfolio. I have built my position and I will not be selling any of it any time soon (and potentially ever).

### **My Current Goal**

I might be considered a Bitcoin Maximalist. Bitcoin Maximalists believe that Bitcoin, which is the world's most popular cryptocurrency with the largest market capitalization, is the only digital asset that will be needed in the future. Maximalists believe that all other digital currencies are inferior to Bitcoin.

I'd argue that I'm not a Bitcoin Maximalist. I own only Bitcoin. I do believe it has a significant network effect in place which is hugely important in this game. I also believe it is delivering on its mission perfectly. That said I'm not positive, as a Maximalist would be, that it will be the only crypto asset that will ever be needed. I've always thought there are other things out there that are interesting and potentially useful. I just haven't had the time/energy to invest in them enough to determine which

deserves any of my hard-earned capital allocated to it. That said, there are a ton (potentially 1,000s) of crypto assets that are complete scams. I think the majority are, in fact, scams.

My primary goal right now is to dedicate some time to learn more. I recently decided I needed to take a harder look at other crypto assets mainly to learn more about them in general. I understand this space will be important in the future and I want to make sure I understand what everything means at a high level. I know I don't know enough right now about everything. I have blind spots and I don't want to have blind spots.

A secondary goal is I might learn that I want to allocate some capital to some of these other crypto assets. I doubt seriously I'd reallocate any of my existing Bitcoin position to anything else. I might, however, allocate some new capital or sell another asset class to reallocate more capital to the crypto asset space.

### **Crypto Use Cases**

The crypto asset world is diverse and is the wild west. It is moving faster than any regulations can keep up with. I'd imagine this will continue for some time too. That said, just because something exists doesn't mean it is 1) good and 2) worth allocating capital towards. Questions abound:

Are Use Cases Real? - It remains to be seen if any/all of this 'new functionality' needs to run on a blockchain. Certainly, Bitcoin requires a blockchain as an instantly verifiable, decentralized, immutable ledger. Perhaps most of this other new functionality could just as easily run on a centralized protocol (ie database) without using a blockchain at all. This is doubtful, however, so the idea of 'decentralized' blockchains is worthy of consideration. Ethereum (ETH), Avalanche (AVAX), Solana (SOL), Terra (LUNA) are all examples of these protocols. Ethereum has the largest network effect at the moment. It cannot scale, however, at the time which is problematic. Ethereum 2.0 (whatever that winds up being) is required for this protocol to scale/survive/win. If they can resolve this soon AND the world determines that their 'decentralized' version of the protocol is necessary for any/all of this they will be an important force (and likely very valuable). I believe a lot of what is going on in the crypto space today is proof of concept-type activities. Much of what is happening is not a 'real' use case. I wouldn't allocate capital to it except that I believe there will be 'real' use cases evolving out of the framework/protocols being built now. For example, creating a .jpg of a monkey and selling the NFT of it for millions of dollars is asinine. But the concept of being able to 'digitally own' the rights to a particular 'asset' makes complete sense. Whether or not that digital ownership requires a decentralized blockchain is another story entirely, however.

Is This Stuff Really Decentralized? - Most of this is decentralized in name only (DINO or DinoFi). If a protocol has an owner (management team, developer team, pre-mine, centralized controlling body) and a domicile (headquarters, location, servers, centralized node structure) it is not decentralized. A fairly new concept called a DAO (Decentralized Autonomous Organization) has developed recently. A DAO is a community-led entity with no central authority. It is fully autonomous and transparent: smart contracts lay the foundational rules, execute the agreed-upon decisions, and at any point, proposals, voting, and even the very code itself can be publicly audited. Perhaps that will be the right ticket to make something truly decentralized.

Is Decentralization Even Needed? - We might not need all these decentralized protocols/blockchains, we might just need a system (ie database) to do all this (and a centralized one will do just fine). I don't think that is the case, however. Decentralization makes sense in theory for many use cases. Regardless, do we need decentralized, blockchains for many of the use cases that exist today? I'm not sure. Even if we do need them, investments in these things are basically like betting on an early-stage VC company (many will be worthless and a few might prevail). Bitcoin is not like this, however. Its use case is to be a decentralized store of value. This valid use case plus having an operating decentralized protocol right now make it pretty unique. No other layer 1 can say that (valid use case/truly decentralized/fully functional). Some have unproven use cases, some are not really decentralized, some are not completely functional/final form. Some haven't even solved the legal issues that will allow them to exist going forward. I'm not aware of any that are as mature as the Bitcoin layer 1 protocol is today.

I've tried to list these from what I believe is the biggest opportunity to the smallest opportunity within crypto's total addressable market (TAM):

- **DEFI (MASSIVE)** – I think Decentralized Finance will be the biggest space out there and the one that disintegrates the existing financial system. The entire banking/brokerage system we have today gets loaded onto computers that run 24/7/365. An algorithm can programmatically borrow/invest money for you based on parameters it is fed...worldwide...day and night...while you go about life...with no middleman. Lending and borrowing in real-time provide yield and capital to those seeking either. Dematerializing the entire financial system into our pocket. I also think Bitcoin will be THE pristine collateral used on it (and might even be the protocol where it runs). DEFI might also run any/all protocols (ie across all protocols) and likely will. That said, I believe the Bitcoin protocol has the advantage (since that is where the pristine collateral already sits).
  - **"Decentralized" Exchanges (DEX)** – Things like Coinbase and Binance except decentralized. Imagine removing the broker, the exchange, and the clearinghouse in a traditional market and making it run almost instantly (with immediate clearance...no waiting many days for settlement). That is the goal with DEX. Uniswap, SushiSwap, Eurex are the current major players in DEX.
  - **Lending Protocols** – Current major players are MakerDAO, Aave, and Compound.
- **Remittances/Payments (MASSIVE)** – This is a massive opportunity. Being able to move money digitally in real-time anywhere on the planet. Bitcoin's (layer 1), Lightning Network (layer 2) probably wins this (might have already won it). But other competitors are building/running versions of this. I'm not sure how you compete with 'almost free and instant' built on the best store of value in human history (Bitcoin), however. I believe this is already game over as Bitcoin is already past the event horizon as the recognized winning store of value in the space (already over \$1 trillion in value). This \$1 trillion only hardens the network effect. As capital moves in, it will only gain steam, and will likely grow exponentially until it consumes whatever is there today.
  - **Alt Coins (Meh)** – There are non-blockchain-based (presumably centralized) coins that arise that facilitate money transfers. I'm not sure why anyone would desire these since: 1) they are centrally controlled (which means they can be changed), 2) when a superior alternative exists (both as SOV and transferability). I think Bitcoin has already won this race. I don't know why anyone would want to own a shitcoin?!?

- **Stable Coins (Interesting)** – I’m still noodling on this. I use these now for shorter-term savings (strictly to gain yield that doesn’t exist in the current fiat system). I’m not sure the way they attain the yield is legitimate/sustainable (trading alt coins against each other with leverage). Regardless, it can’t be worse than holding USD in a savings account earning .01% a year and being debased at 20% a year.
- **Central Bank Digital Currencies (CBDC) (No thanks)** – These will of course exist. I’m not sure how they fit in, although they will. I think they will ultimately drive adoption into the overall crypto ecosystem. Once people are familiar with the ecosystem, I think they opt out of the fiat system into a better alternative (ie Bitcoin).
- **Metaverse(s) (POTENTIALLY MASSIVE/FRAGMENTED)** – This will be a very interesting and potentially very large use case. I can imagine all kinds of ways this evolves and ultimately becomes massive. It will allow us to live in our subcultures; digitally. Facebook, for example, will be a sovereign state (in cyberspace). Everyone knows what the metaverse is, but everyone will give you a different definition. Regardless, it is when we spend more time in the online world than in the real world. Crypto will likely provide proven ownership in this digital world (see social tokens/NFTs).
- **Smart Contracts (LARGE/FRAGMENTED)** – These smart contracts allow you to operate on DEFI exchanges. This will also disintegrate (actually will build from scratch) a way to tokenize existing assets (like real estate) that are very inefficient today. I think there is huge value in these being decentralized and on a blockchain. I guess one or more of the protocols will work well for this. Owning a piece of the protocol (the layer 1) where these transactions might run will likely have enormous value (as the fees for facilitating these transactions flow to it giving it ‘monetary value’).
- **Tokenization (IMPORTANT/FRAGMENTED)** – The world will be tokenized allowing for ‘ownership/monetization’ of everything.
  - **Existing Assets** – The concept of taking existing assets that today are not digital and making them digital will have profound impacts. Being able to tokenize my house, or land, or some other asset and move them around in cyberspace in seconds is a worthwhile concept and important. I’m not sure how investable this is other than 1) owning these assets already and 2) owning the protocol (the layer 1) they will transact on (so you participate in the fees for this).
  - **Social Tokens** – Culture As An Investment (Part 1) – Everyone with a community will have a token (which will allow you to benefit from the communities you are a part of). This is interesting, but niche. In total it probably is a big market but it will be completely fragmented and likely uninvestable.
- **NFTs (IMPORTANT/FRAGMENTED)** – Culture As An Investment (Part 2) – I think Non-Fungible Tokens are much hyped even though there are very compelling use cases for it (like disintegrating existing music royalty frameworks, art ownership, etc.). Regardless this is a much smaller market than DEFI (since the current ‘collectibles’ market is much smaller). I think this is akin to my comic book collection. A collectible that is valuable (to me and some other people) but not everyone. If you roll up all the current collectible ‘markets’ on the planet and “NFT them” you’d potentially monetize the assets and make them fractionally tradable. This is not unimportant.

## **Other Major Considerations**

- Proof of Work (PoW) Vs. Proof of Stake (PoS) – In my opinion, the easiest way to differentiate between PoW and PoS is one can be shut down...the other cannot (likely DINO, decentralized in name only). Right now Bitcoin and Ethereum are the dominant PoW blockchains. Ethereum is transitioning to PoS, however. It is this author's opinion that PoS is just that a POS (a piece of poopie). This has been my reason up to now for not investing in ETH. I do not want centralized players determining my future (as would exist in a PoS framework). We have that now with our centrally managed financial system and it isn't working. PoW has stakeholders with power as well but there is a limit as to how much power they have and can wield. Ultimately, the miner network and the node network (and especially the node network) determine what happens with the protocol. Both of these groups coexist and are completely decentralized from the other group (and even within their groups). It is the ultimate form of governance. It literally cannot be shut down by anyone (without gaining control of the entire network...which is nearly impossible). Proof of Work is described by Michael Saylor as having 7 layers of security (Energy, Technology, Political, Financial, The Mining Network, Spatial, Temporal). These 7 layers continually evolve and the protocol evolves to use less energy and more technology. With Proof of Stake, none of this exists. No natural forces are making any Proof of Stake networks evolve (because many of the 7 layers of security do not exist in the same way).
  - Scalability – The question of how to scale a PoW system is the biggest one. Few argue that it is a superior solution for creating an immutable ledger. But figuring out how to scale the base layer as transaction volume increases is the age-old question. PoS is much better able to scale up but with tradeoffs on how immutable it remains. The common way to scale currently involves building in a layered system. Each layer of the stack can specialize and allow for additional necessary functionality and scale (while maintaining interoperation with the lower layers and relying on them to remain intact). This is much the way the original TCP/IP internet protocols work. As the usage rose and the network matured layers were built on top of it that utilized the base layer but left it unchanged and interoperable for all systems/functions. Many might argue that 'internet money' will work best following this same design because it requires us all to depend on an unchanging base layer (like Bitcoin). I buy into that argument.
  - Right now Ethereum has major weaknesses even as a Proof of Work chain. Currently, 2 miners manage 50% of all ETH hash rate. This is unlike the Bitcoin protocol and is due to its current architecture. It takes a lot of computing horsepower to run an Ethereum miner and Ethereum node (ie it doesn't currently scale which is leading to huge transactions fees and the need to convert to ETH 2.0 or some other solution). ETH 2.0 converting to Proof of Stake will eliminate the Proof of Work miners (and converts to a beacon chains with sharding) to scale the network. Ethereum has told their existing miners that they will be fired "in the future" (whenever the protocol is ready to convert fully over to ETH 2.0). "But don't worry guys just keep spending money on equipment to keep the network running." [paraphrased] I run a business and I have never told an employee I depend on that I was planning on firing them in ADVANCE?!?! I think my biggest question about all this transition that I don't understand is: Why will the new ETH 2.0 chain operators not want to take all the ETH 'money' for themselves? They are the ones running the network (which isn't cheap). Why would they want me to own/hold ETH? I'm not doing anything to help the cause?!? Regardless, even if they

don't decide to do that...they could! That possibility is all that matters to me. Ethereum has an open monetary policy (<https://docs.ethhub.io/ethereum-basics/monetary-policy/>). They've changed it over time. It is open, and anyone can review it BUT it can still be changed (and has been). To me, this ability for any player(s) to be able to decide to change the protocol (or block a change to the protocol) is the reason Proof of Stake is flawed. There was a pre-mine and just like with the Cantillon Effect those closest to the money benefit the most from it (this isn't me...or you...by the way). There are humans, or groups of humans, who can alter the protocol without much check and balance at all. That plus the massive conversion that must take place is a lot of uncertainty to price into any asset. My crypto crystal ball isn't good enough to make me feel all warm and fuzzy about that either.

- These Things Are Almost All Securities (Just Not Today) – Almost all of these crypto assets are securities and almost none of them are prepared to be regulated as securities. But, they are almost all ABOUT to be regulated as securities. There is a lot that goes along with being a security (reporting requirements on financials, balance sheet, insider holdings, etc). Crypto assets that cannot or will not adhere to securities laws will no longer trade on US-listed exchanges (on/off ramps). They will still be able to trade on DEFI/international ramps but what will the value be? My guess is significantly lower...significantly! The SEC has already said this is the case they simply haven't pulled the trigger on enforcement...yet. They are not going to allow 'crypto' to exist unless it is KYC/AML certified. Full stop! That's the rule. I don't make them, and may not like them but they are what they are. Bitcoin will be regulated as property/commodity (not a security) and the regulation is pretty well laid out already. It will change over time but should only be beneficial to the space (with increased clarity).
  - I think the regulatory stance on Bitcoin is clear. It is treated as property (an asset). This is not ideal in some cases but that is the way it stands at this time. The regulatory stance is becoming more clear by the day. As more and more institutions hold Bitcoin it will increase the network effect of the asset (and subsequently help drive regulation to mature further). This will rinse repeat over time and capital will continue to flow into the Bitcoin monetary network. This has already been happening. It will only continue (and probably at a much faster pace).
  - The regulatory stance on all other crypto assets is evolving. Early indications are showing that almost everything except Bitcoin will be regulated as a security. Thousands of crypto assets are in no way prepared for that. Most have no way to ever get in compliance with those laws. They will be removed from exchanges (no way to on/off ramp value from those assets). Sure they'll still be able to exist in the DEFI world since they "cannot be shut down" (potentially). But their value will be minimal (due to limited use cases) and there will be no way to move considerable sums of value in the real world. For example, I have some silver coins that no one on earth knows I have. They have value and I can use them to transact with other people who also value silver coins. But as soon as I try to move a large amount of them back into the existing financial system I am subject to reporting that will make me realize their value and pay taxes on their value. No institution will go near any of this with a 100-foot pole so those assets will disappear or require a holder to find a jurisdiction that is friendly to those assets. Good luck with that! It might exist but it will be small potatoes.

- Scams, Cash Grabs, Rug Pulls! Oh My! The space is filled with this kind of stuff. It is filled with influencers being paid to give out massive bias/disingenuous information. It is filled with these insiders standing up coins and dumping them on retail. This is unethical at the least and illegal at the worst. It is definitely securities fraud. If people are getting away with it now they better cover their tracks well because 1) they won't be able to continue doing it in the future and 2) their activities are recorded for all to see forever on 'the blockchain' (so if authorities ever want to find all the scammers they can pretty easily do it). Breaking securities law is not my cup of tea. Then there are the literal thieves who hack into these burgeoning assets and take it before the technology is mature. Bitcoin has an enormous value being stored and it has never been hacked. I'll stick with that protocol. Greed always leads to bad behavior and the world is a very greedy place where people will step over you to get what they want. You better be aware of where you are allocating your capital (and storing it) in this environment. People will come for it...mostly nefarious people but also, maybe, the authorities one day.
- Institutional Adoption – Capital, within the crypto space, will flow into the assets that are in line with the law of the land. KYC/AML will be required. Adherence to pertinent security laws will be required. The big money that will drive the asset class from \$2 trillion today to \$200 trillion in the future will not come from retail accounts with a few thousand bucks in them day trading fake dog coins on DEFI exchanges. It will come from institutions allocating capital to the market in the millions/billions of dollars range. These institutions will only move into assets that are well within the laws. That is the only thing they can legally invest in. Plenty in the Bitcoin space will talk about how privacy should allow a person to hold a valuable asset without any government knowing or interfering. They might be right about that. I might also agree with them (I do, by the way). Regardless, that is not how the financial system works today and is not how it will likely work in the future. Every war ever fought has been about taxes. If the crypto space wants to run free and not be held to pay taxes then they will have to fight a war. I don't see this happening. I'll pay my taxes that are due as long as I don't have a shadow tax on my store of value called inflation. That is the war that has already been won by Bitcoin and lost by the fiat currencies. That is enough, for now. Institutions will also see the value in this proposition and will move capital into Bitcoin (and continue to pay their taxes). Wait and see. If you don't believe me watch the value of the crypto asset space rise and watch the assets the institutions allocate their capital to be the assets that rise the most. The majority of institutional capital will flow into the legally compliant securities.
- Derivative Markets – The Bitcoin futures market was introduced in December 2017. In October 2021 Bitcoin ETFs arrived that are futures based. Perhaps if/when spot ETFs arrive some of the futures-based ETFs go away. But the futures market is here to stay (and institutional buyers prefer to have those since they know this world and require it). One major concern with a growing/mature derivative market is the ability for the 'paper' to outweigh the 'physical'. For example, the 'paper' Gold derivative market is 200-250x the size of the 'physical' gold market. Physical gold is hard to trade and settle. Naturally, it is easier to trade 'paper' gold. The problem, or conspiracy the gold bugs will tell you, is the much larger paper market can manipulate the price of the actual physical market. The gold bugs will tell you that the financial institutions have been manipulating the price of the physical metal market via the paper metal

market for decades. They are probably right too. What happens if 'they' do that with Bitcoin (and subsequently can control that market too)? Bitcoin is much easier to settle than gold, silver, and other commodities. Perhaps this ease of direct ownership and instantaneous settlement supplants the derivatives market of its power completely. But if the derivatives market grows to be many times larger than the Bitcoin spot market the same could happen to Bitcoin. By the way, this is highly likely since most large institutions are already set up (and chartered) to work within these derivative markets today (and they are not set up/chartered to invest directly in the physical Bitcoin market). This same issue could plague any crypto asset. If crypto is a threat to 'their' financial system (much like gold ownership was in earlier decades) why not just let it exist but 'control the price' via the derivatives market (like you've done with other assets). It is a risk in my humble opinion. PS – I'm a 100% Certified Grade A Conspiracy Theorist!

### **My Investing Thesis**

I think what I learned from all of this is that everyone wins. PoW has great features and so does PoS. Both also have flaws. Both also have incredibly smart people associated with them. Both have real turds associated with them. The believers in the two camps (Bitcoin and Ethereum) both are pushing in the same direction (decentralized world) they just have minor disagreements in execution/methodology. When you listen to both sides objectively you are left with the notion that both are incredibly valuable and that both likely win. Blockchains allow for things that can't exist in today's world. Different blockchains will provide different values but they'll all likely have value. Debating which one will win is like arguing whether streaming is better than television (of course it is streaming will win and some companies within streaming will do better than others). Pick any technological revolution and it'll likely be the same story.

Bet on any Layer 1 blockchains (those with network effects) and you'll win long term. Bitcoin and Ethereum are THE bets right now. Others might rise and fall (including either of those). But overall, I believe Layer 1 blockchains are where to invest to capitalize on the crypto space.

Anything above that is for me like being a VC investor (determining which companies can operate on the protocols and win). There will be many, but there will only be a limited number of Layer 1 protocols that gain a network effect. Owning the Layer 1 blockchain protocols is like owning the Internet. Owning the companies that VCs invest in (that operate on the Layer 1 protocols) is like owning the companies that operate on the Internet.

I think if I invest in the Layer 1 protocols that have network effects that is the best way to invest in the crypto asset class. If I were going to invest in these based on that I'd want to nail down my definition of "network effect" and find a source to monitor it over time (node count, users, hash rate, transactions, adoption rate, etc.). I do this for Bitcoin already. I watch several indicators that tell me if things are going the way I anticipate over time.

### **My Conclusion**

I come at all this from a Bitcoin owner/believer perspective. I'm not sure I was able to give the entire crypto asset space a fair shake, but I tried. I've tried very hard to keep an open mind about everything,



however. Bias is a helluva thing and cannot be eliminated, however. Sometimes we just think what we think (come what may). Sometimes we get it right and other times we get it wrong.

I own Bitcoin because it solves a real-world problem that I KNOW exists. I believe the fiat monetary system is complete hogwash. Every country is awash in printed money for the first time in human history. The system is immoral and bankrupt. There is no way to fix it or reverse the situation. Bitcoin is the only asset that is outside of that system (other than physical gold/silver). Everything is a derivative of the fiat currencies. Other 'cryptocurrencies' are not the same as Bitcoin (network effect'd proof of work). They are almost all proof of stake (which to me is just a replication of the existing fiat ideology/framework). If they are not proof of stake and are proof of work they do not have a network effect anywhere near Bitcoin's. Bitcoin has already won as the decentralized proof of work asset. Might another layer one blockchain prove to be more valuable at some point? Sure. Might they wind up being worth more than today's largest companies on earth? Sure. Might they wind up being larger than some entire asset classes are today? Sure. But they also might not. Bitcoin is already doing what it is designed to do. Few question this at this point. The only question remaining is how many people will believe in it versus the fiat protocol. I believe many, many more will move to a Bitcoin Standard.

At this time I'm not prepared to determine 1) if any Proof of Stake Layer 1 protocol is worth my investment capital and 2) which Proof of Stake Layer 1 protocol might 'win'. I'm not completely sold on the idea of Proof of Stake at all in the first place (for the reasons I've stated). I REALLY have no way of knowing which one might 'win'. I don't think anyone does. Therefore I am not prepared to allocate any additional capital to these other Layer 1 chains.

For now, I will remain invested in Bitcoin (and subsequently support the Bitcoin Layer 1 protocol). Perhaps this will wind up being the wrong decision completely. Perhaps it will work out fine but other Layer 1 protocols will grow much faster than the Bitcoin protocol. That is a risk I feel I'll have to live with at this time. I've invested a good deal of time and energy to come to this decision (see below). At this point, I'm going to dial down the intensity a bit. I'll continue to monitor the space, however, in case I need to change my positioning.

### **Appendix: My Journey (So Far)**

I've done over 20 hours of research on this over the past few weeks. I've outlined things I researched below and points I learned from each. When I decided to learn more I tried to be mindful about who I would listen to (and extremely mindful of their incentives). This is what I've researched so far. I'm sure I'll continue to research this as topics arise that interest me. But at this point, I'm closing the book on allocating a huge amount of time to these topics from an investment perspective.

- 1 hr – Preston Pysh / Marc Cuban Twitter Spaces [no link because Twitter sucks and doesn't allow Spaces to be recorded...WTF?!?] October 17, 2021
  - I follow Preston Pysh and respect his opinions. Preston had been holding Marc accountable for 'pumping Dogecoin on Ellen' for a while on Twitter. They somehow made it into a Twitter Spaces event where Marc went at it against a bunch of Bitcoin Maximalists for over an hour. I tried to listen to what he had to say with an open mind (he is a smart person). He said a few things that at least got my thoughts flowing on things outside the Bitcoin space. I felt like Marc (who I do not listen to regularly) was on

track with some things and off-track on others (it was clear he doesn't understand Bitcoin).

- 1.5 hrs (2.5 cumulative) - Raoul Pal's Introduction to the Exponential Age April 30, 2021, <https://youtu.be/0tJrla31t8I>
  - I'd had this interview bookmarked for some time and had simply not gotten around to listening to it. Raoul is one of the big reasons I began pushing my allocation to Bitcoin up. This interview from early April 2021 is kind of a stream of consciousness brain dump on where he thinks the crypto space is headed (hint: \$200 trillion market cap from a \$2 trillion market cap...exponentially quickly). I think he has the macro side dead right (and has for quite some time). He has been all-in on crypto for some time. He has recently shifted heavily towards Ethereum. I knew this and had dismissed it for some time. I had not had the bandwidth to absorb much more information than I was already absorbing from the Bitcoin space. This interview made me determine that I needed to do some work to get my brain wrapped around the non-Bitcoin crypto space.
  - He talks about if you watch Metcalfe's Law and how fast adoption is occurring that is what you need to look at to identify how things are playing out (and who is winning/losing).
  - Price Predictions End of 2021 (he says the year-end rally will happen as usual)
    - ETH - He has a \$20k+ price prediction on ETH (maps over BTC 2017 chart) (he says we should expect 10x). He talked about the ETHtoBTC and how ETH pumps harder than BTC during bull runs.
    - BTC - He has a \$250k-\$450k (could be \$1mm) price prediction on BTC. He says it looks like 2013 + log charts + regression (5x). He also called the BTC ETF by October 2021 timeframe in this video (that happened).
  - I think Raoul Pal is very smart. I also think he might be right about all this. I do think this interview was a little too 'excitable'. When you back up and slow down it all gets a little less exciting when you start thinking about what all has to happen for all this to happen. Everyone was very excited about what the Internet would do back in the early 2000s too. It took several decades for all those great ideas to come to fruition (and a lot of work and capital expenditures too). A lot of the companies wound up being a smoking hole. If I take a more cynical view I'd say Raoul is trying to generate excitement in the space to further monetize his RealVision platform with a bunch of noobs in the space (like me) looking for guidance. I don't believe that to be the case but either way, I must be able to dial back the excitement level and go about this with a level head. Regardless, after listening to this interview I decided I wanted to dive in and do much more research than I had to date on alternative crypto assets.
- 1.75 hrs (4.25 cumulative) - This is the Best Trade in Crypto Right Now | Raoul Pal August 30, 2021, <https://youtu.be/ELXyb9hooyg>
  - This is another interview with Raoul on the Bankless YouTube channel (a pretty pro-Ethereum channel). It is from the end of August 2021 and reiterated his thoughts on the Exponential Age discussion (with some updates).
  - One of the big updates is how he is decreasing his Bitcoin position and increasing his Ethereum position...drastically.

- “Exponential Age” - Raoul calls it this but it follows Jeff Booth’s (who is a boss) work too (the world we are in is an exponentially evolving one and one we can’t comprehend what is happening with our small human minds). People fear and fight over technology. Why? Because people fear new technology. They fight about it and try to stop it but it happens anyway and exponentially faster than they can comprehend. The green initiative, space, self-driving cars, vaccines, Kathy Woods?!?! Everyone fights over it all. Doesn’t matter it is happening...faster than we can comprehend.
- He talked about GDP growth potentially exploding (Marc Cuban also said this in his Space with Preston Pysh) due to all this new economy being created in an alternate parallel universe (the digital world) that is not held to the same constraints as the physical world.
- Don’t think about it in US terms. Think about the Asian perspective. They are using stablecoins (B2B via crypto rails). The Asian worlds are further ahead in all this than the western world is today.
- Investors in it (if money sinks into it they can figure out the other side) and people using the platform/infrastructure (the tokens then become money).
- The entire space is growing at 110% per year will fall to an 80% growth rate. By the end of 2024, it gets to 1 billion people, 3-4 billion by 2028. “A blind chimp could choose a crypto asset and get rich.” We are at \$2 trillion now and it goes to \$200 trillion. 100x the space. Plus everything gets tokenized which will make it even larger.
- Raoul says it is all going up 100x so even if dominance goes away (an ETH killer comes along) it is not a zero-sum game. Once dominance occurs it might not take the lion's share but it will still be massive. ETH is so settled already that it can’t go away completely.
- Bitcoin is already complete and has won its market (monetary platform). The only thing left is the sovereign adoption, institutional adoption, and Lightning Network rollout. He thinks Bitcoin whiffed...they are actively against the rest of crypto...when they should just do their thing and live and let live (rather than develop a BTC Maxi culture).
- ETH is still being developed and is still evolving. The probability of ETH flipping BTC is pretty possible (a platform will always value higher than a monetary platform).
- Raoul on 8/30/21 is 25% BTC / 55% ETH / 20% Tail of equally-weighted DEFI protocols, layer 1s, interoperability stuff, specific bets in social tokens, and metaverse stuff. He is debating with himself strongly about selling the BTC. He hasn’t sold it because he thinks from a straight asset allocation perspective ETH>BTC. But from a greater good perspective, BTC is probably better. He is contemplating keeping 5% of his BTC (I think he has done this now).
- Bitcoin is the most decentralized (passes the Howey Test), highest quality, pristine capital of all crypto assets (digital energy that moves at the speed of light and settles instantly). The value of a decentralized store of value that works within the security regulatory framework will win out over those that don’t. No question. Bitcoin is the base layer (commodity).
- Bitcoin users believe in financial units (based on the value of the actual store of value) vs. other blockchain users believe in value units (based on the value of networks). Raoul

is moving further out the risk curve to get higher alpha in more speculative securities, however.

- Ethereum is growing 10x faster than Bitcoin. He is an ETH bull. He says it is the lowest risk, highest quality space. Lock it up now...when ETH 2.0 happens it will get clobbered (as everyone unlocks it)...it'll be an overhang but it'll roll on. Nothing currently has the scale and scope of ETH. It is so large that it is dividing into multiple tribes/specializations (which is good and makes it stronger).
- Fear, Uncertainty, Doubt (FUD) – Regulation is too slow, it will limit growth and increase uncertainty...but it won't stop it. Will it be a security? Will I go to jail? The current laws don't work and won't work.
- 1.5 hrs (5.75 cumulative) - TAKING THE SEC VERY SERIOUSLY (Raoul Pal & Michael Saylor) September 24, 2021, [https://www.realvision.com/shows/raoul-pal-adventures-in-crypto/videos/taking-the-sec-very-seriously?source\\_collection=96a6f7f99da44fc68f1ab78a48beb79a](https://www.realvision.com/shows/raoul-pal-adventures-in-crypto/videos/taking-the-sec-very-seriously?source_collection=96a6f7f99da44fc68f1ab78a48beb79a)
  - This is a follow up conversation to their talk about a year ago (which was great). Minute 75 is where he talks about the shakeout because nothing in the alt coin space is a legitimate security. Alt coins can't meet the requirements they are not a security and don't meet the rules for AML (Anti Money Laundering) and KYC (Know Your Customer). They'll have to do this or they'll be shut down.
- 1.5 hrs (7.25 cumulative) - Portfolio Construction: Beyond BTC & ETH (w/Jeff Dorman, Joey Krug, Ari Paul, and Raoul Pal) April 14, 2021, <https://youtu.be/EBRVeki7zKo>
  - Interesting takes on how to allocate capital to the crypto space from three different investors.
    - Joey Krug said you want exposure to 1) Layer 1 blockchains (they underweight BTC in the portfolio because it makes no sense to charge 2/20 for access to it since anyone can buy Bitcoin), 2) DEFI is the next biggest investable asset (decentralized exchanges and lending protocols – he bought SushiSwap), 3) scalability and interoperability layers (Polkadot and Cosmos) doing atomic swaps or wrapping (trading one protocol's token on another protocol), 4) centralized exchanges (less price-sensitive than other areas).
    - Ari Paul talked about how with interoperability the value will be separated between the asset and the protocol's functionality. He thinks the value the protocol's features/functionality have will be a commodity (or easily commoditized). He didn't say it but if he believes that then the true value will be in the asset (he said earlier in his interview that Bitcoin has already matured as 'digital gold'). He talked about how the riskier coins outperform Bitcoin on bull runs (so you'd want to own those), but on bear runs, they perform worse (you'd want to own neither and be in cash). He also talked about how no one can predict these moves so just owning Bitcoin makes sense. He makes directional/timing bets (because he thinks he has somewhat of an edge). But if he didn't and he just had to buy and hold for 3 years he'd likely be 100% Bitcoin.
- 1 hr (8.25 cumulative) - An Economic Analysis of Ethereum Lyn Alden January 2021 - <https://www.lynalden.com/ethereum-analysis/>

- Lyn's takes are always balanced. She isn't an Ethereum investor (and is a Bitcoin investor). She explains why in this article.
- She talks about how much of the value of the Ethereum protocol is circular. Many of the use cases/apps are things that only exist on the Ethereum protocol therefore if they exist you need Ether to transact but that they only exist on the network (and because of it).
- Quote: "So, with Ethereum, investors have to be correct about two outcomes. First, you need to be correct about Ethereum retaining most of the smart contract market share for the long run, even as it undergoes a transformation. Second, you need to be correct that in addition to its utility functions, staking and collateral will be enough to permanently monetize Ethereum tokens themselves, rather than them serving primarily as fuel for the network." I don't disagree that Ethereum is valuable and potentially very valuable but there are major hurdles to get past for it to be a slam dunk. I also don't see why ETH is money (versus money for the network).
- Raoul would say even if they don't get either/both of those outcomes nailed 100% it won't matter. They will have a place in the new world (because they are already a huge part of it)...and the new world is a 100x / \$200 trillion world. So "a blind monkey could throw a dartboard at a list of these things and will make a wild amount of money".
- 1.5 hrs (9.75 cumulative) - Interview With "A Friend" Who Is A Boss October 26, 2021 – A person close to me understands the non-Bitcoin side of things much better than I do. He was gracious when I asked for some of his time and answered some of my noob questions.
  - What do I need to be listening to/watching (what has been most helpful for you)?
  - I don't think I want to own asset back tokens or pass-through tokens (like BNB – Binance Coin). I think smart contracts, NFTs, metaverse, DEFI, remittances are all worthwhile but believe gaining exposure to them by owning the underlying blockchain currency (coin/token) is the way to go (ie if all this runs on Ethereum blockchain then Ether will have plenty of value vs. me having to pick the right 'thing' like a particular NFT or use case). You are not doing this, however, why do you buy an NFT/tokens directly versus just the underlying "currency"?
  - I don't want to trade. I'm a coffee can guy. You are not doing this, however, why should I trade vs. HODL?
  - What is your portfolio allocated to right now %-wise? Of course, you can defer this question, no worries.
  - Perhaps ETH (platform exposure) is all I'll buy? I'd just hold this like I do BTC but do I need to be exploring 'staking'?
  - What else should I get up to speed on or be thinking about that I'm not asking about?
- 2 hrs (11.75 cumulative) - 5 Mental Models for Web 3 – Chris Dixon November 1, 2021, [https://youtu.be/jezH\\_7qEk50](https://youtu.be/jezH_7qEk50)
  - I've never even heard of Chris Dixon (and wouldn't normally listen to a VC guy). But the whole point of this is exercise is to learn more about something I know nothing about. So...here goes! He talks about how it is hard to identify whether big changes like this are 1) the next big thing that will grow exponentially, or 2) something that is going to keep growing linearly (too early...which means you are wrong). Like shift to mobile. Hard to identify it while it was happening but it happened and it happened quickly. He thinks

Web 3 is in the exponential phase. He talks about how Web 2 is “don’t be evil” and Web 3 is “can’t be evil”. How corporations naturally are needing to increase the take rate from the network (ie closing/controlling the network). But with Web 3 the token is owned by the builders/users and essentially they own the network so the take rate is less (ie open network). A concept I took from this is that it is going to be hard to ‘invest’ in some of this because the value is being pushed to the user and to the edges/margins (on open protocols). There won’t be centralized companies/hubs/intermediaries (like Web 2.0) where it is hard to switch because switching costs are high (Web 3.0 switching costs will be low...you take your wallet/property/property rights and go elsewhere). Maybe the entire space is uninvestable...no one owns it, because we all own it. Ultimately “blockspace” is what is investable as a product. He believes demand will outstrip supply (like with ETH now...which is why fees are high) for many years to come (and that different levels will evolve with different fees for different levels of use, like higher security vs. faster transactions).

- 2 hrs (13.75 cumulative) – BTC vs ETH: Which is Better Money – October 27, 2021, <https://youtu.be/s6EeZGSXgVg>
  - Very interesting discussion. The guest comes at it from a technical aspect. I don’t pretend to be able to debate some of these points but I can hold my own with understanding them. It was interesting to hear these perspectives versus the normal macros perspectives I normally listen to.
  - They talked about money/currency versus sound money. These change the definition. They are worried more about sound money (which will be worth more, or be most stable, the most over time). Currency is a solved problem (we have those), but sound money is not a solved problem now. Properties of sound money can change (ie Bitcoin is digital gold, so gold is losing value as sound money due to not being digital...new rules change the value). Good money drives out bad money (steals monetary premium).
  - They spent a good deal of time discussing the security model of Bitcoin/Ethereum (and the pros/cons of PoW and PoS, the importance of the security of the network, importance of the scarcity of the tokens, the transition to a fee-based model for Bitcoin, the problem to bootstrap/verify a PoS blockchain, the execution risk of transition to ETH 2.0, PoS being controlled by human actors and no good distribution mechanism, are all L1 tokens global SOV/Money, and ETH Killers).
  - My comment on the video was: *“Well crap! Great discussion, but I couldn’t tell you who won?!? I think both camps are right. I’m a Bitcoin holder 100%. Researching Ethereum heavily right now. I won’t go 50%/50% but I’d probably recommend that to anyone new. I think as long as the network effect type metrics both ramp both Bitcoin and Ethereum will retain/create value (much greater value than in traditional assets). Thanks for the great interview.”*
- 1 hr (14.75 cumulative) - ALL YOU NEED TO KNOW ABOUT YIELD IN CRYPTO (RealVision Crypto) – November 1, 2021 - Alex Mashinsky, CEO of the Celsius Network, [https://www.realvision.com/shows/the-interview-crypto/videos/all-you-need-to-know-about-yield-in-crypto?source\\_collection=1f8bcaf06cef4a308b99d7493c6d0fe5](https://www.realvision.com/shows/the-interview-crypto/videos/all-you-need-to-know-about-yield-in-crypto?source_collection=1f8bcaf06cef4a308b99d7493c6d0fe5)
  - Bitcoin solved the store of value problem (like the double-spend issue) very well (but it didn’t solve other problems).

- Yield is the second killer app that will move us from Traditional Finance. Traditional finance fees (from being the trusted custodian on transactions) are funneled to shareholders (rather than the customers in yield). With DEFI the value created from the transactions is returned to customers (in the form of yield). Sec Lending / Arbitrage / Market Making – Broker-Dealers (prime brokers) sell you an asset (Apple shares) and you use them for custody (which they let you do with no fee because they will make money via the lending). When you have a margin account they have permission to lend out (security lending) the underlying asset (rehypothecate) to market makers, exchanges, and other institutions who use leverage to create markets (short selling) or in arbitrage. They do not share any of this lending income with the customer, however.
- Celsius, his company, is a more centralized version of decentralized finance (six legs of a stool to generate yield and one leg is DEFI). They maintain 80% of assets being lent, versus pure DEFI where it usually runs 20%. The lending rate is a liquid asset with pretty high collateral (at 8% currently) but with much less risk than a high yield bond investment's risk (at 3% currently). The rates are high because of the lack of dollars in the system. Because there is lower leverage than in Traditional Finance there is no need for 'bailouts'. The risk on this is that a pool can be 1) taken by bad actors (rug pulls) or 2) lost due to a bug. There is no FDIC so counterparty risk analysis is critical to avoid those things.
- Use case #1: A retail customer might borrow against their crypto equity at 1% with a high LTV to pay off other debts (like a credit card at a higher rate) without having a taxable event.
- Use case #2: On the institutional side, they are using collateral that they don't need and providing it to the market for use (while earning yield). Celsius is just identifying if they are a valid counterparty to ensure the capital is 'safe' and they are not worried as much about why they are borrowing/lending the particular asset (they have a credit department whereas most of DEFI has none so they have had zero forced liquidations ever, over past 4 years).
- USDT (Tether, the first stable coin) is 22x per day versus USD runs 1.2x (20 times more liquid).
- 3.75 hrs (18.5 cumulative) – What Is Money - The Saylor Series – Episode 14-16 – October 19, 2021 Episode 14 <https://youtu.be/RbkLz9C39y0> Episode 15 [https://youtu.be/WvUE\\_Yvktwk](https://youtu.be/WvUE_Yvktwk) Episode 16 <https://youtu.be/aUEhwe2GvtY>
  - There have been several episodes where Saylor discussed the Seven Layers of Security. Bitcoin mining (proof of work) provides:
    - Energy – impactful on global energy and producers (will recruit energy sector)
    - Technology – to use less energy technology evolves (will recruit technology/semiconductor capital),
    - Political – game theory of mining will use the political lobby to monetize existing energy assets to build out a self-distributing dynamic network,
    - Financial – mining is capital intensive and recruits large investors,
    - The Mining Network – the thermodynamic bridge that provides inertia, antifragility, and capital,

- Spatial – self-distributing security model and self-decentralizes away attack vectors,
  - Temporal – relies on ‘only getting to play God once’ where rules are rules and never changing (ie opposite of proof of stake).
- By episode 16 he discussed how Proof of Work outperforms any/all Proof of Stake platforms. His investment thesis then is that since Bitcoin is the undisputed leader in Proof of Work that it has already won the battle and will only further entrench over time as institutional capital begins flowing into the space.
- 1.75 hrs (20.25 Cumulative) – Bitcoin & Why the Bond Market Is Such A Big Deal (with Greg Foss and Guy Swann) – November 11, 2021, <https://youtu.be/RZgURIY3iMY>
  - This was a macro discussion like I normally listen to. They did get into alt coins for a little bit however and had some interesting discussion. They discussed Bitcoin versus other digital tokens. Swann talked about how we probably don’t wind up with multiple tokens/forms of digital money. Everything will converge on a single one (so we all speak the same language)...he thinks that will be Bitcoin. They talked about how ‘everyone using a different money/token/protocol’ would be akin to us all using different protocols on the Internet. We all use the one protocol (it wouldn’t make sense to use different ones). TCP/IP is what everything/everyone uses... different layers lies on top of that. This is exactly how Bitcoin Layer 1, 2, or 3 will work. There is no need for others. Even if others wind up remaining (it won’t be 1,000s it might be a few). People won’t be able to keep up with using more than a few types of ‘money’.