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Opalesque Cryptocurrency & Blockchain Roundtable Series '18

NEW YORK

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Editor's Note

Will we still use a paper dollar in 50 or 100 years?

Given the accelerating process of digitization – also of assets – it's fair to ask if in 50 or 100 years will we still use a paper dollar or euro? Are cryptocurrencies the "killer app" of Blockchain and the future of money? But until now, there are more questions than answers...

The cryptocurrency and Blockchain space is a very specific technology-driven ecosystem. Just look and find out who has studied the original Satoshi white paper – but by now, ***more investors are taking heed.*** For example, 75% of the first $100m of tZERO's security token offering went to institutional players.

The Scourge of Inflation

Do you remember the poor guy who bought the two pizzas with 10,000 Bitcoin in 2010? He could now buy two G5s... That's sad for him, but what's probably sad for a lot more people is that if you had put $10,000 of cash in your bank account in 2010, it is today worth just $8,400 thanks to the devaluation of fiat currency.

There have been roughly 875 paper currencies in the history of the world, and three quarters of them don't exist today in any form. Throughout history, there has never been a single case or example where inflation did not happen.

"I am talking not only about places like Venezuela and Zimbabwe. This is, and has been, happening right where we are today in New York. *Just a couple of blocks north of here you can find a restaurant called "The Oyster Bar," which was one of hundreds of oyster bars in New York City over 100 years ago. You could get the following deal: For five cents, you got all the oysters you wanted, and all the beer you could drink.* If today you can find that for 100 bucks in New York City today you can call yourself very lucky. So, in real oyster terms even **the U.S. dollar has devalued by 99.95%,**" says Roy Niederhoffer, adding cryptocurrency are a solution to this problem of overprinting by governments.

The biggest innovation wave we will see in our careers

Blockchain in itself is not a disruptive but more a foundational technology, and so it will be the applications that are going to be built upon the Blockchain that are going to be disruptive. We'll see the change from analog, physical paper ownership to the true and full digital ownership of assets. ***Everything of value can be tokenized with Security Tokens.***

"Just as a few technologies that emerged from the dot-com era have transformed our lives, the crypto-assets that survive could have a significant impact on how we save, invest and pay our bills," says **Christine Largarde.** There will be completely new models and efficiency plays. We also see how ICOs are changing the whole asset raising mechanisms for start ups and as well as for established companies, and getting into competition with traditional venture capital.

The #1 Advice: Spend the time!

"There is a perfect inverse correlation between the affection for, affinity toward, and hatred for cryptocurrency and Blockchain technology and the amount of time spent. So, people who spent zero time typically hate it, or are afraid of it, don't want to talk about it. I haven't met anyone who has not started skeptical, so I think is the typical human reaction, but who then has spent time on it and has come away more excited", says Mark Yusko.

The following experts participated in the inaugural Opalesque Cryptocurrency and Blockchain New York Roundtable, sponsored by Cohen & Co.:

1. Mark W. Yusko, Founder, CEO and CIO, Morgan Creek Capital Management

2. Joe Cammarata, President, tZero

3. Roy Niederhoffer, President, R.G. Niederhoffer

4. Michael Moro, CEO, Genesis Trading

5. Kenneth Goodman, Co-Founder, Altcoin Advisors

6. Steven Baum, Co-Founder and Chief Operating Officer, IronChain Capital

7. Marcelo Garcia, Co-founder, CryptoExplorers.org

8. Will Coleman, Director of Technology Advisory Services, Cohen & Co.

The group also discussed:

- Are all cryptocurrencies deflationary, or are there also some inflationary ones? (page 8)
- How "hard" is the limit of "21 million" as the maximum number of Bitcoins that can be mined? Do "Forks" have inflationary effects? What have we learned from past Forks? (page 9)
- Why is network size (Metcalfe's law) in favor of Bitcoin? (page 9)
- The role of derivatives: The ingredients that bring lower volatility to cryptocurrencies are already in place. Bitcoin not more volatile than the stock market 10 years ago (page 10)
- Are there differences between cryptocurrency and a digital currency? (page 14)
- Is a stable Bitcoin necessarily a good thing for Bitcoin? (page 11)
- If Bitcoin is trackable, why is it that hacking and the theft of Bitcoin are such issues then? (page 12)
- How does Bitcoin compare to gold? (page 13, 15)
- Will the Swiss outdo everyone else when it comes to crypto? (page 14, 28)
- Bitcoin as a Relative Value Play (page 15) and relatively cheap option on an asset with an asymmetric return profile. Why starting with even $100 makes sense (page 16, 36)
- Yield curve, lending, custody, ETFs, Sidechains: What's coming next for Bitcoin (page 17, 26, 31). Non-store of value use cases (page 32)
- Understanding the Gartner Hype Cycle phenomenon. When will we see a full adoption of Blockchain technology and cryptocurrency? (page 19)
- What is the best way to transact large Bitcoin volumes? (page 16)
- What is Blockchain capable of doing within a business organization? (page 21) Minimizing entropy (page 31-32)
- Why are security tokens different from "coins"? (page 22)
- When and where was the execution, clearing and settlement of the first trade of a security token on the Blockchain? (page 22-23)
- Regulation (including tax policies) are wanted and needed, but how will they look like? (page 22-30, 35, 39). Will security tokens will be covered under SIPC rules? (page 30)
- How to deal with conflicts that arise from having both equity and token investors? (page 30-31)
- Should people be concerned about Tether Limited? (page 33)
- What should you expect getting into the Crypto space these days? (page 34)

• **How to evaluate an ICO / token offering. Why the likelihood of Bitcoin or Ether going to zero is very small at this point** (page 37-39).

Enjoy!

Matthias Knab
Knab@Opalesque.com

P.S. Please contact me if you are interested in getting involved with future Roundtables.

Participant Profiles

(LEFT TO RIGHT):

Roy Niederhoffer, Will Coleman, Joe Cammarata, Marcelo Garcia, Matthias Knab

Steven Baum, Michael Moro, Mark W. Yusko, Kenneth Goodman

Introduction

Kenneth Goodman
Altcoin Advisors

My name is Kenneth Goodman. I am Co-Founder and Chief Technology Officer Of Altcoin Advisors. I teach the mathematics of blockchain at Queens College and am a blockchain course at Fordham's business and law school in Fall 2018. Before I founded Altcoin I worked on the credit desk at Goldman Sachs.

Will Coleman
Cohen & Company

My name is Will Coleman. I'm the director of Technology Advisory Services for Cohen & Company. We are an accounting firm that provides audit, tax and advisory services to investment advisers, funds, ICOs and service providers in the cryptocurrency space. Currently we are auditing somewhere around one hundred crypto funds. I have personally spent about 25 years in the alternative investment space.

Michael Moro
Genesis Global Trading

My name is Michael Moro, and I am the CEO of two cryptocurrency businesses: Genesis Trading, which is an SEC/FINRA registered broker-dealer that is one of the largest OTC crypto market-makers, as well as newly-launched Genesis Capital, which offers spot borrow on various digital assets to institutional investors. I started my Wall Street career at Citi as an investment banker covering financial institutions, before moving onto SecondMarket to focus on secondary transactions of illiquid assets. I first learned about bitcoin in 2012, and we launched the OTC desk in early 2013.

Joe Cammarata
tZERO

My name is Joe Cammarata. I'm the President of tZERO. My background has been in financial technologies for the last 27 years whereby I created one of the first off exchange trading systems, an early ECN, the first ECN Aggregator and Smart Order Router. I am now taking the combination of my knowledge, experience and infrastructure to bring blockchain technologies to Wall Street.

tZERO was acquired by Overstock.com in 2015 because we had extensive connectivity and integrations to the US Equities markets and leverage the technology and experience to bring the transparency and efficiency of the Blockchain to Capital Markets. We have finally brought institutional interest into this new world of Security Tokens.

Steven Baum
IronChain Capital

Steven Baum: I'm Steven Baum, Co-founder and COO of IronChain Capital. We are a new VC-backed investment platform exclusively focused on the cryptocurrency asset class.

Cryptocurrencies offer an unprecedented investment opportunity, but the space is not easy to access for many investors. We are creating the first cryptocurrency investment platform that combines: daily liquidity, low management fees (no performance fees), high diversification, and what we believe is a "best-in-class" solution in the all-important area of asset security and custody.

Prior to co-founding IronChain, I spent over 25 years in the financial services space, and most recently, I was the President/COO of two multi-billion dollar hedge funds. Blockchain technology, and the cryptocurrencies that run on it, offer enormous potential to transform how we transact and do business on a global basis. Late last year, I decided it was time to transition my career from traditional asset management and participate in this extremely compelling new area of technology and finance.

Roy Niederhoffer
R.G. Niederhoffer Capital Management

I'm Roy Niederhoffer. I am the founder and president of R.G. Niederhoffer Capital Management in New York. For the last 25 years, we have been a participant in the short-term CTA Quant Macro space and I also was an early participant in Bitcoin in 2011, when I read about it. I realized that this was something truly exciting, and bought Bitcoin with the idea that it might become a reserve currency someday. One of our funds combines a core holding of crypto with our existing trading strategies, so we are a hybrid between the futures world and the crypto world.

Mark W. Yusko
Morgan Creek Capital Management

I'm Mark Yusko of Morgan Creek Capital Management (MCCM). We are a Registered Investment Advisor based in North Carolina and have offices in New York and Shanghai. We launched MCCM in 2004 to bring the Endowment model of investing to institutions, wealthy families and individuals and our byline in Alternative Thinking About Investments as we have helped our clients integrate alternative investments into their portfolios. We started investing in Blockchain technology about five years ago by initially focusing on making infrastructure investments (the "picks and shovels") with some of the Blockchain focused venture capital funds.

Over the years we also began making recommendations to our clients to invest in cryptocurrencies and ICOs in addition to the core infrastructure investments. We have become increasingly excited about the investment opportunities in the Blockchain and Crypto spaces and to take full advantage of these opportunities we recently completed an acquisition of Full Tilt Capital and will bring the partners into Morgan Creek to augment our resources dedicated to Blockchain related investments. Together we will develop a number of investment solutions focused on Blockchain technology and cryptocurrency investing and we will be in the market shortly to raise a large fund that will focus exclusively on Security Tokens and the tokenization of real assets.

Marcelo Garcia
CryptoExplorers

Marcelo Garcia, pleased to meet you all and thanks to Matthias for the kind invitation. I grew up in Rio de Janeiro but have been based in Europe most of my life, with the last twelve years in Switzerland. My professional background was originally in Telecommunications where I got involved with several pioneering Digital TV projects, then moving into launching massive scale internet platforms for large corporate clients. Turns out that what I learned about the exponential power of scalable Networks gave me an unexpected head start in Crypto.

In 2013 I was advising the government of a Caribbean country on how to pursue innovative economic development strategies through telecommunication platforms and it turned out there were very significant implementation challenges hampering those, so I started investigating Cryptocurrencies as an alternative. We were however very much in the early days and Bitcoin was still heavily associated with illicit usage such as the Silk Road, making it politically unpractical to push for these platforms to be even trialed. *Now five years later that's exactly what they're doing in this same country, so when it comes to Crypto initiatives it is very much about getting the right timing above all.*

I went from that initial context investigating decentralized technologies at sovereign level to becoming the CEO of one of the earliest Crypto companies in the world, which already had a very popular Bitcoin wallet. They recruited me to scale up operations by raising capital to expand into a full portfolio of Crypto services such as an Exchange, B2C Payment Platforms, Crypto Web Widgets, etc.

Several months later we did succeed in raising funds in the mid seven figures from VCs, but after disagreements with the founder about corporate strategy I left to create my nonprofit BroadLights.org in Geneva – focusing on bringing affordable connectivity to vulnerable commodities worldwide. Crypto is also remarkably relevant in the non-profit/NGO domain because there are so many intractable issues in the field related to Financial Inclusion, Personal IDs, Land Rights, etc. I came back full force into Crypto a year or so later, once more because of a government request.

I am also one of the United Nations Smart Cities Experts and during an UNCTAD conference I was asked to organize a Blockchain symposium in a Gulf country which wanted to have a full overview of the potential societal impact of these technologies. It started as a concept for a relatively small

FinTech gathering, but the local interest on the topic was so remarkable that we ended up having 22 ministers, 700 VIP guests and 25 top international speakers.

While orchestrating this government symposium I started CryptoExplorers.org as a conference series in the Swiss "Crypto Valley", which now takes place four times a year. Organizing such events is one of the pillars of what I'm doing in Crypto, with another being the upcoming publication of a quarterly peer reviewed journal with articles from top thinkers in this space and the third being filming documentaries covering Blockchain technologies from the angle of specific industries, such as "Blockchain and Healthcare", "Blockchain and Insurance", "Blockchain and Finance", etc. These three all focus on creating curated content for the community with a "low profit" mindset while relying significantly on sponsorships to make sure that high quality information becomes widespread worldwide to all those interested in learning more about novel technologies that will soon have a major impact on their lives.

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Cohen & Company's Investment Industry Services Division is focused on audit, tax and advisory services exclusively for the investment community, and now includes the tested and trusted experience of Arthur Bell.

Our firms are truly better together. Our passion for the investment industry inspires us to know it from the inside out, and energizes our professionals to be highly engaged with our roster of clients worldwide.

Learn more about the recent Arthur Bell merger with Cohen & Company at **cohencpa.com/arthur-bell**

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Matthias Knab Marcelo brought up the year 2013 where the price of Bitcoin was mostly below $200 before hitting a high of over $1100 in December, and then in 2014 dropping again as low as $300. However, monthly transactions were already over 1 million.

I wonder about your views if cryptocurrencies will be the future of money. Given the accelerating process of digitization – also of assets – I think it's fair to ask the question if in 50 or 100 years will we still have a paper dollar or euro? What are your views here?

Roy Niederhoffer: For me **cryptocurrency is really the killer app of Blockchain.** That could be a bit of a dinosaur view with so much going on in the Blockchain space, but to me there is something extraordinary about cryptocurrencies because they can potentially solve the problem that has been a universal throughout human history: Every single time in the history of civilization when a government has issued money, be hard asset-backed or fiat, in some way that money has been reduced in value over time so much so that it becomes worthless.

Throughout history, there has never been a single case or example where that did not happen! And I am talking not only about places like Venezuela and Zimbabwe. This is, and has been, happening right where we are today in New York. Just a couple of blocks north of here you can find a restaurant called "The Oyster Bar," which was one of hundreds of oyster bars in New York City over 100 years ago. You could get the following deal: For five cents, you got all the oysters you wanted, and all the beer you could drink. If today you can find that for 100 bucks in New York City today you can call yourself very lucky.

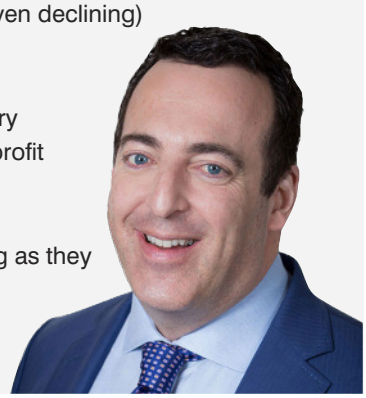
So, in real oyster terms even the U.S. dollar has devalued by 99.95%. My point of being extraordinarily bullish on cryptocurrency is that there is a solution to this problem of overprinting by governments. Some day, institutions are going to figure this out at some point and they are going to say, *"You know what? This is a liquid asset and it has the virtue of not having the overprinting problem."*

I also believe that little by little some people are going to say, *"I want a few percent of my assets, of my intergenerational family office or my endowment or my pension fund to be in cryptocurrency."* And I think the potential for crypto is for one or more than one cryptocurrency to achieve reserve currency status. We are talking of course about a hundredfold asset appreciation from $150 billion where we are right now in Bitcoin to tens of trillions of dollars.

So, I'm a huge bull in the space. I think crypto is the killer app for money and I feel it's just a matter of time until more people realize that – we will see enormous appreciation for that reason.

Kenneth Goodman: If you believe that eventually all inflationary currencies become worthless, would you argue that inflationary cryptocurrencies, such as Ethereum, have the same problems as traditional currencies, and thus will eventually be worthless? Would that mean only deflationary currencies such as Bitcoin and Litecoin would be worth investing in the long run?

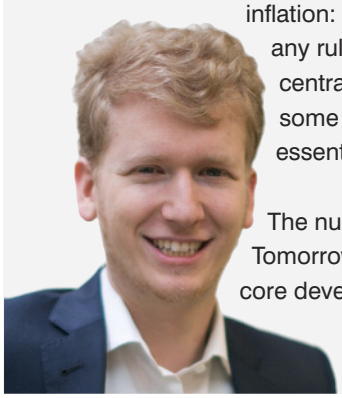
Roy Niederhoffer: I think there are some very specific things about Bitcoin in particular which make it interesting. I will add more to that, but in general I think the answer to your question is yes, absolutely. The fixed (or even declining) supply is key.



For an institutional player, I think there are barriers to invest in a token that's potentially inflationary because I think the incentives are too great for the core group of people to just issue more and profit from it.

This has always been the incentive for governments, and it remains true for token issuers so long as they have any ability to do so.

Kenneth Goodman: A common argument is that **Forks** act as a proxy for inflation. There are two ways forks can create inflation: through a second minor chain or a changing of rules of the main chain. Forks allow changes to any rules - one such example would be to create two, four or eight times as many coins. Miner centralization makes successfully supporting a fork, and thus inflation, very easy. If you can convince some number of exchanges, core developers, miners, users and merchants to accept the fork, you have essentially inflated the currency.

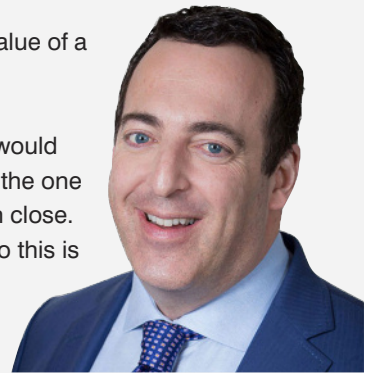


The number "21 million" as the maximum number of Bitcoins to be mined is only hard coded as of now. Tomorrow, it could be 42 million. A group of miners, or a large one such as Bitmain, along with a group of core developers have a lot of influence on the direction of the main chain.

Roy Niederhoffer: I think Forks (where a new version or related version of a token is created) are definitely a potential issue. But for me, given my background in trading, I see some characteristics of Bitcoin that make it, in particular, a very interesting, Fork-resistant product – I mean here whichever the dominant version of Bitcoin is. And the reason for this is, first of all, that there's enormous liquidity and that itself is a reason for people to invest in it – and to not invest in other securities or other cryptocurrencies with lesser liquidity.

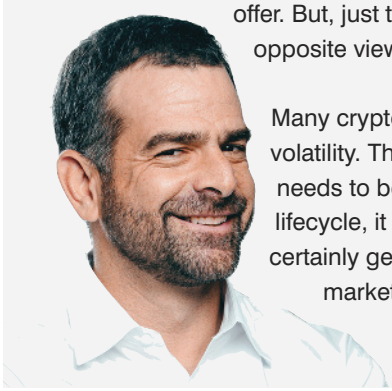
Bitcoin in general serves as the entry portal to the crypto space. For example, the Litecoin market is not that liquid. If you wanted to trade dollar-Litecoin, it's not that liquid. But Litecoin/Bitcoin is very, very liquid. And the same as true for pretty much everything except US Dollar/Ether or (other) fiat/Ether. Therefore, if you want to trade, you'll be passing through Bitcoin. It's literally the gate through which you enter the circles of crypto hell you might say, and come back out!

The network size also is in favor of Bitcoin. We can mention Metcalfe's law, which says that the value of a network goes up with the square of the number of users.



Finally, for one reason and another, most Forks do not seem to be catching on as much as one would think. There have been probably 20 Bitcoin Forks or something like that, and yet Bitcoin Cash is the one that seems to have a little bit of "currency" at around 10% of Bitcoin's value. Nothing else is even close. So, I'm less concerned about that. But obviously, you could have an infinite number Forks and so this is something to watch, certainly.

Steven Baum: Roy lays out a very compelling case and I'm sure it is one that most – if not all – of us in this room agree with. I think we all "get it" when it comes to the disintermediation potential that the blockchain and cryptocurrencies offer. But, just to make the discussion more interesting, I thought it may be worthwhile to consider the opposite viewpoint.



Many cryptocurrency "critics" say that crypto will never become a real currency, mostly because of its volatility. They also make the case that for something to be a viable currency, it needs to be stable, it needs to be a medium of exchange, and offer a store of value. Right now, in this nascent part of the lifecycle, it may be hard to argue that crypto "checks the boxes" in these areas, but I believe we will certainly get there. I'd be interested in hearing how we collectively address this and how we think the market is going to develop.

Roy Niederhoffer: The ingredients for that progressing to lower volatility to occur are already in place. But, of course, for now, you are absolutely right. If you knew that Bitcoin was going to be pretty stable, like gold, this would be really a tremendous reason to own it.

But if you look just at asset transfer as an application for Bitcoin, I just was thinking today about what would it be like if you had $5 million in gold. Imagine yourself being at an airline check in counter, and the guy in front of you checks in five 50 pound suitcases and tries to get them on to the belt – this is what $5 million in gold actually looks like, it's 250 pounds. Now, imagine $50 million in gold (it literally weighs a ton!), and that you wanted or had to move that asset to somewhere – well, this turns out to be very, very difficult.

Bitcoin really fulfills this asset transfer aspect but gold is much more stable than Bitcoin at the moment, but the ingredients are in place. And what I mean by that is that those ingredients are *derivatives.*

Derivatives, despite what I think the general public believes, *reduce* volatility in securities. We have seen this happen with the development of S&P futures as a most obvious example. In 1987, my brother and I wrote an article for the Wall Street Journal about the value of speculators. I like to tell people that the first documented speculator was Joseph in the Bible, who bought low for seven years and then sold high for seven years. He reduced volatility in the grain market in Egypt and that's what speculators do and exchanges that create futures do.

Going forward I expect that we'll see a great options market develop. We'll see a yield curve develop and probably over time many other things to do with Bitcoin. Volatility is going to drop. It's about 4% or 5% a day right now, so not that much more, maybe two or three times, than the stock market. Remember, the stock market spent all of 2008 with a 4% or 5% daily volatility. So, **Bitcoin is no more volatile than the stock market was 10 years ago.** As derivatives mature, its vol. is going to drop. I think we will see more stability eventually and then it's going to be off to the races because institutions will need to have this inflation proof asset.

Will Coleman: To Kenneth's point that the developer groups and various folks can fork and change things, I also think that it's very tempting and potentially misleading to look at the current state of cryptocurrencies and assume that 15 years from now this market and the technology will look the same.

Roy already pointed to the value of networks, and I also think that one of the interesting aspects here is that the **network effects are sticky**. If we look at Ethereum and Ethereum Classic, the actual Fork or the branch from the original code is the one that actually maintained the dominant position. So, the technology was shifted very slightly in that case, but nothing prevents you from further evolutions. Look at some of the new technologies—where they are not just pure Blockchain—maybe something like Hashgraph, or something like some of the stablecoins, where they had multiple coins and some of them are built for the speculator to take the volatility out of the market specifically. They are still not a backed currency, but it's a stable coin based on the ability of people to kind of side back on it. So, I think there are already a lot of mechanisms that we haven't even begun to explore, and I think that the cool thing is we're early enough in the process that this stuff can be adopted.

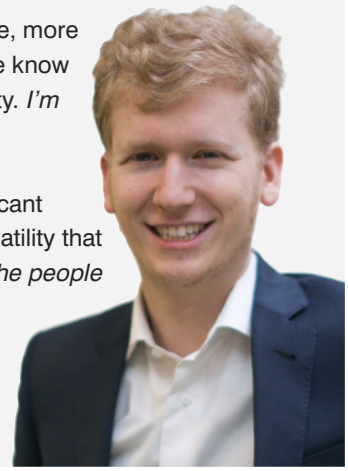
The downside of course is that people can make some really bad decisions along the way. There can be a lot of infighting and negativity. There can be push backs from governments and regulators. I see a big issue would be the U.S. government coming in and saying, *"Hey, we're issuing a U.S. backed dollar coin. It's going to be out there, it's going to be the official one, that's just the one you use, and we're the group that maintain their books and records. We're the arbiter, we control software updates and everything like that. You're allowed to use it, and it gives you all the same functionality of everything else. You are not allowed to use somebody else's."*

So, I think it's very possible for governments to come in and sort of co-opt this in a way. I just wanted to point out that there are also reasons that these things could go negative, and I'm just trying to give the devil's advocate arguments.

Kenneth Goodman: I'm an optimistic bear -- I'm bullish and optimistic on the impact that decentralized cryptographically secure data structures will have, but am bearish about overly optimistic perspectives in the space that seem to ignore fundamental issues crucial for success. So allow me to keep pushing these devil's advocate arguments.

To start, **I'm not even sure a stable Bitcoin is a good thing for Bitcoin.** For Bitcoin to succeed, you have to have people mining it and as the price gets more and more stable, it becomes easier to predict what the profit of mining will be. And so, economics should tell you that everybody should mine it until the margin becomes just about zero. But then any price fluctuation – something a big miner could very easily do by either moving some of their own coins or attacking other people's ability to mine – would significantly reduce the price, wash out all of those newly joined miners and increase volatility again.

Furthermore, there is a fundamental problem with deflationary currencies: the price must either rise, more people must transact per block, or the average transaction fee must rise. Most people in the space know that Big Blocks is a controversial topic, so any future must mean a volatile price or a loss of security. *I'm not confident we can have security, cheap transaction, and stability at the same time.*

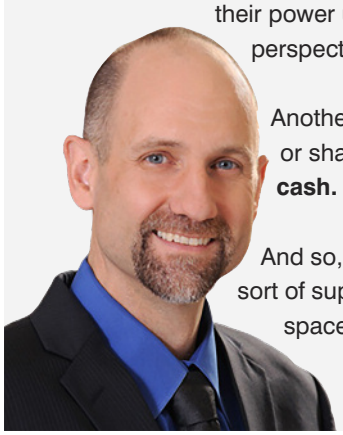


And so, people that are mining and have more than 5% or 10% of total hashing power have significant control. The exchanges don't either want cryptocurrencies to be stable – they would rather see volatility that will generate more revenue based on their relatively high exchange fees. *I'm therefore not sure if the people who have a lot of control would see Bitcoin being a stable currency as a good thing.*

This would go for Proof of Stake or any other consensus mechanism as well.

Will Coleman: Kenneth and I actually had part of this discussion yesterday as it turns out. And I'm a little bit more positive on the volatility issue because there are mechanisms that we haven't yet explored that may yet improve the situation. However, they could also make the situation worse as Kenneth has argued.

But there's also the issue defining the mechanisms as far as **how miners are regulated.** That could be very important going forward and is something that we haven't begun to explore. We haven't heard any discussions about that other than restricting their power usage. So, I think there still is a certain amount of levers we haven't pulled, at least in my perspective.



Another interesting aspect is that while the general public may tend to perceive Bitcoin as an anonymous or shady way that criminals can complete transactions, in truth **Bitcoin is actually more trackable than cash.**

And so, since it is more trackable, there is actually a kind of incentive for a lot of government agencies to sort of support it because you can follow the money quite literally. This is also an example of how the whole space and its applications will change as people's understanding evolves.

Matthias Knab But Will, can you explain why is it if Bitcoin is trackable that hacking and the theft of Bitcoin are such an issue then?

Will Coleman: Sure. For one, trackability is not the same as reversibility. Even if you have a good idea of who the hackers are you can't claw back the funds without getting information from them directly. This usually means putting your hands on them physically and that requires more resources. For instance, if you know that bitcoin was stolen by folks in another jurisdiction, you still require the cooperation of the entities within the jurisdiction to provide investigation assistance and enforcement. Often this is not a priority for outside enforcement entities. Additionally, while bitcoin may be relatively traceable, it doesn't mean that hackers don't have other means to conceal their identity.

Kenneth Goodman: Right, Bitcoins are *not* fully fungible, similar to serial numbers of dollar bills, each and every holding you've ever had can be traced back to the block where it was mined/created and to which address it currently resides.

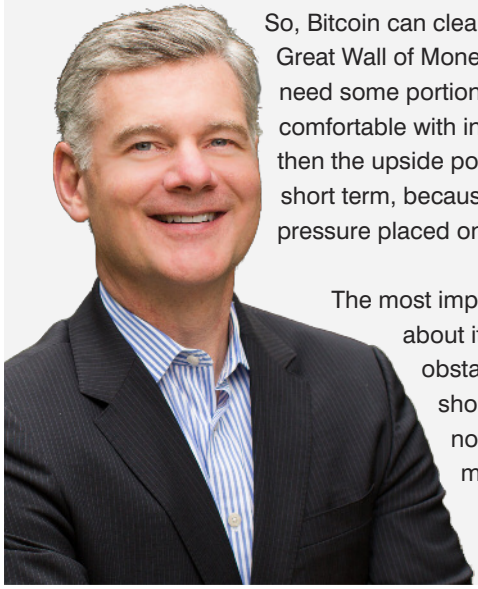
Mark W. Yusko: When you think about fiat currency versus cryptocurrency, the problem here is that since the beginning of time fiat has come and gone. **There have been roughly 875 paper currencies in the history of the world, and three quarters of them don't exist today in any form.** As Roy said earlier, the issue is that over time they get printed into oblivion and the value disintegrates to nothing. I have on my desk at home a 100 Trillion Zimbabwe dollar bill (as many of you guys probably have too) and today, it wouldn't buy a loaf of bread.

We also have to comment here about what has been the ultimate currency for 5,000 years - gold. **For five millennia a single ounce of gold has bought a fine man's suit and has been the perfect store of value.** Gold has shown us that there has only been one currency that has stood the test of time. One funny diversion is that while gold clearly has become useful over time there is a hilarious viral video going around that spoofs the first time a guy tried to buy stuff with gold. It really is quite funny when the shopkeeper asks the guy trying to swap gold for food, "Can I eat it?" "Well, no." "Can I melt it down and make something with it?" "Well, no." and so on… but despite the early doubters, gold did catch on.

When you think about cryptocurrencies, and Bitcoin in particular, I use the Saudi analogy where Bitcoin is King Crypto, Ethereum is the Crown Prince and then there are all the other princes that hate each other and most of the other cryptocurrencies (and utility tokens) will likely go away. But today, in my view, cryptocurrencies, as a subset of the overall tokenization trend, are here to stay and many years from now will likely be as ubiquitous as gold.

What I am most excited about today in Crypto is the store of value construct. For Bitcoin, we don't really have the speed or the capacity for the necessary volume of transactions to be a medium of exchange yet, but it's probably coming soon. We also don't have all the infrastructure in place yet to really be a stable global currency, but that is also under development. But when it comes to the store of value use case, Bitcoin has done a good job quietly growing the number of users and expanding the overall market cap of the Network.

For example, imagine the poor guy who bought the three pizzas with 10,000 Bitcoin in 2010, he could now buy three G5s, that's sad for him, but what's probably sad for a lot more people is that if you put $10,000 of cash in your bank account in 2010 it is today worth just $8,400 thanks to the devaluation of fiat currency by the Fed.



So, Bitcoin can clearly be seen as this store of value. As more and more people realize that use case, the Great Wall of Money (as I call it) will be coming to Bitcoin soon. When all the institutions realize that they need some portion of their liquidity in this tremendously liquid and secure store of value and they get comfortable with institutional custody solutions, which to me is the biggest thing that has to happen – then the upside potential will be enormous. That said, the likelihood of price stability is not very high in a short term, because of the volatility of the human emotions of traders new to crypto and the upward pressure placed on the network as the institutional capital comes pouring into the market.

The most important point about Bitcoin however – and I've said this over and over and tweeted about it – is that **the real miracle was that Bitcoin went from zero to $100.** Given all the obstacles to the adoption of crypto, that actually never should have happened. Bitcoin should have died many times before it got to a $100. The move from $100 to $1,000 was not a miracle, $1,000 to $10,000 was not a miracle, $10,000 to $1,000,000 will not be a miracle, but Mr. McAfee really needs that to happen...

Marcelo Garcia: It is worth noting that as I am an outsider from the financial services industry my point of view is more generic – I believe that **efficiency always wins in the long term,** so if you offer a streamlined way of delivering the same value and no significant hurdles are present, people will eventually adopt that approach.

We are going through this process at the moment with Crypto – it is still not very clear how everything will pan out and plenty of open questions are out there looking for relevant answers, but this megatrend will eventually spread globally in a major way. To me this is about entropy and how to reduce it, how to maximize results sustainably with minimal effort. Which currency, which format, which shape and in which country – these are all concerns that are going to be effectively identified by the markets regardless of existing "pre-Crypto" regulations. I believe that forward looking government like the Swiss will continuously move sooner than others, while those with more to lose due to their particular set of circumstances like larger populations will be a lot more cautious and perhaps miss that initial wave but will also eventually catch on to the new reality down the line.

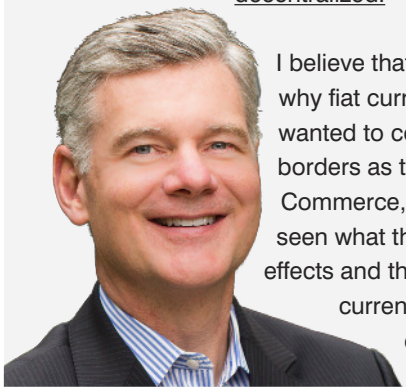
The metaphor that comes to mind is **traveler checks.** If you were born in the 70's – which happens to be my case – you will remember that this was a very common way of safely carrying money around in the past.

No one uses traveler checks these days and I haven't seen one for maybe 10 or 15 years. Why would anyone bother as there are now far better solutions available? *I think that something similar is going to happen with paper money, where at some point we will be seeing current legal tender hanging on a wall as souvenirs next to the famous hundred trillion dollars bill from Zimbabwe.*

This is something that will still require many tectonic plates to shift and settle, a disruptive process by definition. Some countries will say about certain Crypto proposals "this is totally unacceptable here" while others trying to carve their own niche will retort "We're fine to try it here, but let's sandbox a pilot first".

On the other hand, larger countries with significant economic leverage will continue to put intermittent pressure on smaller countries that are more liberal from a regulatory perspective so that eventually there will be a set of accommodations similar to what happened between U.S. and Switzerland a couple of years ago regarding bank secrecy. We just need to be extremely watchful and very reactive to consistently steer in the right direction and to migrate if necessary to the right jurisdictions at the right time to be able to benefit from all the transitory arbitrage opportunities that will blip on the radar in the next five to ten years.

Mark W. Yusko: We have to make the **extremely important distinction here between cryptocurrency and digital currency.** So, I am 100% sure that digital currencies sponsored by governments will be issued. My guess is that China will be first, Russia second and maybe Switzerland will be in that group of early adopters. However, digital currencies are not cryptocurrencies, but rather are centralized currencies that happen to be in digital form. Cryptocurrencies must be decentralized.



I believe that what makes a cryptocurrency so appealing is the decentralized nature. If you think about why fiat currencies exist, they exist because we created borders and then because the governments wanted to control what happens within their borders. If we think of true globalization and the erasure of borders as the **Internet of Value** evolves and as we move beyond the Internet of Information and Commerce, that erasure of borders demands a single global currency emerges and it remains to be seen what that will be. I think Bitcoin has a head start on being that solution just because of the network effects and the Law of Increasing Returns. But again, I think the critical difference between digital currencies and cryptocurrencies is crucial to keep in mind when we think about these developments.

Steven Baum: I agree and want to echo Mark's comments – a key reason cryptocurrencies will actually replace fiat over the long-term has to do with the power of decentralization. The evolution of the blockchain and cryptocurrencies will be driven by decentralization, and the resulting disintermediation will be a preferred and inevitable consequence. And so, as Mark is saying, when those geographical borders get eliminated and you do away with the idea of a government coming in and adversely affecting the monetary system, there is good reason to believe that cryptocurrency will prevail.

Michael Moro: They way I see it, this discussion of crypto versus fiat currencies always comes down to a few things. We had mentioned gold, and there are about eight trillion dollars worth of gold currently above ground. Bitcoin's market cap is around hundred fifty billion, and the global printed fiat supply is about 4x the value of gold above ground.

When people start pointing out the flaws of Bitcoin today – it's too volatile, it's too slow, no payment function, et cetera – that's why the price of Bitcoin is what it is today – only a tiny fraction of even gold, never mind printed money. A lot of the solutions that will get Bitcoin to where it needs to be have yet to be invented and/or implemented, but I would argue that that is the relative value play. *This is why people buy in at the current price. You believe that at its core, Bitcoin is a "better gold." Now, it certainly has its share of hurdles to be jumped, but the thesis is that Bitcoin will get there in time.*

Roy Niederhoffer: One of the great criticisms of Bitcoin is well, we already have gold, why do we need Bitcoin? But there are some things that can happen with gold that are conceivable in our lifetime. For example, **what would happen if energy became free?** Well, you can make a lot of gold out of lead, you could achieve the alchemists' dream! So, even gold does not have fixed supply. And of course the more expensive gold gets, the more you're incentivized to dig deeper and buy more, non-producing gold mines – that's not my industry but clearly there is usually incremental supply at higher prices with everything – except Bitcoin and other cryptos that have a fixed supply.

So, Bitcoin's volatility can be both a good thing and a bad thing. Volatility incentivizes speculation and gives people a reason to provide liquidity to the market but at the same time to me the reason that we're not 10 X and a 100 X – which I believe we are going to get within the next few years – is that same volatility. It's scary to invest in Bitcoin right now. But as you correctly point out, therein lies the opportunity.

It's only because Bitcoin is so volatile that the prices are as low as they are. When that vol drops, that's the reason that when we'll see a very steeply rising market and that's when institutions will start to feel safer using this fixed supply means of storage of value.

Matthias Knab How can or how should different investor types such as retail, high net worth and institutions get involved?

Michael Moro: Genesis is purely institutional, so we don't really face the traditional retail market. But whenever I am asked by friends and family on how much they should invest, I typically tell them to not invest any more than 1% to 5% of their investable net worth. But that 1% to 5% range is often what institutions put into the asset class as well – as a relatively cheap option on an asset with an asymmetric return profile.

Matthias Knab What should they then do with those 1%-5% in cryptocurrencies?

Michael Moro: I think it makes perfect sense to take the 1% to 5% and invest across the 5 or 10 largest tokens. In my view, we are so early in the game that I don't think it's entirely necessary to pick a winner. While Bitcoin appears to have the network effect and is in the lead for now, who knows how things will look like 10 or 20 years from now and which kind of cryptocurrency will be the top dog in that world?

What I would do as a retail investor starting out with cryptos is to just open up an account at an exchange and start playing around with it, even at a $100 or $200 level, and actually buy some tokens. When you actually own some of the tokens in your wallet, you'll be interested in following it.

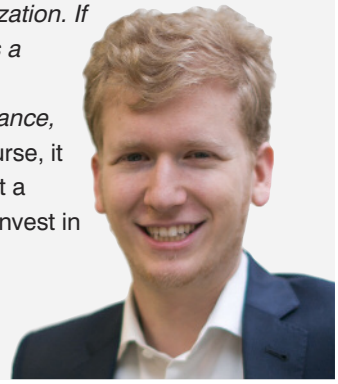
Once you have that investible money in cryptocurrencies, you'll tend to care more about it than before – even if it's only $50 or $100. When you have some skin in the game, you're more likely to stay on top of the news and gain a better understanding what is happening. You're also going to grow more comfortable with using your wallet and become more knowledgeable about concepts such as tax treatment for crypto transactions.

For an institutional investor, there are a few paths. Accounts that cannot hold tokens but want exposure should look to products like the cash-settled futures contracts listed on the CME and CBOE, options via LedgerX and private placements into Grayscale Investment's Bitcoin Investment Trust.

Accounts that are comfortable with holding the underlying tokens should strongly consider the OTC market. I think the exchanges do a very good job of catering to retail, but if you are looking to transactions in excess of $1 million, the OTC market will provide better execution. And at Genesis, that's exactly what we do: helping hedge funds, family offices and high net worth individuals to accumulate and/or liquidate large positions. We have been making a market in this asset class since 2013, and we are the largest regulated market-maker in the space.

But even for institutions, my thoughts around diversification would also apply. If you're going to invest, you should look to gain exposure beyond just bitcoin.

Kenneth Goodman: I would echo a lot of that as well, I don't think anyone knows which cryptocurrency is going to be the most widely adopted and supported.

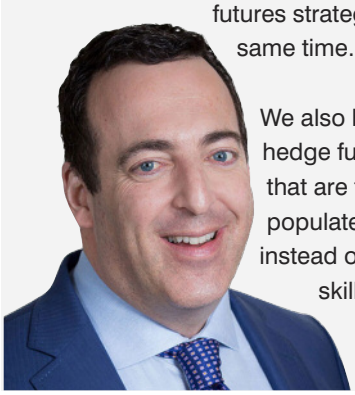


Bitcoin, one can argue, has the best chance and this is why it maintains the highest market capitalization. If we say that a cryptocurrency reaching a one trillion dollar (to take a random number) market cap is a winner, whatever winning means, then Bitcoin is about one-ninth of the way there, so we could say there's an 11% chance of getting there. For Ethereum the chances will be less, around a 1 in 15 chance, and so on. And so, if you want a 1000 X gain, it's unlikely to come from Bitcoin or Ethereum. Of course, it depends on what your investment goals are. I may buy a one dollar lottery ticket and then I also put a thousand dollars into a large cap stock. Depending on what an investor is looking for, they should invest in different assets, which will be very different for each individual.

Roy Niederhoffer: *I think it's also important to note here that one of the great risks for investors is tying up a lot of capital in a space that isn't certain to go up.* There is no such thing as a sure investment, but at the same time a lot of people do have the potential to get very excited about the space, and they may have a situation where your manager or your accountant just ties up a lot of cash in your crypto or blockchain investments – and it just goes sideways or down.

And so, one thing that I hope occurs – and actually this is starting to happen – is having more ways of monetizing your portfolio. Obviously, if you had equities you can let people borrow your stock, you receive a dividend. There is no dividend in Bitcoin, maybe you'll get Forks if you are lucky.

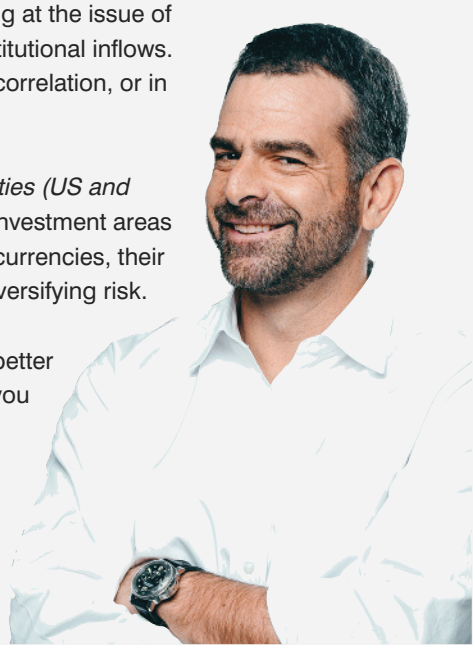
But I think as a yield curve develops, you'll be able to lend out your Bitcoin. I think this is coming for sure. You'll be able to trade derivatives and hedge your portfolio and receive return for getting rid of some of the upside, for example, the way people sell calls in equities. In one of our products, we layer an entirely different strategy – short term futures trading – on top of our fund's crypto holdings. Essentially we are letting the crypto (rather than cash, as in our other funds) serve as a backing to our futures strategy. So investors get two uncorrelated return streams – crypto plus short term trading – at the same time.



We also believe that we will see more of such hybrids between traditional asset managers and crypto hedge funds. Right now, there are hundreds of crypto-only hedge funds, and there are some hedge funds that are trading a small amount crypto. I think the middle ground where we live will become more populated too as people find ways of lending and other ways make money from a crypto investment instead of just holding or picking cryptos and making money from the appreciation of the crypto or the skill of the manager at picking which tokens to own.

Steven Baum: There is a lot of talk about when the institutional "wall of money" will be coming into the market, and that it will take time given the high volatility of the asset class, the need for more infrastructure, etc.

From a portfolio management or asset allocation perspective, I think people are looking at the issue of volatility incorrectly, and overweighting it as an obstacle, when it comes to judging institutional inflows. We have done a lot of work around this issue and we believe the driving force here is correlation, or in this instance, the **lack of correlation to traditional asset classes.**



One of the most unique attributes of this asset class is its near zero correlation to equities (US and international), fixed income, real estate, gold, and emerging markets. These are core investment areas for any institutional portfolio, and along with the performance characteristics of cryptocurrencies, their historically low correlation offers portfolio managers a way to increase returns while diversifying risk.

More specifically, by combining a low single digit percentage allocation of Bitcoin (or better yet, a more diversified portfolio of cryptocurrencies), into a traditional 60/40 portfolio, you can substantially increase performance and dramatically increase Sharpe ratios with a negligible increase in standard deviation of volatility. In my view, this dynamic will be a major driver in helping more institutional capital come into the market as they get more comfortable understanding impact this asset class from a portfolio management and asset allocation perspective.

Roy Niederhoffer: One other great indication is that Mark Yusko is sitting at our table today.

About 20 years ago, he realized that CTAs were an asset with zero correlation and tremendous potential to enhance a portfolio. Within about 10 years the managed futures industry grew in size by a hundred times. So, the fact that Mark is at this table gives me tremendous enthusiasm for the crypto space.

Matthias Knab

Roy said earlier that he sees cryptocurrencies as the killer app for Blockchain but obviously Blockchain is much more than that. Blockchain is starting to revolutionize countless industries – there was an article recently how adoption of Blockchain in the shipping industry could generate $1 trillion in trade. That article pointed out that globalization has brought the most advanced trading networks the world has seen, with the biggest, fastest vessels, robot-operated ports and vast computer databases tracking cargoes. But it all still relies on millions and millions of paper documents. So that last throwback to 19th century trade is about to fall with Blockchain, and this is just one example.

We also see how ICOs are changing the whole asset raising mechanisms for start ups and as well as for established companies, and getting into competition with traditional venture capital.

Mark, your company Morgan Creek has just acquired Full Tilt Capital, a company focusing on early stage companies. Can you tell us more about the opportunities you and your team see here?

Mark W. Yusko: As we look at the world of opportunities in Blockchain technology we break it down into three segments. The first is Infrastructure, the venture capital activities related to founding businesses that are going to perpetuate all of us investing in the crypto space going forward. We have done through investments with groups like Pantera and Blockchain Capital and are evaluating others such as Digital Currency Group, Draper Associates, Boost VC, et cetera. So, those guys were early in realizing that there was going to be an evolution of use cases and we have been fortunate to learn a great deal from their experience.

I think for me, the natural progression, or the natural evolution of Blockchain, is just a continuation of a technology evolution theme that I have seen over many decades. Simply stated, that there is a change in computing power over a fourteen-year cycle and a change in how that computing power gets expressed in the real world. Why actually 14 years? I think it has to do with being half a generation and is likely linked to the Creative Class (young people within certain generations) – I'm not a 100% sure, but it has been a 14-year cycle that we've observed.

Around these transition periods you get about a **four-year window to invest heavily in the venture capital related businesses** that create some of the major money-making opportunities in technology. In 1954 we had the Mainframe Era and from 1954 to 1958 there was a chance to invest in all the early mainframe companies. Then 14 years later in 1968, it was the Microchip Era and you had a four-year window where you could invest in things like Fairchild and Intel, et cetera. In 1982 it was the Personal Computer Era and you had a period to get involved in the Microsofts and the Ciscos and the "Wintell" related companies.

Then along came 1996 with the Internet Era which then was about early opportunities such as Yahoo, eBay and Google, and lots of other companies that were formed up to 2000. In 2010 it was the Mobilenet Era bringing us the ubiquity of the Internet with all kinds of exciting investments such as social media networking, etc. *The next evolution will be in 2024 and well, that's in the future, but we can see the writing on the wall that it will be the Blockchain Era.* So, from that perspective we're not even at the beginning of the game for Blockchain technology and this is because we are really in the early 1990s, not the late 1990s of this transition toward the ubiquity in Blockchain applications.

With this huge evolution, we see major opportunities in investing in venture capital related to exchanges, back office infrastructure and software and related technology, all the picks and shovels, and we believe that getting these investments in place is critical to getting us to that point from where we will then be able to really maximize the return opportunities from the Blockchain Era.

Another thing we watch is the **Gartner Hype Cycle phenomenon** which suggests an initial hype about a technology is then followed by a crash and ultimately a recovery that creates the largest investment opportunities.

The Blockchain crash is coming, we actually didn't just have the crash (even though Bitcoin prices fell 70%). What happened from December 2017 to now is not even close to The Crash (like the Tech Bubble Crash in 2000). So, we are likely going to have a crash, it's maybe 12 to 24 months away and that will be the time when everyone is going to lose hope.

In Gartner-speak, it's called the Trough of Disillusionment. Everybody is going to say, "see, I told you this was a speculative frenzy and there is nothing good that will come out of Blockchain and Bitcoin", but that's when the huge money will be made (just like the huge companies formed after the Tech Wreck).

If you're backing the right investors and identify the right investment opportunities during that period coming out of that Trough of Disillusionment, that's when the **full adoption of Blockchain technology and cryptocurrency** will occur and fortunes will be made. We believe that it will be in this 2020 to 2024 period where we will really see the biggest use cases, the biggest technological advances and the full embracing of the technology, where it just becomes common place, as if it has always existed.

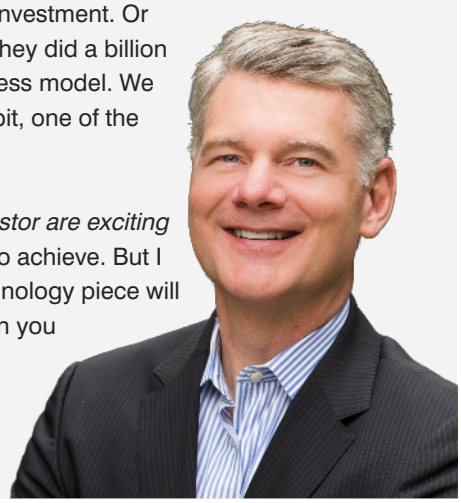
Michael Moro: I have a question for Mark and anyone else who can opine. In regard to enterprise Blockchain, I personally see it more as an **efficiency play,** whereby the benefits of implementation are more cost-savings as opposed to revenue generation.

And so, if this is true, enterprise Blockchain is certainly less sexy from a headline perspective. I'm often asked, "Hey, if I don't care about cryptos and I just want to invest directly in enterprise Blockchain, what company should I invest in?" And I have a hard time answering that one because a lot of the benefits that I see around the private Blockchain is this cost savings portion. Do you agree?

Mark W. Yusko: I agree in the sense that there are lots of applications of Blockchain technology across every industry we can think of, from financial services, to health care, to software, to manufacturing or shipping, etc., where there are going to be some very boring applications that strip out costs, that on the surface don't appear to be very sexy, but will still be very large investment opportunities where you can make five times, 10 times your money (which in my world and the venture world is actually a pretty good outcome). It's not a thousand times your money like we have seen in some of the Cryptos or an ICO, but great returns nonetheless. But let me give you a specific application example here.

In the old days to get a bank loan, you went to the bank and they gave you loan and kept it on their books. At some point the banks realized they can syndicate these loans and sell them to investors. The problem is that it still takes 30 days to settle a bank loan, but that's insane. It shouldn't take 30 days. Why even take three days to settle a security transaction? We have somebody in the room who will tell us why that's insane, but 30 days is truly insane.

So, we were meeting with a company recently who employs some people from the back office who process bank loans, and they started to create a business that will strip away a billion dollars of cost out of the system. In my world, a billion dollars are a lot money. So, if they can monetize some portion of that, it will be a very nice, boring investment. Or think about an investment like Coinbase. The company didn't exist five years ago, and they did a billion dollars of revenue last year. It's an incredibly interesting business and compelling business model. We invested early on, it had a very nice return from that, and also had an investment in Korbit, one of the primary crypto exchanges in Korea.



What I am saying here is that *many of the things that don't seem exciting to a retail investor are exciting to a venture capital investor* because they have a different return profile they are trying to achieve. But I do think that you are exactly right in the sense that this way of adoption of the pure technology piece will not be as exciting as the things that will happen post the Trough of Disillusionment when you get the consolidation and the creation of that first trillion-dollar business that's going to come out of this technological evolution.

Will Coleman: What Blockchain is capable of doing within a business organization is sometimes misapplied in my opinion. Primarily, the interesting thing that Blockchain achieves is that it absorbs some of the need for trust. From that perspective, centralized systems already have trust, and you don't really need Blockchain style technology as you already have an arbiter.

Blockchain on the other side provides an external arbiter that doesn't require any individual to be trustworthy, and that is one major advantage of Blockchain. This is also why I think things like XRP are interesting because even though it's a private application, no specific bank has full control over the chains, and therefore you have this non-repudiation available for transactions.

Marcelo Garcia: *Very generally, I think that Blockchain based solutions can do two main things if you wish to summarize it at the highest level.*

The first scenario is when you have an existing process that can be streamlined to run more efficiently because you no longer need expensive intermediation, generating significant recurring savings.

Resources generated by those savings can then be used to do the second thing that Blockchain does very well, which is allowing new business models to be implemented – especially those that were impossible to achieve before because they would have been way too expensive to be justifiable but are now affordable because of Blockchain solutions.

You can compare it to a two-step dance. You first save the money by using the technology, which is easier because management understands those processes well and realize where the pain is – then you use this additional money source to internally finance Blue Ocean Strategies focusing on creating new markets, that's where the potential gets really interesting from a perspective of Abundance.

I think that winners are going to be the ones that start with the "savings oxen", and then built the "innovation cart" and not the one that tries to be too innovative without a proper sustainable funding structure in place as those often tend to run out of money fast. In summary – figure out where and how you can save money, then reinvest minimizing the need for external capital to expand into new strategic areas in your industry.

Joe Cammarata: I agree with what has been said, and this is also the approach we are taking at tZERO.

I didn't give much of a background earlier, but just a quick overview. We have had two broker/dealers over the last eight years. One is a routing and execution firm that's done smart order routing for other broker dealers and exchanges only. So, we don't have customers onboard and this puts us in a unique position to have all the infrastructure, integrations from Bloomberg terminals, Fidessa, order management systems and then the outbound connectivity to all of the dark pools or other ATS (Alternative Trading System) and exchanges.

On the flip side of it, we have an ATS called "Pro-Securities" which for a while didn't do much because we didn't want to compete with our other clients or ATS. So, we did create a division called Blue Ocean – it's funny Marcelo just talked about Blue Ocean Strategies – where we do overnight trading. We bring the ATS up at 8:00 p.m. Eastern and I bring it down at 4:00

a.m. So, we offer the only 24/5 U.S. equity trading. In fact, we've recently signed up several clients and are presently executing the overnight trades for TD Ameritrade and E-Trade. So, if you've seen the Super Bowl or any of those commercials with Lionel Richie for TD Ameritrade, we are providing that overnight technology for them. A lot of that is being done in Asia, and it is growing quickly.

But going back to the Blockchain components, since we already had the infrastructure, Overstock acquired about 80% of us in 2015 for the intent of taking crypto technologies to Wall Street to disrupt three primary areas: Securities lending, clearing and settlement, and issuance in the form of security tokens, and it's been very disruptive. A lot of people really haven't noticed what we have been doing but we quietly have been accumulating new assets. For example, we have made some small acquisitions including minority ownership of a clearing firm.

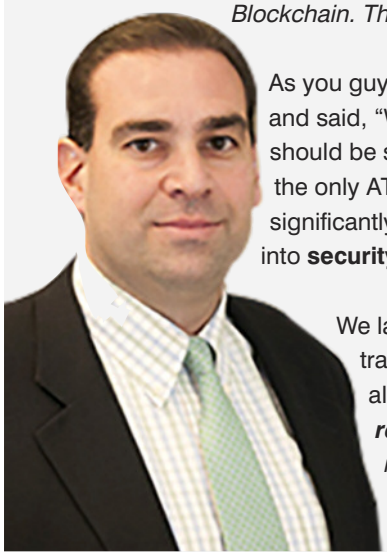
Before we really talk about getting into the technology here is a little background. In 2015 Overstock went to the SEC and said, *"We'd like to be the first public company that files an S3 or issues trades, clears and settles them on the blockchain away from DTCC."*

DTCC at the time was T+3, so Trade date plus three days to settle. We said we are going to do tZERO settlement, so on the same day and all on a Blockchain. At the time there was not a lot of familiarity of the Blockchain by the regulators in general. Remember, this was 2015. So, we had to do a nine-month education process with regulators, including going through Rockville, Maryland, Washington DC, LA, New York with FINRA and the SEC, explaining and educating on the Blockchain technologies and basically saying, *"This isn't radically different. We are essentially doing all the same procedures – KYC/AML, compliance, rules, and then it gets to the point where instead of going DTCC which is centralized clearing we are going to the Blockchain which is decentralized clearing also amongst trusted entities" (existing Broker Dealers and Clearing Firms).*

Then the question became **custody and control,** "Okay, where are these assets going to be held and we need to have a clearing firm involved," because they still didn't trust the Blockchain at that point. These issues were all being worked on while the SEC deemed the Overstock shelf registration effective, for the new Preferred (OSTKP) offering.

So finally, in December of 2016 we issued the first Digital Security, in which we had to get our ATS approved for the new term "Digital securities", which nobody had even heard of prior in 2016. We launched that OSTKP and essentially made history, but the truth is that nobody cared. So we sat there with this ATS which was a large million dollar bet, but showed that it could be done and that it was in production and would be the basis for the Security Token Trading Platform.

Then in 2017 all of a sudden **ICOs** started happening very quickly. We sat there and said, *"Well, we've got this ATS, and it's the only ATS approved for digital securities. We're the only ones that have executed, cleared and settled trades on the Blockchain. The SEC has to step in at some point."*



As you guys know, $3.9 billion was raised in ICOs in 2017. Finally, in June of 2017, the SEC came out and said, "We believe that many of these ICOs are essentially in violation of federal securities laws." They should be securities and as such be traded on a national change or ATS which at the time again we had the only ATS that has traded Digital Securities. That's when Overstock's share price also increased significantly. We believe that people realized, "Okay, these guys have something." So, we have ventured into **security tokens** as a new term, getting away from ICOs.

We launched an early security token. In fact, we recently rolled out a demo of our Security Token trading system and are looking for the first Security Token (maybe Reg D that launched and is almost out of its one year hold) that can come trade on the ATS. ***We see this possibly replacing IPOs and traditional listings*** *by creating a whole new vehicle for capital formation in the US and beyond.*

Mark W. Yusko: *The importance of Joe's remark about tZero's SEC-approved ATS executing, clearing and settlement of the first trade of a security token on the Blockchain cannot be overstated.*

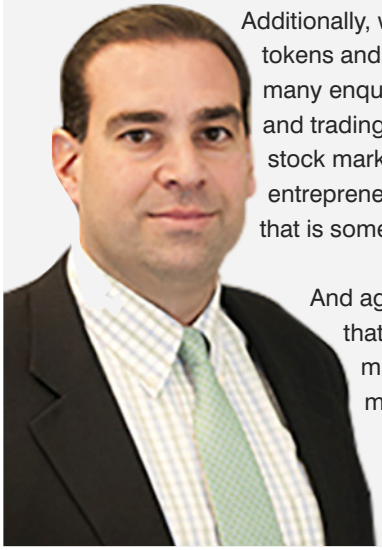
Not only is it the first one, but it's also the beginning of what will probably be the **biggest innovation wave** that any of us will see in our careers.

We are witnessing the change from Analog, physical paper ownership to the true and full Digital ownership of assets. I don't want to get too excited about it (actually I do…), but I do think it is the biggest trend and the biggest wave we are going to see in our business lifetimes. Tokenization is something I plan to spend chapter three of my career focused on because **everything of value can be tokenized with Security Tokens** and one of the most important benefits is that they are registered and follow the traditional security rules.

Let me also make the point here that regulation in itself is not bad, it is just a set of rules. If you think about decentralization, we want decentralization in the sense of a decentralized network architecture, but we don't want decentralization in terms of allowing different domains with different rules and subtle variations such as we see for example in the English language. As an example, we are having a discussion here in English, while my wife back home (or someone else in a different suburb or even country) may be having a conversation in English as well, and when you look closely the different speakers can follow different sets of rules even though we are all using the same language. That doesn't make sense for a protocol, so we need **one set of rules, one set of regulations** to govern how we think about Digital ownership of assets, which is the big mega trend that in my mind will continue to grow and will be big, really big.

Joe Cammarata: Mark thank you, I agree, and while of course I'm a little biased, let me also share a bit more background on this.

tZERO launched our security token offering in mid to late November 2017. What's interesting to note is that about 75% of the first hundred million we raised was from institutional players. So, we saw a really big change from traditional ICO investors to now much of the investment coming from institutional players. Either hedge fund owner, family offices, and we even had large institutions, such as Soros, Passport, Morgan Stanley, and even Fidelity invest in Overstock, with some citing publicly that tZERO is the reason they were getting involved.



Additionally, we have had well over 2,000 companies reach out to us that want to do their own security tokens and then have it trade on our trading platform and ATS. That's just from the U.S., we also have many enquiries from outside the U.S., including exchanges that really don't do much in terms of issuing and trading, but now they are understanding that there is a whole new world, for example the Colombia stock market, the Colombia mercantile exchange, where there are also many great companies and great entrepreneurs but it's hard for them to access capital. Well, now you're dealing with a regulated offering that is somewhat like an IPO.

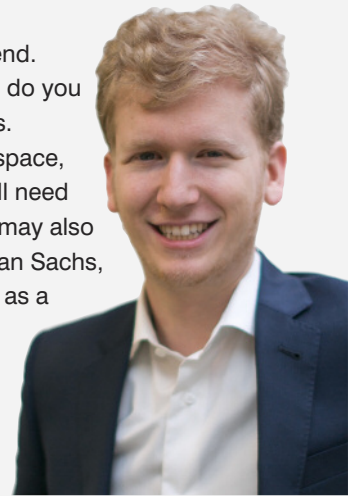
And again, for the clients that we have spoken to about a Security Token Offering, we have to enforce that it is a Security and must comply with US Securities laws, but it is not as difficult as an IPO, but maybe it's a bit more challenging than just an ICO where you put a white paper up and raise 50 million bucks, buy a Lamborghini and disappear..

[laughter]

So I agree with Mark, we do need some regulations, that's important and that's why the institutions are coming into play in our opinion. Summing up, we see a massive uptick in this activity going forward which is a major change of capital formation in the U.S. as we see it.

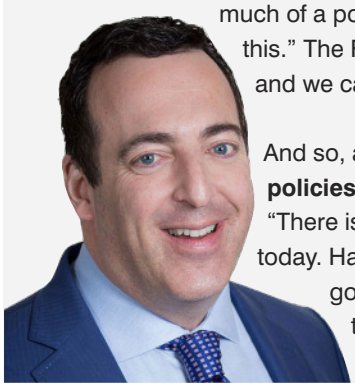
Matthias Knab Let's try to be a bit more specific about the changes you see or you predict or wish for to happen in say the next one to three years?

Kenneth Goodman: There are a couple of different perspectives here, one is with respect to scalability. At the current moment the aggregate number of all transactions on all cryptocurrencies together are less than 30 transaction per second, and most of those are on Bitcoin and Ethereum. When it comes to Ripple, you can argue that a lot of those aren't really transactions in the way Bitcoin and Ethereum have transactions. So, *we are very far from a system that could be considered a global payment network*. If everybody in the world started to use Bitcoin today, the fees are estimated to reach astronomical levels a transaction and so, again, at this point, we have a huge scalability problem.



There are other deficiencies around the infrastructure. For example, there are very few places to lend. Genesis is one of them, but to lend your currency or even short is decently difficult, and when you do you pay a very high annualized rate, anywhere from 5% to 18%, depending on the asset liquidity terms. The big broker dealers, prime brokerage firms, and capital raising brokers haven't come into this space, and so, **for crypto to succeed, a lot of the financial infrastructure that have yet to come in,** will need to come in. Even if the "anarchists" who came into cryptos in 2011 dislike that development, they may also realize that their assets are near worthless if nobody is using it, and so the groups such as Goldman Sachs, JP Morgans and the big funds in traditional markets will bring a level of sophistication to the asset as a financial instrument. I think on the technology and infrastructure front, we have a lot of room to grow, and we are still speculating that the large players will come in at some point and the technology will be built – hopefully sooner rather than later.

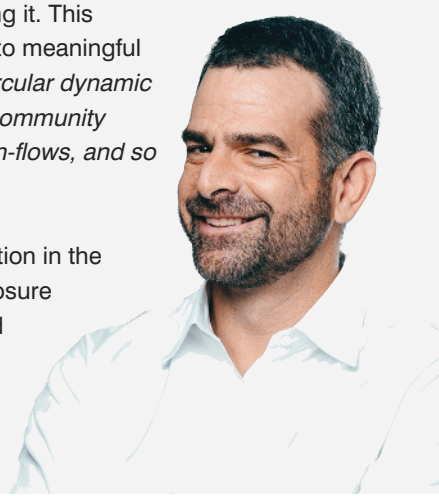
Roy Niederhoffer: I think another aspect is that we have to **move from government efforts to try to ban it to government efforts to try to monetize it.** In other words, the governments of the world now have created a golden goose. It's my belief that Bitcoin is now already too big to be banned – that might have been possible when Bitcoin was at $100, but now it's too much of a potential revenue for Treasury Departments to say, "We are not going to try to make money from this." The Federal Reserve has let a potential killer app for centralized money printing out in the world now, and we can't eliminate it.



And so, apart from the regulations we mentioned we also need to see **clearer and reasonable tax policies** so that people can really comply and not essentially just throw their hands up in dismay and say, "There is no way I can figure out my taxes", which is exactly the point where about 99% of people are today. Having gone through my 2017 tax filing myself, it is not easy. I think there is really a synergy in that governments want to monetize it, people want to use cryptocurrencies as a normal mode of transacting, and I think tax has to be an integral piece of that.

Steven Baum: Infrastructure is clearly a hurdle as it relates to capital inflows from institutions, and the biggest issue for many of these institutions is clearly in the area of **asset custody and security.** In my discussions with RIAs, family offices, endowments, and foundations, this is the issue that consistently not only creates the most discussion but also the most hesitancy.

Capital raising from these groups may be slow until this hurdle is overcome, but we need to remember we are still in the very nascent evolutionary stages of this asset class. On the positive side, institutions are clearly very interested in cryptocurrencies and many groups are devoting a lot of time and energy to understanding it. This education process, combined with the inevitable improvement in infrastructure, will lead to meaningful institutional participation over time. It also should be pointed out that there is always *a circular dynamic with institutional capital and infrastructure, so as the "early adopters" in the institutional community come in, infrastructure will increasingly improve, which will drive later stage institutional in-flows, and so on.*



Regulation certainly needs to come in, but in the right way. People fear the lack of regulation in the space, but the more concerning dynamic is "bad" regulation, or poor controls over disclosure practices. I think all key market participants need to work together, both domestically and also on an international basis – to form common standards and drive regulation in a way that's going to be beneficial long term.

Matthias Knab

Of course, anyone who is taking a deeper look here can see certain conflicts of interest that can run very deep across the industry.

The disrupted industry wants to defend its place as long as possible, and this fight can include even shareholders of the very same disrupted industry. So here is Joe's ATS disrupting three of the most inefficient, yet profitable areas of Wall Street, and on the other side you have established players, in this case for example the DTCC, and of course many of the large institutions we talked about are also shareholders of DTCC.

That's part of the problem when it comes to the adoption of this new technology. On the other hand, history also shows innovation tends to happen in spite of such push backs.

Michael Moro: Looking three to five years out, I do have questions and concerns about deeming all ICOs to be securities because this would kill the utility aspect of the token itself.

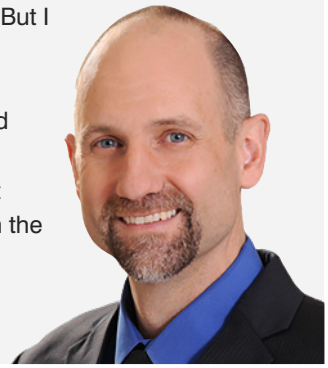
I think it's 100% the right move for firms like tZero to be involved in creating a liquid secondary market in a regulated format for some of these security tokens. But in the U.S., existing securities laws often prevent immediate resale of private placements, as well as placing restrictions on who is even eligible to buy (accredited investors, qualified purchasers, etc.) Putting these restrictions on all ICO tokens will significantly dampen, if not outright eliminate, the liquidity and accessibility of these tokens for potential users.

*Let's take **Filecoin** as an example, just to choose a specific token. If someone simply wanted to buy and spend Filecoin so that he or she could purchase storage on someone else's computer*

network, now you must be an accredited investor and have to open up an account with a broker-dealer to be able to do this. This seems like a rather high hurdle for people to clear, just to be able to use the Filecoin network. The securities designation would really introduce a significant amount of friction, hampering the utility of the token.

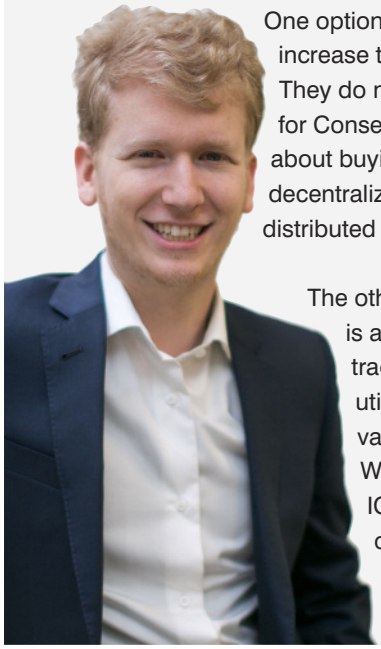
Separately on the cryptocurrency side, I'm optimistic that *in three to five years we will have a traditional securities custodian (e.g. State Street, BNY Mellon) in crypto, as well as having an SEC-approved bitcoin ETF.* But it's very important that the industry put the right market surveillance structures into place, and I do think there is a need for a global self-regulatory organization to help police the participants. And I believe that investor and regulatory confidence naturally follows from there.

Will Coleman: I want to echo that, and I believe that it's a little bit of a distorted view of the Howey Test to suggest that all of these things are IPOs, and I could give examples that can individually be argued. But I think in the end, they are going to look through this.



I believe that eventually the regulators are going to get a better understanding of the technology, and they will become more comfortable looking through the fact that it's tokenized or that it is a cryptocurrency and be able to evaluate the underlying components, but that's going to require court cases and precedents and things like that. Unfortunately, somebody is going to lose some money in the process of developing the history that we can then rely on.

Kenneth Goodman: I want to argue that the way that ICOs are currently done doesn't have to be the only way. There are two other options.



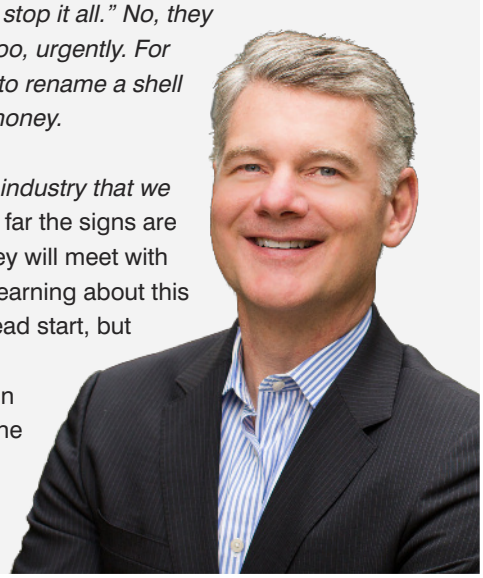
One option of token offerings will come from companies like Consensys, who have a major incentive to increase the value of Ether. They can do this by creating utility tokens which will run on top of Ethereum. They do not need to increase the value of the token, they just need to give it practical functionality. And for Consensys, they have all the incentive to create a Filecoin that runs on Ethereum where it is not about buying the token because you want the price to go up, you only buy it when you need decentralized cloud storage. We may soon see, and I hope we do, a Consensys sponsored and funded distributed file storage utility token that does not have an ICO.

The other options is what a lot of people are starting to do which is creating two different tokens. One is a security token for which you have to be accredited and follow all securities laws as a traditional securities investment. I've seen a couple of these recently where some portion of the utility token that you spend goes to the other coin, similar to a dividend, and that is where the value comes from. *And therefore I am not really sure that we even know how ICOs will pan out.* When you look back just three years, ICO started out very differently in 2015 when Ether did their ICO to how teams like Tron, EOS and PonziCoin have done it, I thankfully see fewer of the last one.

[laughter]

Mark W. Yusko: *I think the differentiation between true utility tokens and security tokens is fairly easy.* I'm not going to say it's perfectly easy, but fairly easy, and I am actually impressed with the SEC in how they approached this to this point by saying, "Look, we're not going to come down on everything."

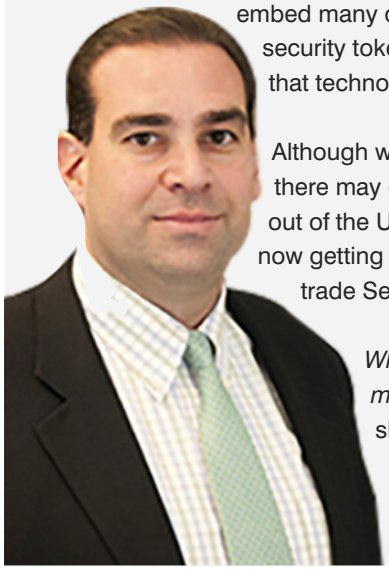
But as I understand the numbers, there has been some $8bn of capital raised in ICOs, and about $800m of it is outright fraud. But wait a minute, we didn't stop all stock IPOs when Penny Stocks and Bucket Shops came into existence. We didn't trash the whole system and say, "Oh, this is a horrible thing we've designed, so we have to stop it all." No, they cracked down on the Bucket Shops and the bad actors. This needs to happen here too, urgently. For example, I won't name names, but I was approached recently by a group that wants to rename a shell company to a new and fancy two buzzword name so that they can raise a bunch of money.



That's just as bad as a bad ICO, but *you see this type of activity right in the regulated industry that we all know and love, stocks and bonds and traditional finance.* So, I am hopeful, and so far the signs are there, that this is going to continue to progress that the SEC will be thoughtful and they will meet with people like Joe, who are experts in the field to help educate them, because they are learning about this the same way all of us around this table are. Maybe some of us have a little bit of a head start, but we are all going through this together. One of my favorite lines is never compare your Chapter One to someone else's Chapter Twenty, and therefore to have this expectation that tomorrow somehow we are going to be a fully functioning securities market like the existing securities market today doesn't make any sense.

Joe Cammarata: Michael, you had mentioned the need for global interaction or integration I should say, and this is one aspect which is new and different.

One area where I believe we are special is that we are very focused to also utilizing existing technologies. Obviously, we already interface with FIX, which is a major global financial technology protocol, and we are also migrating over to the ERC20 variants that many are using. In addition, we are also working with several new Blockchains and technologies to expand and improve throughput and efficiencies. These potential new protocols will be like the FIX equivalent for security tokens that will embed many of the KYC/AML and accreditation status, so a lot of the required compliance fields into the security token, kind of like the FIX protocol. And what's interesting is that now we are starting to license that technology out to non-US exchanges, it's all going to kind of mesh together.



Although we have seen that maybe not every ICO is illegal, the Howey Test is fairly difficult to prove, so there may certainly be some legal ones. We see that the ones that may be sketchy are starting to migrate out of the U.S., there is quite enough money especially in crypto outside the U.S. That is where we are now getting interest from non-US regulated exchanges to license our technology and start to regulate and trade Security Token Offerings (STO's) there locally.

What this means is that there is growth in the international space and ICOs will continue, but may morph into STOs. However, we also believe that they will be more regulated. At least if they should be a security, they will be seen as and become a security.

Matthias Knab Any updates from Switzerland?

Marcelo Garcia: A quick snapshot from my adopted homeland is that I was recently discussing becoming an Advisor and Board Member for a South American company planning to establish their foundation in Zug. Unfortunately FINMA (the local regulator) took so long to issue an official position on ICOs that they decided to go instead to the Cayman Islands.

Did they end up there because they were looking for a more lenient jurisdiction? Not at all, they really wanted to be in Switzerland to benefit from their prestigious image and the famed "Swissness", but the lack of regulatory clarity was hampering their ability to start the ICO immediately and their burn rate did not allow them to wait any further.

Just a few weeks later a very clear stance from FINMA became available through a formal statement, so this aspect is no longer a major roadblock to set up a Crypto shop there. Still on the same jurisdiction topic, Liechtenstein is a neighboring country also getting a lot of attention these days based on the nimble decision making of their regulator FMA and the (very welcome) willingness of the local banks to open accounts for Crypto companies. We will organize a CryptoExplorers.org trip there in July to help support local stakeholders and accelerate their ecosystem buildup, which is particularly timely because both countries already became **de facto labs on Crypto policy making worldwide.**

These and a few other highly developed countries seem to be taking a kind of tentative brand positioning such as: "We set the bar this high and only if you want to jump at that level you're welcome here" – so in many ways this approach self-selects who can afford to establish a local presence, as Joe mentioned that is also the case in U.S. In that landscape you're going to have far fewer initiatives that are outright scams or perhaps just a little bit too much on the dodgy side coming to these jurisdictions because it is so expensive and risky for those to setup shop there, not to mention that lower quality projects tend not to have the right level of strong backing such as from Crypto whales, major funds, institutional investors, etc. and run out of cash much faster.

On that thought, quality Crypto initiatives can benefit from institutional backers as partners even if no money exchanges hands, and that's for me a very strong indicator of a project to track closely. A prime example nowadays supporting several ICOs is Swisscom Blockchain, who are themselves majority owned by the local incumbent – Swisscom Holding – which in turn is 51% owned by the Swiss government. They are effectively lending the brand of a PTT corporation that has been around for almost a century and more than 700 years of Swiss Federation history to the selected Crypto companies they decide to support.

That means similarly well-established entities don't have to allocate a lot of cash to help make these projects successful because they're already investing significantly by committing their own brand. I think that this is one of the biggest opportunities for large corporations out there – they can internally reason "We really believe in what these guys are doing and at the moment can't expect direct financial benefits but supporting them keeps our options open in the future when the regulatory landscape matures and our next moves become obvious".

Once the regulation dust settles in the major jurisdictions, it will become far easier to identify serious ICOs that are likely to have grown in a sustainable manner and those that are more on the pump and dump speculation side. The latter initiatives could still go to one of those more lenient jurisdictions and try to 100X their tokens, but that's clearly a very different line of business more assimilated to penny stocks.

Matthias Knab Mark, how do you and other more experienced investors sift through these ICOs? Are these an interesting investment proposition for you? How do you evaluate an ICO or security token?

Mark W. Yusko: We have partnered with couple different organizations with good technologists on their teams that look at the underlying utility function of the tokens that are being offered. We have been fortunate to this point to have invested in some really good ones. But we don't have the team internally to sift through the thousands of whitepapers.

This is very similar to the boom in IPOs from 1996 to 2000, when 10,000 technology-related companies went public. There weren't 10,000 good management teams, so as you expect, about 7,000 of those companies went bust. Only very few of those firms were left, about 1,500 got acquired, and the other 1,500 became zombie companies.

That same thing is happening now with two guys or two gals and a whitepaper trying to get funding. Much of it is not even worth spending the time to read the whitepaper, let alone investing. But there are some really compelling opportunities and, so long as you have good technologists on your side, we have found that's the best way to sift through the rubble and try to find some nuggets.

Joe Cammarata: We have a similar challenge. As I mentioned before, just out of the U.S., 2,000 companies have called us, and we have now starting to advise some of them. We don't want to be the catch-all, we don't want to do investment banking, marketing, legal and compliance work for them, but they are looking for some direction and we have to do the same thing like Mark mentioned. In a way we are placing bets on them and want to make sure they are going to be successful on their STO and be ready to trade on our Security Token trading platform when they are ready.

We are using Jones Day as an outside law firm, Deloitte for accounting and then we also engage with those teams on the marketing and advising side. So, in aggregate, this is quite a bit of effort we are putting into it, we are very selective, and a lot comes down to technology differentiation.

Many things have changed over the last six months or so when it was much easier to raise funds in an ICO. Let me share an anecdote here. We had a talented developer, a great guy who worked, and I worked with for a few years. One day he came to me and said, *"Hey, Joe I sold my 401(k), I cashed out everything, I paid the penalties and put it all into Bitcoin." This is a year ago, and I thought he was crazy. I said something like, "Wow, what are thinking?" He said, "Oh, it is going to be fine."*

And then six months later he came to me and said, "Joe, I love what we are doing here at tZERO, but I am going to need to quit." So, I asked, "What happened?" He said, "Well, remember that money I put in?" I think the amount was like $42,000." He said, *"It's now worth $6.2 million now and I'm making more trading Bitcoin and Ether at home than I am working."*

I said, "Great, why don't you to just take half of it off the table, you know, and then you can still play, but at least you got some profits in the bank." He said, "No, no, I'm not going back to fiat and a couple of choice words for banks, taxes and being 'Known'" And he said, "No." I said,

“What are you doing?” “I'll start investing in some of the ICOs. So I will be diversifying and then those coins will also be appreciating.”

And the last time I spoke to him, he’s worth even a lot more, all from a $42,000 investment nine months ago. While this is surely extreme, it is also an example of some of the craze and things happening in this space. Then, as Bitcoin leveled off, a lot of the ICO mania kind of took a step back to now security tokens.

But let me mention something else. So we are all talking about institutions coming in and tokens now being classified as security tokens and investors now want custody and control. This is all fine, we can put everything with the right clearing firms and custodians, and we’ll do it all the right way. One thing people also need to consider is that **now the security tokens will also be covered under SIPC (Securities Investor Protection Corporation),** because they are Securities and, in some cases, just a standard equity.

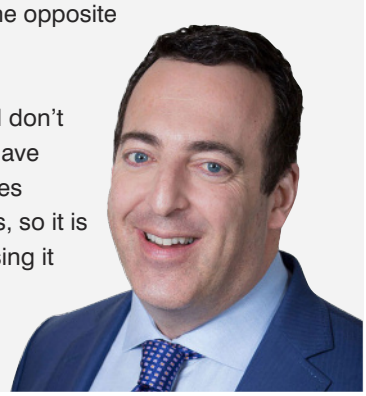
My point here is that regulators also cannot have it both ways. You cannot put the tokens under regulation and call them a security, but not protect it under SIPC rules.” So, with institutions coming in and treating the coins like real securities we are going to see more changes.

Michael Moro: Genesis Trading, as we are a broker-dealer, are not active at all in the ICO space. The level of due diligence we would need to conduct on each token would be so onerous and cumbersome that we’ve stayed away from them entirely. Personally, I agree with Mark, I think the development team is important as a key ingredient of evaluation.

Secondly, I think it’s also important for investors to discern whether or not this token serves a real purpose. *Does it really need to be its own coin?* Why can’t Bitcoin or Ether serve its purpose? So I think having a clear purpose for having a separate token aside from the native protocol is certainly important.

As an entrepreneur though and looking at the ICO space from the outside, I am curious as to how executives manage **conflicts that arise from having both equity and token investors.** How do the management teams of those ICO issuers deal with situations that might be great for token holders but bad for equity holders, and vice-versa? Does anyone on the panel have any thoughts on how they should be thinking about that?

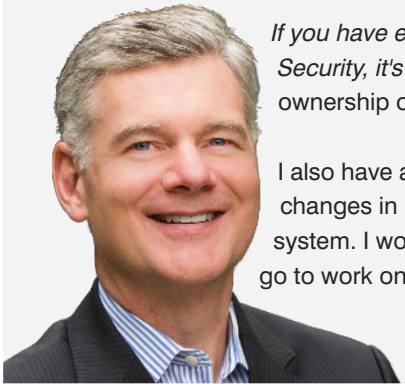
Roy Niederhoffer: That issue relates very much to the question of whether to allow prop trading at a hedge fund in the positions of the fund itself. I think there a lot of answers to that question. You can imagine situations where you would want someone to develop some knowledge by owning something before you put it into the fund, or the opposite situation where that could be tremendously fraught with conflict.



I think it's really just a disclosure issue and something that everyone needs to solve individually. I don’t think there is one right answer for who can own what and who should own what. At my firm we have always taken a very conservative view on prop trading. We do not do that. In respect to our futures clients, no one is allowed to trade futures. But other firms encourage their traders to trade futures, so it is just a matter of getting the balance right for the individual firm and then most importantly, disclosing it with the clients.

Mark W. Yusko: Michael, I think the key question is really, who are you working for? If you issue a token that gives somebody the right to something – usage of your network or points in your loyalty system or whatever it is – but you have given someone else ownership in your business, then clearly there are conflicts of interest that are meaningful.

What I struggle with is these hybrid structures where the management teams are giving themselves a portion of the tokens, so their incentive to maximize the trading value of the token because then they can turn into fiat. But then, who owns that fiat? Is it the company? Is it the backers? So, there are **myriad of conflicts** and that to me is why we need to have this very bright line of Utility tokens and Security tokens.



If you have equity ownership in a business or you have access to the cash flows of business, that's a Security, it's not a Utility token, it's not reward points for airlines, it's not Kin (a social media network), it's ownership of an asset. I think that's the key test.

I also have a quick question: what are people most excited about? We talked about potentially huge changes in business models and implementation and also the potential emergence of a new financial system. I wonder which elements of that are people most excited about because otherwise, why do you go to work on that and not do something else?

Kenneth Goodman: As a Bitcoin maximalist, the thing I'm most excited about is scalability: including sidechains, drivechains, and bulletproofs which would allow smaller, more confidential transactions.

Sidechains allow for a scalability solution that could make other cryptocurrencies useless. There's really no point in using some cryptocurrency on a less secure blockchain if you could use that same cryptocurrency backed by the Bitcoin blockchain, which has a stronger network. Or backed by the Ethereum Blockchain which is trying to solve scalability through their casper, sharding and plasma protocols.

We are all speculating that this will be the technology of the future and the whole world will use it. This is before we have tested this technology or have formal mathematical proofs that they scale under all scenarios and offer sufficient security.

Marcelo Garcia: *Just as Ken is a Bitcoin Maximalist, I am an "Entropy Minimalist" - I deeply dislike inefficiencies and Decentralized Technologies are a new gold standard when it comes to tackling those across multiple industries, allowing us to move for example from outrageously long 30-day settlement processes to a reality where the settlement happens concurrently with the transaction via Smart Contracts.*

What gets me really enthusiastic about Blockchain technologies is that they are identifying so many of those **hidden inefficiencies** everywhere and trying to figure out in completely obscure industry sectors how to create value out of nothing.

One good example is a startup called Etherisc which proposes flight delay insurance based on smart contracts. You sign up for the insurance with an Ethereum account and as soon as the flight delay or cancellation is confirmed by a trusted source such as the airport, the payout

goes to your crypto wallet. There's no paperwork to be filled to claim the service you signed up for, an enormous improvement compared to the cumbersome procedures of the insurance industry today. This is just one out of millions of examples of efficiencies to be gained through DLT (Distributed Ledger Technology) approaches.

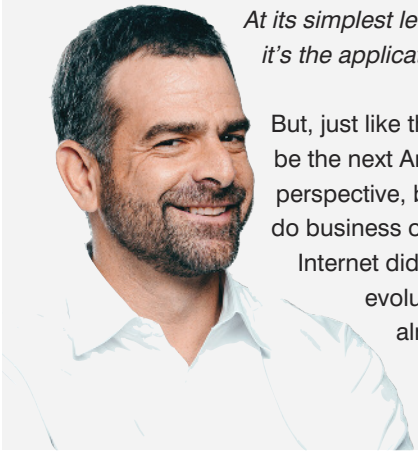
Eventually the majority of those inefficiencies that are solvable with DLT will be identified and risk taking early adopters are going to start trying them out. The solutions that do not have the right approach and are not sustainable in the long term will eventually flop, and right now we're just starting the process of figuring this out. This is pretty much **hardcore natural selection** going on at a global cross-industry scale, but tremendously accelerated by the cross pollination of a myriad lessons being learned everywhere.

Michael Moro: One of the things I'm excited about in terms of Bitcoin also relates to the **non-store of value use cases of Bitcoin.** I am particularly thinking about the increased use of Bitcoin in the foreign remittance model. More and more remittance firms are discovering that using Bitcoin as an intermediary between two fiat currencies often result in a better end rate than using their ForEx broker. Traditionally, individuals that want to send back money back home to Mexico or to Nigeria will be paying the standard Western Union rates of 5% or 10%, as well as waiting 48 to 72 hours for funds to get to its destination.

While Bitcoin will never beat the heavily-traded, very liquid currency pairs like USD-EUR and USD-JPY, there are many opportunities lower down on the volume scale. For example, the U.S. Dollar to the Nigerian Naira market: this is an illiquid market with a relatively wide bid-ask spread.

In markets such as these, taking USD to buy BTC, and then selling the BTC for Naira will result in a better conversion rate than going straight from USD to NGN. And this entire transaction can be done in an hour (or less), and not the 2 to 3 day process of traditional remittance. Companies that have figured this out are enjoying meaningful differences in their operations, and are in a position to take market share from the larger competitors.

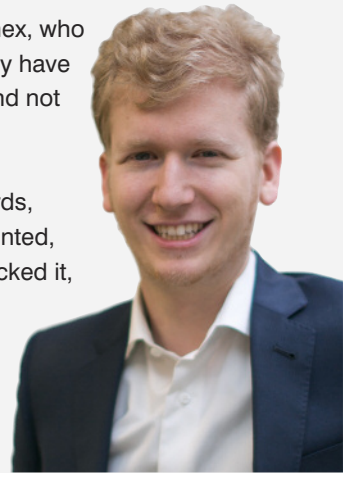
Steven Baum: To Mark's question about "what excites us about blockchain and cryptocurrencies?", I can't help looking at the evolution of the Internet and feeling a sense of déjà vu, except the potential here is even bigger and more exciting.



*At its simplest level, blockchain is in itself not a disruptive technology, but a **foundational technology**, and it's the applications that are going to be built upon the Blockchain that are going to be disruptive.*

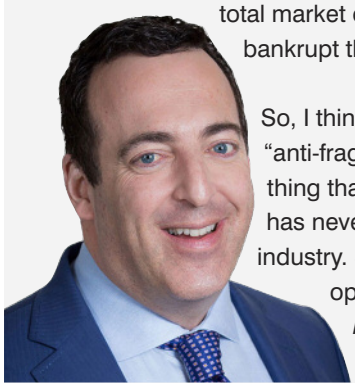
But, just like the Internet, we don't know what players will succeed and which will fail. Is Bitcoin going to be the next Amazon or is it going to be the next eToys? Only time will tell. And from a "life-changing" perspective, blockchain technology and cryptocurrencies will very likely transform how we transact and do business on a global basis. I am confident that this industry will do to our financial system what the Internet did to information exchange and commerce. It will be completely transformative, but the evolution will be significantly faster given the installed base of computing technology that already exists.

Kenneth Goodman: I wanted to bring up Tether Limited, a company that is mostly owned by Bitfinex, who claims that for every USDT that has been printed/created – currently about 2.5 billion of them – they have $1 USD in deposit somewhere. Furthermore, the claim is that the dollars came before the USDT and not the other way around.



I wonder how people at this table assess the risk of USDT being a fraudulent scheme. In other words, they don't actually have all the dollars they claim or that the dollars came in after the USDT was printed, which means that they printed fake money. Or they bought Bitcoins, sold it for dollars and then backed it, which would also be fraudulent. How big is that risk and what do you guys think about the devastation that might happen if an audit came out saying that they don't actually have the money?

Roy Niederhoffer: Tether is obviously a risk. But I happen to be a little more bullish on Tether than most people. I want to believe that they have what they say they do. They (Bitfinex) are making enough money, I believe they are making a lot more cash than they are burning. And to me, even if Tether were to go away, it would not be a death blow to the industry. It would be a one day correction of probably 20%- 30% in everything and the total value of 2 and half billion Tether divided by 350 billion total market cap of the industry. That's less than a 1% market cap loss. We certainly had companies go bankrupt that were 1% of the value of global equities. That happens. And the stock market survives.



So, I think the industry would survive even a Tether fraud and get stronger. This industry has that beautiful "anti-fragile quality," as Nassim Taleb calls it, where every fraud, every bad actor, every theft, every single thing that makes headlines in the end makes the whole industry stronger and stronger, in a rapid way that has never been seen before. I don't think there's ever been an industry that has matured as rapidly as this industry. So, I think such a scenario is an immaterial long-term threat and probably a great buying opportunity. *I actually would make the bet that Tether is not going to be a problem at all – I believe it's for real.*

Kenneth Goodman: USDT is $2.5 billion out of a total capitalization of $300 billion. I don't think that metric is a good fraction to use to interpret significance to the market because we don't have liquidity at $300 billion. If all that money were to evaporate – a large portion of Tether is owned by Bitfinex, Poloniex, Bittrex, Binance and a couple of the others exchanges, all are likely owned by accounts which are very likely tied to Bitfinex – it's almost certain that there will be a **run on all these exchanges** if Tether goes down. GDAX, Gemini and other fiat-based exchanges would have an inflow of capital as investors try to get out of altcoin positions.

And USDT is a significant portion of a lot of these exchanges, and even if they have the money now, knowing that they didn't have the money when they printed them would be cause for significant concern to many investors and traders, which would cause a run on all these exchanges where they don't have the assets readily available.

Even if they are not holding fractional reserves, which they might do, *their hot wallets are not large enough for everyone to withdraw and so the price on all these exchanges will start to plummet towards zero or (infinity if it's priced in Tether).* This would then cause a huge run and I think almost every asset, but Bitcoin, Ether, and Litecoin will have almost zero value after that, because nobody will want them and there's no place to get them anymore.

Roy Niederhoffer: I'd be a buyer then!

Marcelo Garcia: Just a comment from a historical perspective – anything anyone does in the Crypto space these days needs to come with the assumption that it could suddenly lose 70% or more of its value at any point in time.

When Mt. Gox happened, Bitcoin collapsed around that level and that was actually the moment when some of today's crypto whales like Tim Draper got into the market because they were rationalizing, *"If **that**'s not going to kill this crypto currency, then nothing will."*

Everyone dipping their feet into Crypto should really prepare to be exposed to this kind of massive volatility – we may not know what will happen in the relatively short term but can nonetheless see that until now for the major crypto assets the zigzag pattern shows a clear upwards trend line. Some of my colleagues say during times of significant market downturn… "when in doubt, zoom out".

Matthias Knab Would you have any additional message, guidance or recommendation to an institutional investor looking at this space?

Mark W. Yusko: I am more or less giving the same recommendation to anyone who is asking that question, which is to **spend the time.**

I find that there is a perfect inverse correlation between the affection for, affinity toward, and hatred for cryptocurrency and Blockchain technology and the amount of time spent. So, people who spent zero time typically hate it, or are afraid of it, don't want to talk about it. Let me add here that I also haven't met anyone who has not started skeptical, so I think is the typical human reaction, but who then has spent time on it and has come away more excited.

My own life experience is that five years ago I was spending 1% of my time on this while today I am spending 40% or 50% of time on it. And the more I learn – and every day I have a conversation like Ken for example making us aware of potential greater risks with Tether, displaying a different way of thinking about, so I need to think about that perspective too. So, everyday there is new conversation that allows me to go deeper in and find even more to like and more to get more excited.

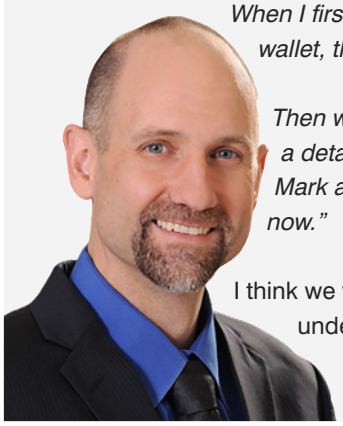
I look out at people like Tim Draper, John Burbank and Mike Novogratz and others who have walked away from very successful businesses and the traditional financial world and have moved into this space. On some of those people you can hear comments such as, "Oh they were failures in that space, and now they are coming to the crypto space..." Well, using the word failure with these legendary investors is simply ridiculous, and I can't imagine any reason other than jealousy to make such silly remarks, as I think they are widely successful in every way, as people, as investors and as thought leaders. But I agree that any of us embracing this space need to also spend time helping to educate the institutions and other individuals, I think this is really the most important message.

Will Coleman: From our discussions with institutional investors I can share that there is lot of **anxiety about regulatory uncertainty.** This seems to be the thing that comes up most often and one of the things that's considered a significant risk. And it is a risk, and I think you have to stay on top of it. Most of the phrases I have heard from the regulators involve the phrase, “Do no harm.”

Like others at this table, I spent some time advising the SEC on this particular industry, going into details on some of the specifics of currencies and protocols. So one of the things outsiders need to understand is that a *lot of expertise has been brought to the regulators, but that information has not fully percolated through these regulatory agencies.* If we pick the SEC as an example, I think very early on at the entry level of the SEC, down at the examiner level, you had people with great expertise and understanding of these currencies because they were actually dealing with them.

But as you moved up the chain you came across more people who were less familiar because it was less and less apart of those people's day-to-day and because cryptocurrencies just didn’t have that big of an impact in the market overall. That information is now trickling up and people are getting a better understanding.

So, to Mark's point that when people first hear about Bitcoin, they have anxiety, they have concerns – this is not only true for you and me or for people that we talk to, it’s also true for the regulators.



When I first talked to a regulator about doing an audit on somebody who had cryptocurrencies in their own wallet, they initially thought there was money laundering involved and that it was horrible.

Then we walked through it, discussing the protocol and the escape mechanisms for anonymity, including a detailed discussion of what you had to do to be assured of the ability to audit these things. And, as Mark also said, after they spent all that time, they ended up saying, “Okay, well that makes sense to me now.”

I think we will see that educational process in other areas of regulation as well as people getting a better understanding.

Roy Niederhoffer: I have a general observation as to people's reaction to cryptocurrency and Blockchain: it seems to me that it can also reflect people's overarching political views. People who believe in the beneficence of central governments want to see the U.S. dollar be issued on Blockchain. Now they are happy with that and a centralized token like Ripple is very comfortable for them. On the other hand, people who are more libertarian feel like, “It’s got to be fully anonymous and decentralized.”

So, my observation – and something I have been working with in myself – is to *try to not have my cognitive bias toward wanting blockchain to look like what I already believe…*

To recognize that, in my case, I may need to accept the fact that there has to be central regulation and it’s okay. And in other people's cases that the idea of a decentralized anonymous thing that sounds to them like criminality incarnate could actually be a wonderful, beautiful, and empowering thing. So, when one invests, I think it is important to try to eliminate preconceptions that are exogenous.

Michael Moro: My message to institutional investors is that this asset class is an **asymmetric return opportunity.**

We have talked in this panel about cryptocurrencies being too volatile, too illiquid, lack regulatory clarity as well as trustworthy custody solutions. And again, I think those are all the reasons why the outsized return opportunity exists. If all of these issues were already fixed, what do you think the price of Bitcoin would be right now? What would be the upside at that point?

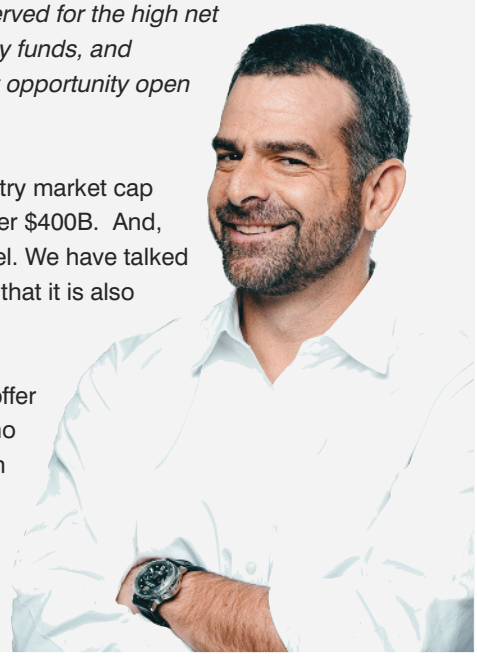
I'd argue that a lot of upside would have been realized by then. I don't think we would be talking about potential returns of 10X, 100X if all these puzzle pieces were already in place.

We also talked about the fact that institutions are on the sidelines. For the most part that's true, but some have already figured it out and invested. *Ultimately it's about how much diligence and work you are willing to do today to figure some of these issues out before these problems are fully solved by the market and regulators.* And obviously, go in with your eyes wide open, understanding what the risks are, so that these issues don't catch you off-guard.

And if you understand the upside as well as what could potentially go wrong, I don't really have a good argument as to why institutional investors shouldn't put 1% of their AUM into Bitcoin today. I don't have a very good answer as to why you wouldn't at least consider doing it.

Steven Baum: I think one interesting dynamic that doesn't get talked about enough is that cryptocurrency is an asset class where **retail investment is leading institutional flows,** not the other way around.

Typically, new and emerging investment opportunities are, at least initially, largely reserved for the high net worth investor segment through exclusive vehicles such as hedge funds, private equity funds, and venture capital funds. In this instance, retail is at the forefront – making the investment opportunity open to everyone – and institutions are slowly but increasingly adopting it.



As we have discussed, cryptocurrencies are a real and sustainable asset class. Industry market cap has grown significantly, and even despite the correction this year, the market is still over $400B. And, interestingly, it is a $400B industry that is essentially "unowned" on an institutional level. We have talked about the infrastructure issues around institutional flows, but the other key dynamic is that it is also *"under productized."*

Specifically, there aren't enough good financial products in the market right now that offer diversification, low fees, high liquidity, a good custody solution. There is no Schwab, no Fidelity, and no BlackRock – no investment platforms that offer ease of access for both retail and institutional investors. Just as infrastructure can drive institutional flows, the same can be said for high-quality investment products and platforms. *This will be another area of high growth as the markets develop and mature.*

Matthias Knab

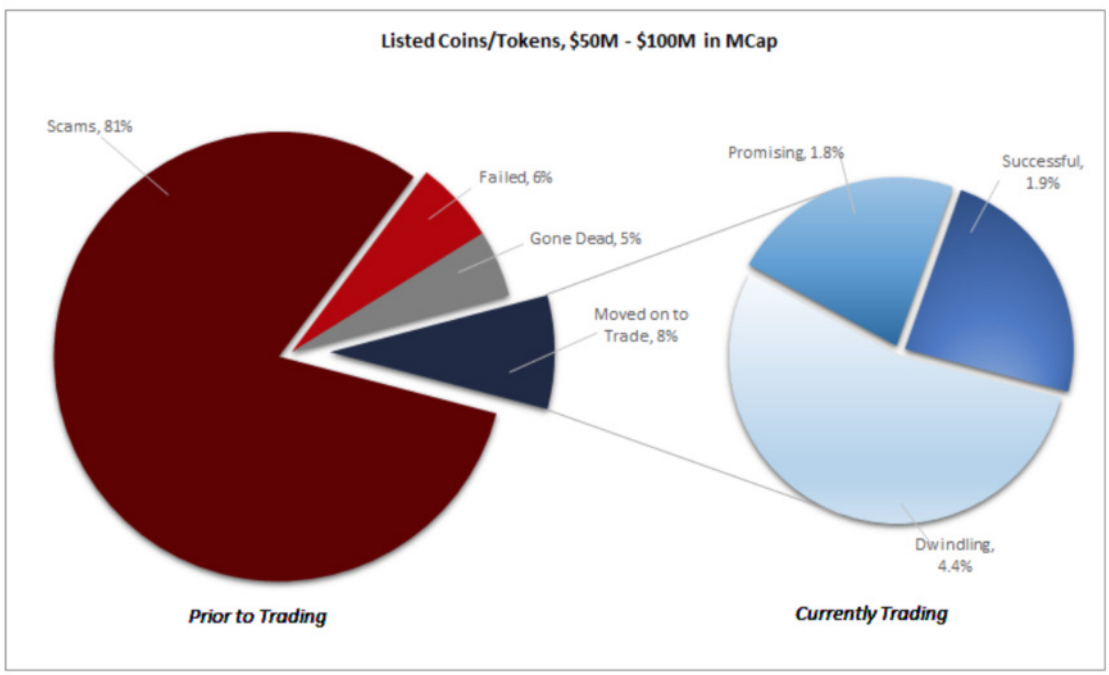
What I found looking into the cryptocurrency and Blockchain space is that it is a very specific technology-driven ecosystem. Just look and find out who has read and studied the original Satoshi white paper, or who started then to further publish and write books about this new technology. So until today, this is a very specific tech-heavy subset of the retail, individual investor community, and let's not forget it's also very entrepreneurial.

I asked someone who was about to do an ICO what are some of the factors he thinks determine the success of a token offering. He said something really interesting which was that **for your project you need to have really good code as well.**

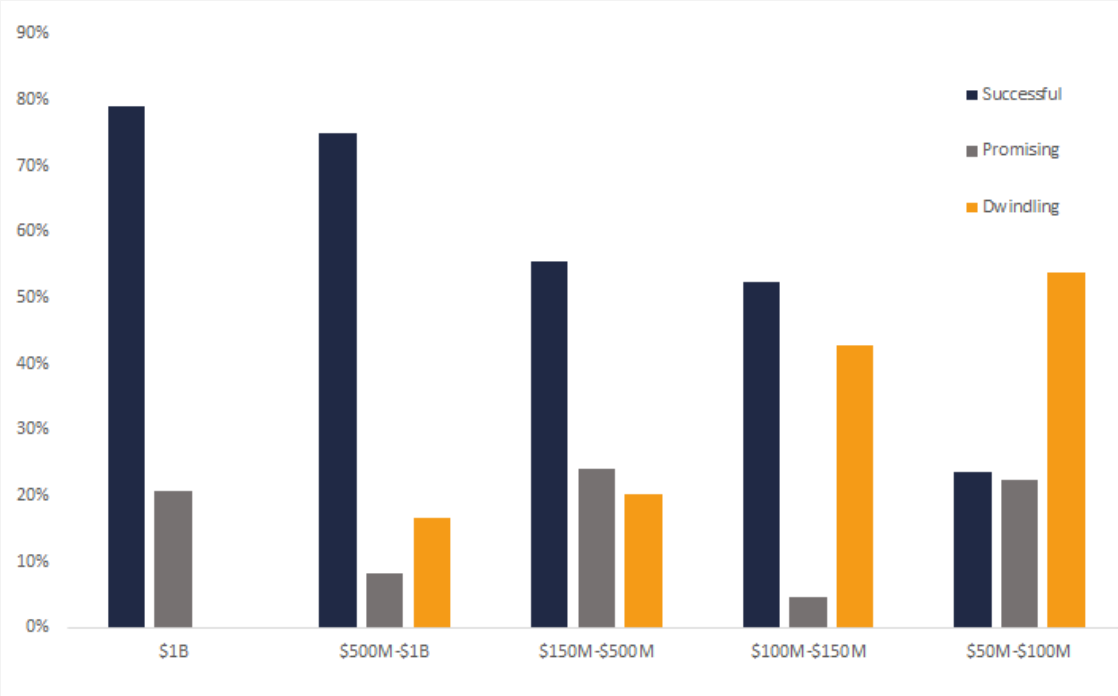
So, Mark already alluded to this when he referred to the tech people he is working with who then analyze, examine and do due diligence on the projects other tech people present to them. I just wanted to highlight the technical dimension and expertise that the original insiders and creators of this technology bring to the table, and which may go missing to a certain extent the more crypto really goes retail – except if retail is also stepping up and starts a steep learning process.

Marcelo Garcia: I can make a brief comment on statistics that I just shared with Matthias. They come from an article in Medium – which is not peer reviewed, so this is not academic at all – just someone who seems to know very what he is writing about.

They did a detailed analysis on all listed coins with a market cap between $50 million and $100 million and out of those 81% are considered as scams. From the remaining 19%: 5% are now dead, 6% are already seen as failures and only 8% of the total went onto the trading phase. From the whole ICO ecosystem being considered in this article, only 1.9% were clearly successful and 1.8% are still called “promising”.



In coins/tokens with an MCap of $50M—$100M (the lowest tier tracked): ~24% were Successful, ~22% were Promising, and ~54% were Dwindling.



Total

Total	100%	187
Successful	47%	87
Promising	20%	37
Dwindling	34%	63

$1B+

Total	100%	24
Successful	79%	19
Promising	21%	5
Dwindling	0%	0

$500M-$1B

Total	100%	12
Successful	75%	9
Promising	8%	1
Dwindling	17%	2

$150M-$500M

Total	100%	54
Successful	56%	30
Promising	24%	13
Dwindling	20%	11

$100M-$150M

Total	100%	21
Successful	52%	11
Promising	5%	1
Dwindling	43%	9

$50M-$100M

Total	100%	76
Successful	24%	18
Promising	22%	17
Dwindling	54%	41

That makes picking winners rather challenging but other than mustering backing from big corporations, one of the ways that you can tell if an ICO is moving the right direction is by the activity in the most popular software repository GitHub – How much code has been put in there? How many people are actively contributing? Has the rate of code contributions stalled?

These are easily measurable benchmarks to figure out if an ICO is thriving. There are a few similar KPIs out there which facilitate an easier path to making safer choices and finding needles in this currently very confusing haystack.

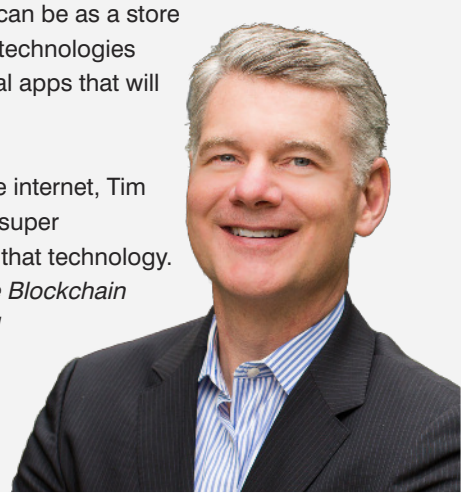
Mark W. Yusko: I think it is critically important to differentiate **how ICOs are very different from cryptocurrencies.** The nomenclature kind of blends together and people don't make this differentiation. *ICOs are in essence a disruption of the venture capital activity and they are technology oriented, as Matthias pointed out. And therefore, the expectation should not be anything but a large percentage of them going down to zero.*

That is the nature of early stage investing, seed stage investing, technology investing. You are supposed to be investing on people who are taking risk to push a boundary, to push a technology and actually have some bad outcomes.

If you are investing with people in venture capital and they have no zeroes, you're not going to have any 10 or 20 baggers, you are going to have mediocre results. On the other hand, if you invest with LBO shops that have write-offs, you should find a different LBO shop because there it's about completely different risk-rewards. You're not shooting for 10 baggers and 20 baggers, you're shooting for doubling your money.

I think that when people say about crypto that "it's going to go to zero," **the likelihood of Bitcoin or Ether going to zero is very small at this point** because the network effects have taken over. Other ICOs which are not cryptocurrencies, but essentially securities because they actually represent ownership and they went around the regulations, or that are a utility or a technology that's unproven, we should have the expectation that the ability to go to zero is high, and in fact very high in some cases.

So, there is a big difference between investing in cryptocurrency and what it ultimately can be as a store value or a medium of transactions versus being speculative in terms of advancing new technologies and new applications. Steve made the point how Blockchain is foundational, but the real apps that will be created are the future is an excellent point.



And what's really amazing about this is that in what now is already the old system of the internet, Tim Berners-Lee did not become a wealthy guy, but we all use these mobile phones, these super computers in our hand every day because of his brilliance and many others in creating that technology. But Mark Zuckerberg and all the application owners ended up getting all the value. *The Blockchain inverts that value capture and the applications and the protocols will actually be shared instead of the applications getting all the wealth and the protocols getting none of it. To me, this is a very exciting prospect.*

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