

## Our Only Cryptocurrency Episode

*Featuring:*

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Mike Disabato:

What's up everyone, and welcome to the weekly edition of ESG Now, where we cover how the environment, our society, and corporate governance effects and are effected by our economy. I'm your host, Mike Disabato, and this week we wanted to give you a break from Facebook news coverage, and discussions about the Fat Bear Week Winner, Otis, and take you through the ESG of cryptocurrency. This will be our first episode on cryptocurrency, maybe our last, a subject that is exhausting and fascinating in its scope. Hopefully, this won't be the latter. Thanks as always for joining us, stay tuned.

Mike Disabato:

There's a disconnect at the moment of what cryptocurrency adherence purport the speculative investment to be, an equalizing monetary system that removes the central bureaucracy, and what it currently is. Still, the Internet's favorite currency has been around for more than a decade, and it has gone through some substantial changes in that time. For example, Ukraine is making Bitcoin easier to use in its country. And in late September of this year, regulatory authorities in China, one of the cryptocurrencies hubs, declared all cryptocurrency transactions illegal.

Mike Disabato:

Today, we are going to talk about the ESG tenants of cryptocurrencies. And before you rush to shut off this podcast in attempt to avoid the revolution, let me get one of my guests of today's episode, my colleague, Harlan Tufford, to tell you why the exploration of the topic BIOS is important. And I promise it's not just because he and the other colleagues of mine just wrote a paper on the subject.

Harlan Tufford:

What we're seeing here is what we call in the paper this creeping exposure to cryptocurrency. And what we really mean by that is new crypto exposed companies being added to the index is driving client investments or established companies, in which an investor already has a position, finding new ways to bring cryptocurrency into their existing businesses, or just coming up with a whole new business on the side that's about crypto currency.

Mike Disabato:

Equity investors, even those with significant reservations about the highly volatile asset class, may be faced with what Harlan just called creeping cryptocurrency exposure. In our coverage at the moment, there are at least 52 companies that have some sort of exposure to cryptocurrency. They represent about 7.1 trillion US dollars in market capitalization, or around 6.6% of the market capitalization we covered, just for context. The companies range from the pure play companies like Coinbase and Online Coin Exchange to component manufacturers like Nvidia, a PC gaming company that offers a

dedicated graphics processing unit or GPU for professional cryptocurrency miners. There's also companies like Facebook that have no revenue from coins, but are exploring ways to monetize the system.

Mike Disabato:

Okay. So for today, I'm going to kind of flip the acronym of ESG, and I'm going to start with the governance part, and end with the more well-known environmental impacts of the coin. So just a quick note to cryptocurrency enthusiasts listening, our research has focused on identifying the ESG risks of the asset class. We don't discount the asset classes possible ESG opportunities, but we kind of wanted to start off with the risks, because that's what we're seeing right now. There may be opportunities in the future.

Mike Disabato:

So what we're going to do with governance is we're going to treat crypto as any other industry, and a successful form of corporate governance can be seen in what sort of systems are set up to manage a company, the board of directors and the systems to ensure appropriate decisions are being made at the high level. So for this episode, we're mainly going to focus on Bitcoin, the most established of cryptocurrency coins. So who makes the decision on how the Bitcoin system operates?

Harlan Tufford:

The fact that a decentralized cryptocurrency like Bitcoin that doesn't have any central authority, that doesn't mean there's not governance, decisions still have to be made. And so if you really break it down, there's two players that can really influence the strategic direction of Bitcoin at that foundational level of software. You've got developers, and you've got miners.

Mike Disabato:

Developers are volunteers who contribute to the software underlying Bitcoin. This generally means Bitcoin Core, the cryptocurrency's most widely used software implementation, and miners are people who expend computer processing power and electricity to validate transactions on the Bitcoin network, and in doing so mine new Bitcoins. There's also this other thing. So validation of Bitcoins, that's proof of work Bitcoins. There's also something called proof of stake Bitcoins and cryptocurrencies. We're not going to get into the distinction there, but know that proof of work is a bit more environmentally destructive than proof of stake. And I encourage you to read the report if possible to see why.

Harlan Tufford:

Between them is this elite group of developers that we call the maintainers. This is more of an administrative role than anything, but these guys are... And they're all men. They are the closest thing Bitcoin has to a board. It's arguably the greatest point of centralization of the whole system. These guys control any changes to the software of Bitcoin, the software on which Bitcoin runs, and those changes are endorsed by the miners.

Mike Disabato:

So all you coiners out there might be thinking, "I thought Bitcoin is controlled by users around the world." Well, the asset class is indeed controlled by everyone, but the software is not. Changes to Bitcoin Core involve discussion, testing, and peer review by other developers. Ultimately though, any changes must be approved by these maintainers, the only people with the authority to make final changes to the production version of Bitcoin core code. If the miners don't like a change made to the software, they can leave and create a software fork, which is a separate parallel version of the software to be independently maintained, updated, and distributed by other maintainers. That has actually happened, and an example of which is Bitcoin Cash, which forked from the mainstream Bitcoin in 2017, in response to a disagreement over technical aspects of the Bitcoin blockchain.

Mike Disabato:

So who are these maintainers for Bitcoin, the Bitcoin board? Well, Harlan and his fellow authors found their names in various databases, and put them in the report. There is WJ Vanderlane from the Netherlands, Samuel Dobson from New Zealand, Marco [Faulk 00:06:28] from an unknown location, Michael Ford from Australia, Jonas [Schnelli 00:06:33] from Switzerland. Hanadi [Stepenoff 00:06:37] from Ukraine, and Peter Wooley from the US. The big governance risk here with this board compared to a board of a public traded company is the lack of transparency.

Harlan Tufford:

So if we looked at a corporate board and looked at all the directors there, we benefit from disclosure in most markets disclosures talking about where these directors got money and any of their relationships that might compromise their independence in being able to act in the very best interest of the corporation. With cryptocurrencies we don't have any of that and there's the whole legal regime of fiduciary duty doesn't really exist. We have are, what companies have disclosed and news releases and things like that. And we can see the companies are paying these, these developers to be developers, and maybe that's fine, or maybe they're acting in the best interest of the company rather than the cryptocurrency as a whole. And maybe that's fine too. Again, we don't have the fiduciary duty relationship here. This is as the chair of the sec has said, it's the wild west.

Mike Disabato:

That's true, but there's always a bit of a trickle of information that comes out about these Bitcoin maintainers. Some actors in the Bitcoin financial ecosystem have disclosed grants that they've gotten Schnelli had received 96,000 US dollars from mining company, Marathon Patent Group, Stepenoff received a grant of unspecified value from card coins, a company that trades Bitcoin for prepaid gift cards and Payvant a payment processing company. Ford received three grants from a hundred X group, the parent of cryptocurrency exchange BitMEX totaling in 250,000 us dollars in value. And Faulk received the grant of unspecified value in 2020 from Okay Coin, a cryptocurrency exchange. So there's a bit of an opaqueness on this overriding board for Bitcoin, but what about the other half of the governance structure for cryptocurrencies? The miners?

Harlan Tufford:

You know, anyone could be a miner that you or I could start mining Bitcoin and we wouldn't make a dime probably if we did, because the scale of this thing is become so industrial. And they in effect, they endorse the decisions that the developers that the developers make and the maintainers approve by running the software, they put out on their hardware. If one miner disagrees with an update that's been put forward by the developers and approved by the maintainers, they could choose not to run it. And it doesn't matter if one miner does it, but if all of them do, then that's a rejection of the code. And

all of this is just part of the incredibly complex dynamic and informal governance structure and companies that are playing in this school yard need to know the rules.

Harlan Tufford:

They need to be following what these conversations are about. What's being said, directors who are knowledgeable about cryptocurrency in any serious way at about it's the financial realities of it. They are few in number and in high demand, and they're probably not in your director pipeline. And then on the flip side of that is the IT cybersecurity side. That's the operationalization of your strategy. How you actually implement this thing. And you go from really simple questions starts to become really tricky here. Like who in the company knows the Passkey to access your private anonymous wallet that stores, you know, a billion dollars in Bitcoin. And how do you monitor that? These are these seem like simple questions, but they get quite tricky. And again, cybersecurity is one of the most in-demand skills in the border and these days it's.

Harlan Tufford:

So with both of these things, you've got a shared solution and it really boils down to the old, buy or build question. Do you buy it or do you build it? And you can build it. What that means is just director education. And generally directors are hired for what they already know now what they're going to learn. And you might have some luck educating directors on cryptocurrency and getting them to ask good questions about it, but for really substantial exposure, I think companies need to find new ways to recruit directors and new pipelines for directors and what that might have as a knock on effect of improving some aspects of board diversity. And I'm thinking particularly about director age

Mike Disabato:

To Harlan's point, we use the keyword search for directors under our coverage and found that out of the, around 6,500 people on boards, only 79 had cryptocurrency or blockchain expertise and a little more than a thousand had cybersecurity expertise. The rest had generic terms like risk management in their bios. This complexification of the simple with crypto is also seen in another aspect of corporate governance, how companies pay their taxes, corporate tax is becoming a massive risk for companies, governments across the world are trying to figure out how to best deal with loopholes in the global tax code. And there seems to be a massive leak of documents every quarter, that show how the Uber wealthy any taxation on their wealth and concern around how to ensure there's tax transparency or businesses trading or investing in cryptocurrencies is definitely on the rise. So to talk about this, I called up a coauthor of Harlan's, Aura and asked her to tell me about how companies are dealing with cryptocurrency and taxation.

Aura:

These transactions are generally anonymous. So that may mean that they can be used as a way to shield income from tax authorities. And it's also that reporting requirements and rules are not very clear across jurisdictions. So exchanges in businesses may under report their income that comes from cryptocurrencies and obviously income that is not reported is also not taxed. And to improve tax compliance. We might need stronger reporting standards, and these regulations are strengthening. So for example, the UK and Australia, they tax capital gains. They have a capital gains tax on cryptocurrency, also in the UK now there is a new law that you have to report holdings of at least 5,000 pounds worth of cryptocurrencies. The Biden administration is also talking about doing the same thing, but with a threshold of \$10,000. But I imagine that enforcing and supervising the

implementation of these rules may be quite challenging for regulators and would require a lot of resources.

Mike Disabato:

This would also require accounting firms to provide guidance on how to treat crypto, currently neither of the international financial reporting standards AKA the IFRS nor the US generally accepted accounting principles, AKA GAP include rules that specifically address cryptocurrencies. They provide opinions that say, depending on the circumstances, cryptocurrencies should be accounted for as either an intangible asset or an inventory. And some companies have filed this. For example, Tesla accounted for its Bitcoin stake as an indefinite lived intangible asset that can be impaired, but Tesla is really the only example we've got. And as Harlan noted, it's not like these boards we looked at are replete with crypto experts that goes double for their tax audit committee. So risks may loom on scene unless there's some guidance and there's some more expertise that are brought on board. There are some other governance risks that I'm not really going to touch on here.

Mike Disabato:

For example, money laundering since crypto is hard to trace many have worried that it would be easy to use the system for money laundering, but our report by Chain Analysis Group found that only 1.1% of the more than 1 trillion US dollars in cryptocurrency transactions in 2019 were tied to illicit activities. And the abuse of the system by bad actors is nothing new in the financial world, but there are some unique social risks for crypto. The S risks in ESG. One of the main ones in Oreo's mind is the risks of volatility posed, not only to professional investors, but to retail investors, many of which have flocked crypto spurred on by the possibility of getting rich off the market's precipitous rise over the last two years.

Aura:

So it's widely known that cryptocurrencies are a very volatile asset class, and that means that it's not suitable for all investors as an investment. And while institutional investors may understand the risks associated with this asset class, less sophisticated retail investors may not, and crypto trading platforms should make sure that they have appropriate consumer protection policies in place. Ideally retail investors should not see aggressive ads on their trading app asking them to buy more crypto and best practices would be to assess an individual's personal circumstances, risk appetite level of understanding of the risks that cryptocurrency is involved in. Even capping the amounts of funds that can be invested in crypto, that these are all some solutions that the platforms can have in place to protect consumers.

Mike Disabato:

Those systems aren't really in place at the moment. If I log on to Coinbase right now, I can put around \$35,000 into a cryptocurrency. This is similar to any other stock brokerage site, but the difference is the swing in value coins can move in ways that defy logic moving in spurts of a thousand percent in hours. The societal risk here for investors and for companies is that wealth can be wiped out in a short burst though. That's sort of it on the social risks. There are other aspects like transaction disputes, but the big one is that investor protections aren't really in place yet for the asset class. So let's now move on to, I think the most well discussed part of cryptocurrencies in the ESG world, their environmental impact. There is an environmental problem with Bitcoin that has been well discussed depending on the location of the mining facilities.

Mike Disabato:

Some estimates find that Bitcoin mining creates around 69.8 metric tons of carbon dioxide per year, which would rank Bitcoin's emissions near those of Greece. But this all depends on the energy mix of where those facilities are. It used to be that 75% of them were in China. That is no longer going to be the case due to the ban in late September. So we have to kind of see where all these places move. Iceland has a nearly a thousand percent renewable grid, which along with its chilly climate has made it an attractive location for Bitcoin mining farms. Remember those servers get really hot, but there are concerns that the electricity demand from these operations could exceed the country's capacity, which is another problem. The taxing of local grids to mine these coins.

Mike Disabato:

If investors are worried about this, there are some engagement and resolutions that we think are useful, like incentivizing companies that engage in mining to use renewable energy sources, encouraging cryptocurrency exposed companies, to embrace less greenhouse gas, intensive cryptocurrencies, and to mitigate past or future emissions with offsetting projects. But this won't help a less reported on environment. The issue with cryptocurrencies, and that is the electronic waste component to talk about that. I called up my colleague, Yu Ishihara, another coauthor with Aura and Harlan. And I asked him what he thought about the concerns around E-waste.

Yu:

A lot of this has to do with the increasing complexity of cryptocurrencies like Bitcoin and the mining, which has led to the development of increasingly specialized equipment, just for mining purposes. And these days, most mining has done on specialized hardware design, exclusively for cryptocurrency mining. And it really can't be repurposed for other usage and mining profitability can be a function of the Bitcoin price. So significant swings in the price of Bitcoin could lead to big swings in demand, but also disposal for these special circuits, which again, ultimately could end up in landfills leading to chemical or pollutant releases into the environment.

Mike Disabato:

There's also the problem of who is accountable for those emissions. Hypothetically, an investor has Nvidia in their portfolio. Nvidia is a maker of mining GPU's that we talked about earlier. Does that mean that this investor now has those emissions as part of Nvidia's scope three category on its portfolio? And does that then mean that Nvidia will have to figure out how to lower the emissions of the disparate cryptocurrency ecosystem in order to lower their overall company missions?

Yu:

Well, Whether it's considered scope three emissions, I mean, there are certain, there are definitely categories that it could be considered. It could be category 11 use of product use of products sold. It could be another, a separate category, which is directly related to investments that they've made. If they actually own the cryptocurrency or they're involved in the mining themselves, it may not necessarily even be scope three. It could be considered scope one depending on the size and direct purpose of the business, but ultimately the risk for investors. And I mean that, I don't mean crypto investors necessarily, but I mean, equity debt or non-direct crypto investors, especially those that have a sustainability mandates is that they could face pressure to report higher as greenhouse gas emissions associated with their portfolio, whether it's scope one or three that come from mining or companies that are exposed to cryptocurrencies.

Yu:

And ultimately again, these portfolios and other managers, they would need to engage these companies on efforts to embrace, less greenhouse gas, intensive crypto currency, mining promote more renewable energy, understand their policies for disposal of electronic waste and, and just be aware of the exposures that these companies inherently may have to draw cryptocurrency mining or holdings of cryptocurrencies.

Mike Disabato:

These also aren't small companies that are now exposed to cryptocurrency. So it's to be seen how they're going to actually respond as the market for crypto matures at the back of the report, Harlan, Aura, Yu and their other co-authors SeeYu Leeyu and Nigel Fletcher list the companies that in some way have exposure to cryptocurrency and many of our corporate giants like JP Morgan, Microsoft and BNY Mellon, all companies rated at an eight or higher on ESG by us and held widely in indexes and portfolios. And really that is the main concern of their paper. I talked about cryptocurrency as though it is a small investor concern, but massive institutions, pension plans were billions may be experiencing a creeping exposure to cryptocurrency through their existing portfolios. This is a similar concept to that of unintended bias and index investing situation where an attempt to construct a portfolio with certain qualities, inadvertently results in over or under weighting other factors. And as we described, the factors associated with cryptocurrencies are yet to be understood.

Mike Disabato:

And that's it for the week. I want to thank Harlan and Aura and Yu for talking to me about cryptocurrency with any issue twist. And I wanted to also think, Seeyu and Nigel for a great job on their paper and letting me use it to pretend it's my own. Thank you so much for listening. If you liked what you heard, don't forget to rate and review us, that pushes us up on the podcast ratings. That's always good for me, at my job. And if you liked what you heard subscribe, and you can hear me every week. Thanks again, and talk to you soon.

Speaker 5:

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