This material represents the written version of a podcast recorded on March 12, 2018.

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HR: Welcome to Consensus Money a podcast series with Horizon Kinetics about cryptocurrencies. I'm Hugh Ross, COO of Horizon Kinetics, and today I'm joined by Steven Bregman, President and Co-Founder of Horizon Kinetics. In today's episode, Steve is going to be answering real questions from real people regarding investing in bitcoin.

HR: One client reached out to you in late December 2017, saying…Bitcoin is plunging!…And I have been losing loads of sleep about this — would you tell me where we stand on Bitcoin again? And why it's still a good thing?

SB: I sympathize. As ordinary human beings, we're not equipped, unless appropriately armed with actual -- you know, facts -- to deal with the drama cooked up for us hourly by the financial news media. That's what they do, and that's how they make money. You've been witness to a parade of financial markets luminaries being asked about how much of a bubble they think bitcoin and cryptocurrencies are. And I'll tell you that pretty much all of what I've heard is either flatly incorrect as to basic facts or are misinterpretations based on an insufficiency of facts.

Do I know everything about this topic? My knowledge doesn't even approach 'hardly'. Do I know what will happen? No; I'm peering into the future, like everyone else, but with what I believe is reasoning appropriately grounded in facts and historical context.

While I cannot go into specific details about the investor's experience for compliance reasons, here's what I asked her, rhetorically:

> Should we draw information content, though, from the dramatic fall in the past several days? Doesn't this suggest that others who might know more than we do are acting first? As a comparative, and hopefully steadying, exercise, in September 2017, only three months earlier, GBTC had dropped by even more, 48% over two weeks. That was from a price of $1,005 to $518.
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> It also dropped 36% in one week in early June 2017. From $546 to $350. And by 24% in mid-March 2017, from $139, to $106. And by 29% in January and early February 2017, from $146 to $104. Think of what we might have done on each of those occasions.
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> It's really difficult, well-nigh impossible, without a framework based on sufficient facts and knowledge to avoid our well-emplaced fight-or-flight responses when we see this type of price volatility. Particularly when those instincts are fanned by skilled --well, fanners.

I went on a bit more, but that was the central message of the response, because I felt that it addressed the immediate question. I did, though, send a link to access a portion of an address that the International Monetary Fund's Managing Director, Christine Lagarde made at a Bank of England conference in London a few months earlier. The headline covering that speech in a U.S. newspaper was: "IMF Chief tells central bankers: Ignore Bitcoin at your peril."

HR: Another individual that reached out to back you in November 2017 stated that: concerning your analysis on cryptocurrency, you were (still are?) very contrarian, I understand your arguments but I do have doubts also. The advantage of bitcoin is that it is a new asset class, created out of central banks, whose inflation is totally controlled since the number of bitcoins will only reach 21Mn by the year 2140 (aka 0.4% increase per annum on average). I understand that, and the advantage of such currency, especially if we compare to M2 created recently in the US and in the Eurozone. But what about the multiplication of cryptocurrencies? In one of your last quarterly commentaries, you mention the analogy with tobacco leaves in the US in the 1600s whose value was debased, because of increase in supply. What about increase in supply in crypto? Each crypto supply increase is controlled, but the number of cryptos is increasing sharply. At the time you received this question, according to coinmarketcap.com, there were +/-1,700 different cryptocurrencies, the total market cap of all cryptos (at the time of the client's question) was $308bn, with bitcoin representing 54% of that total. What if the number of crypto increase to 70,000 or 700,000? Isn't that a huge debasing risk for the crypto market in general? In that case, aren't most new cryptocurrencies destined to failure? What do you recommend? Should one stick to bitcoin? Why bitcoin? What about other cryptos?

SB: As an aside, because context is important generally and, in this case, I think interesting, this was an email inquiry directed to our info@horizonkinetics.com address this past November. The writer is not a client, nor a professional investor, but we've been carrying on a correspondence ever since. I eventually learned that he is an individual investor living in Portugal – it's clear from his writing that he's not a native English speaker – and diligently trying to understand this complex issue. He senses that this could be critically important, so he persists in his study despite all of the confounding questions that arise. Quite admirable.

My response was that all cryptocurrencies are not alike, so many of them have no bearing whatever on others. For instance, there are hundreds or thousands of kinds of trucks and buses and trains – all of them transportation vehicles – but that doesn't impact the value to you of a new car.

More specifically, there are only a few cryptocurrencies with a monetary policy that does not allow currency dilution. That is the defining difference and value of bitcoin, or Bitcoin Cash, or Ripple's XRP versus the long history of money and the vast majority of other cryptocurrencies – a reliably non-debasable store of value.

As well, there are other cryptocurrencies that we believe will be extremely successful yet which have an entirely different purpose and use than as a store of value or as a currency. The Ethereum blockchain is being repurposed many different ways for recordkeeping applications, including keeping track of cargo on container ships. Ripple was designed to replace an antiquated and unsecure global wire transfer system.

Then there are the token-based initial coin offerings, which are designed to raise capital to pursue a specific business plan. For instance a company might issue a coin with the express purpose of using the cash raised to build a mining operation.

So, yes, I agree that most of the new currencies are not likely to be successful; specific knowledge is required to differentiate between them – they are not all 'one thing'.

Bitcoin is not the only way to participate. In principle, Bitcoin Cash, which has the same monetary policy, should be worth no less than bitcoin itself. XRP has a separate use and has a monetary policy that is contractionary.

Separately, there is the operating side of cryptocurrencies, which is to say mining. One can mine directly or through a pool or even through a cloud service provider, although the latter will retain for itself a large portion of the potential return through high fees. One can also try to find a publicly traded fund or operating company that is profitably engaged in this field, and participate through them. That might entail less risk, or at least a different sort of risk, since that business might provide a more diversified exposure and have a valuation supported by some degree of earnings.

HR: The same individual went on to ask a few related stream of consciousness questions….on a related note, if the rise in the price of bitcoins is due to its essence as a reserve of value, then what about gold? Shouldn't the price of physical gold also catch up? Or does the market consider that, while the increase in supply of physical gold is only +/- 1,5%/annum, the overall "electronic or paper gold market", for example options, futures, ETF, etc. is much broader and that therefore there is a risk of debasement? In other words, how could bitcoin market cap increase to the level of or even a percentage of the value of M2 for the US, Europe and Japan while gold remains at the price it is now? Does that not prove that there is also a lot of speculation going on? Does the creation of "paper bitcoin" jeopardize the value of bitcoin itself?

SB: As to the first question, I don't believe that notional volumes of futures contracts increase the supply of the underlying commodity. It might be clearer if we start with the original and still-practical use of futures, say by a corn farmer. The farmer who is satisfied with the price of corn mid-way through the growing season might sell a portion of his crop in advance as insurance against the possibility that the price will drop by the time he is ready to deliver in three months.

The farmer is not speculating; he expects to have sufficient corn to deliver. Someone else who is not speculating either, say a bakery, takes the other side of his contract by buying 3-month corn futures. In principle, at the end of the period, the contracts are closed: the farmer delivers his corn for the pre-determined price, the bakery buys it for the same price. In practice, the value of each party's futures account at the commodity exchange changes each day and has a value separate from the cash or spot market for corn. If the price of corn drops sharply after one month, the farmer will have a profit in his futures account. He could decide to close that contract by repurchasing it (or any contract with the same expiration date) at a profit, and ultimately sell his corn in the cash market two months later.

Someone else, though, might be speculating, and is willing buy additional 3-month corn futures only in the expectation that the price will rise. This person never intends to take delivery of the corn. Perhaps this person purchased twice as much corn as the bakery, and perhaps that extra volume exceeds the amount of corn that is being grown. From who did this speculator buy a futures contract? Perhaps from another speculator who anticipates that the price will fall, and who is selling a futures contract without having any

crop to deliver. What happens as the expiration date nears? Neither speculator can deliver or will take any corn. They each close their positions, and recognize their respective gains or losses. But their activity does not change the volume of corn available.

I hope that part is clear. In the case of bitcoin futures, the existence of the futures enables institutional investors and other businesses to create or offer bitcoin related investments for their customers. For instance, a large retailer like Wal-Mart might have only a 2% or 3% net profit margin. However, they pay 2% or 3% to the credit card companies like Visa. Many businesses could double their profits if they could accept cryptocurrency as payment. That is a powerful incentive. However, they cannot afford the risk of loss due to the price/currency fluctuation. Like a corn farmer, the existence of a futures contract would allow a retailer to establish a stable price for the bitcoin received by selling forward a future that matches the volume of bitcoin they expect to receive. In principle, that could be a very large market for bitcoin.

I'm not sure why people think central banks see cryptocurrencies as a danger. Why, for instance, did Bank of Japan and the central bank of Australia recognize bitcoin as a legal form of payment? In Japan's case, the government has been unable to convince the population to part with their Yen, to spend it. The populace doesn't trust the government's monetary policy, because it prints so much money -- it is debasing the currency. However, by inviting savers to exchange some of their Yen for bitcoin, which will appreciate relative to the Yen over time, those savers might expend more money. In Japan, you can now buy airline tickets with bitcoin, as well as eyeglasses and hearing aids in a major chain store -- Meganesuper -- that specializes in such products.

There are other reasons, such as in the U.S., for a government to desire that certain portions of the populations of debtors and savers have access to a strong parallel currency. It could solve certain serious problems that are increasing with time. For instance, as a consequence of the artificially low interest rates created by the Federal Reserve, individual savers, pension funds and insurance companies cannot earn their required returns. That can create a serious crisis. Access to even a modest parallel currency that can appreciate in relative terms could help increase their portfolio returns even in the absence of policy changes by the central bank.

HR: We have time for one more question in our today's podcast…In December 2017 a client asked you what you thought about the use of leverage in bitcoin trading platforms? When downturns take place, could leverage exacerbate the decline and erode or even decimate confidence in bitcoin?

SB: In the case of leverage employed by investors in bitcoin, whether directly or by intermediaries such as hedge funds (which are showing intense interest -- and for all the wrong reasons, no doubt), I agree that is a dangerous activity, and that leverage is the greatest point of failure over time for investors and businesses alike. And I agree that even in an ultimately successful scenario for bitcoin, there will be periods of severe price declines. And that the combination of volatility and leverage will create some spectacular damage at some point.

However, I don't believe that the damage will be to the confidence in bitcoin itself. Consider the U.S. housing crisis of 10 years ago. Such an enormous volume of dollars was leveraged, in successive layers -- from mortgages to packages of mortgages to funds that purchased the mortgages on further leverage, etc. -- and such an enormous amount of loss was realized not only in these financial instruments, but also in the underlying real estate properties. All of it done with dollars. Yet, this did not destroy people's faith in U.S. dollars or in houses. It destroyed value for people who exposed themselves on a leveraged basis to those instruments or the underlying real estate.

The losses will be borne by the speculators and the unwittingly overextended investors. Yes, their troubles can very well impact the near-term price of the currency, because some will be forced to liquidate, others might be forced to cover some form of short position (as through futures positions), and so forth. However, like an unleveraged or appropriately mortgaged homeowner, a long-term holder of bitcoin as a defensive store of value should remain unaffected.

This relates to an economic principle known as the broken window fallacy, when a problem is analyzed from only one side, ignoring the counterpart. For instance, there are those who claim that the evident use of bitcoin by many criminals will taint the currency and invite governmental control. Yet, on the evening news programs, there are periodic displays of guns and drugs seized from criminals, lying alongside piles of cash. Yet no one suggests that cash is tainted or that the government should crack down on cash. (This is separate from the fact that bitcoin is too transparent for the comfortable use by criminals, who I'm told prefer cryptocurrencies with superior anonymity.)

Obviously, we are peering into the future and trying to make informed judgments about, essentially, human behavior, so we can easily be wrong. But that is my judgment to date. There are other risks that I consider to be more relevant, such as technological risk. One form of technological or competitive risk would be a superior coin that becomes more accepted than bitcoin. It is for this reason that we generally maintain ownership in those bitcoin forks that maintain the same monetary policy as bitcoin, such as Bitcoin Cash. In principle, because it has the same monetary policy, Bitcoin Cash should ultimately share the same market value as bitcoin. It will be interesting to see how this relationship develops.

HR: Thanks for responding to all of those questions Steve. And thank you to our listeners. Please keep the questions coming by emailing us at info@horizonkinetics.com and please stay tuned for additional episodes of Consensus Money.