Summary

- Bitcoin looks here to stay, but will it be a niche or something more?
- The analogy to gold is useful, but with notable differences
- Short-sale constraints and institutions jumping in add to near-term price pressure
- Valuation would involve an extraordinary amount of guesswork
- Bitcoin has withstood many bumps, but there will be more to come
- The long list (1,000+) of other cryptocurrencies hints at challenges to come, and while the overall technology will survive most other cryptocurrencies probably will not

Niche or Something More?

Despite calls that bitcoin is a “fraud” (Jamie Dimon, 9/12/2017), that it should be illegal (Joseph Stiglitz, 11/29/2017), and Warren Buffett calling it a “real bubble” (10/26/2017), bitcoin looks here to stay. An increasing number of institutional investors are taking positions, the CME has announced plans to launch bitcoin futures, and Nasdaq and Cantor Fitzgerald are rumored to be planning similar moves. It is almost universally accepted that bitcoin’s underlying blockchain technology will continue to increase in importance, but the future of bitcoin itself (and other cryptocurrencies) has less clarity. At a minimum, it appears that bitcoin will have a niche role in certain countries and among certain groups. Broader adoption is possible, but there are certain to be more challenges to come.

Digital Gold

The analogy to gold is useful, but not perfect. Bitcoin certainly has more transactional capabilities due to its easy divisibility and lack of direct storage costs. It lacks, of course, the consumer and industrial uses that provide some backing to gold. But, like gold, much of bitcoin’s value comes from its acceptance as a store of value. Indeed, spending a few hours immersing yourself in the writings and analysis of bitcoin advocates, there is a palpable feeling of gold-bug discussions of yester-year – distrust of the financial system, its oversight, and the role of central banks. In this context, it is noteworthy how small the bitcoin total value outstanding is relative to that of gold (see graph). With network effect momentum currently working in its favor, bitcoin may be able to gain an increasing base of adherents who consider it a standard portfolio allocation much the way gold is considered by some people today.

Short Sale Constraints and Price Pressure

In his seminal 1977 paper, “Risk, Uncertainty, and Divergence of Opinion,” Edward Miller showed that securities can be overpriced and lead to bubbles if there are short sale constraints. Such short sale constraints result in only positive opinions getting reflected in the market. The analogy to gold is useful, but not perfect. Bitcoin certainly has more transactional capabilities due to its easy divisibility and lack of direct storage costs. It lacks, of course, the consumer and industrial uses that provide some backing to gold. But, like gold, much of bitcoin’s value comes from its acceptance as a store of value. Indeed, spending a few hours immersing yourself in the writings and analysis of bitcoin advocates, there is a palpable feeling of gold-bug discussions of yester-year – distrust of the financial system, its oversight, and the role of central banks. In this context, it is noteworthy how small the bitcoin total value outstanding is relative to that of gold (see graph). With network effect momentum currently working in its favor, bitcoin may be able to gain an increasing base of adherents who consider it a standard portfolio allocation much the way gold is considered by some people today.
price. Empirical support for this link between short sale constraints and price bubbles has since been found in several settings. At present, bitcoin is also difficult to sell short, which can lead to near-term upward price pressure. That hedge funds, private equity firms, and other institutional investors are currently taking positions in bitcoin will possibly add to these near-term price pressures. It seems to be conventional wisdom that the legitimacy gained from bitcoin futures trading on the CME (expected around December 11th of this year) will also add to the upward price pressure. Yet, it is very possible that the opposite could happen. That is, the advent of a two-sided market could serve as a restraining force on prices. This is not a strong prediction because in bitcoin’s case the two-sided market may be accompanied by additional buyers as well. Nonetheless, it is a word of caution that added legitimacy does not necessarily equate to higher price if the prior short sale constraints are relieved.

**Bitcoin Valuation**

Bitcoin is obviously not a cash generating asset, so there is no stream of future cash generation that the asset is expected to produce to discount to present value. One could, in theory, do a probability weighting of different scenarios ranging from wide adoption to wide-scale government crackdown, assigning expected values to each scenario and then discounting the probability-weighted expected value by some level of risk to arrive at a risk-adjusted present value. It would involve a lot of guesswork at multiple levels. The only takeaway that you can say with certainty is that bitcoin could go up a lot or down a lot depending on the difficult-to-handicap scenarios. Absent wide-scale government crackdowns, price discovery will rely on supply and demand. Based on current bitcoin protocols, supply is restricted to 21 million bitcoin. At $10k per bitcoin, that’s a total market value of $210 billion after the 21 million supply is maxed out. LendEDU, a marketplace for student loans, recently surveyed 564 bitcoin owners and asked at what price they would be willing to sell. Their price? On average, $196,165. That gives a sense of how profound the divergence of opinion is relating to bitcoin.

**Overcoming the Bumps, so Far**

Give credit where credit is due. Bitcoin has been ridiculed by finance titans, China and South Korea have banned bitcoin exchanges, the SEC rejected two bitcoin ETFs, and multiple bitcoin exchanges have been hacked with Fortune estimating that since 2011, “More than 980,000 bitcoins have been stolen,” which at today’s price is worth almost $10 billion. Still, bitcoin powers ahead, and its proponents seem unfazed — except for those who are out that $10 billion, we’re guessing.

There will, however, be more bumps to come. Russia and India are openly talking about launching their own cryptocurrencies. Dubai has already done so. And why not? There are well over 1,000 cryptocurrencies at this point, and the list grows longer seemingly by the day. If
cryptocurrencies confer certain technological advantages, why not take back control? Indeed, modern day international finance entails an element of law enforcement and monitoring that countries have taken great pains to structure. “Following the money trail” and freezing assets are common components of law enforcement.

Another area of concern is the potential for future “forks,” which is something akin to a corporate spin-off. When a “hard fork” occurs, the spin off currency does not remain compatible with the previous technology and it can create an entirely new blockchain. This happened recently with the split of Bitcoin into Bitcoin Cash as well as Bitcoin Gold. These types of splits are controversial as they may be dilutive to the value of the original network (BTC’s primary value driver being scarcity). Thus, additional forks could dilute the scarcity value, and the current positive network momentum could go in reverse. Just as bitcoin’s recent rise has been parabolic, the decline could also resemble a parabola, just inverted. Bitcoin exchange hacks and thefts also present unwelcome risks.

That list of over 1,000 cryptocurrencies is very likely to shrink dramatically in the future, just as the number of listed U.S. companies maxed out in the late 1990s. We are hesitant to insist that bitcoin is in a bubble at present, although the current price behavior certainly looks bubble-like and ripe with risk. Longer-term, the range of potential outcomes is very dramatic. At present, we believe the risks outweigh the expected benefit of taking a position in bitcoin, but we will be following the developments closely.
Appendix

Blockchain Technology and other Cryptocurrencies

“This technology will be a catalyst in reducing complexity, streamlining processes and ultimately lowering the significant costs associated with interbank cross-border payments, which will benefit both banks and their customers in the years ahead.”

— Andrew Irvine, Head of Canadian Commercial Banking and Partnerships, BMO

Blockchain technology is an immutable digital ledger that is distributed, not copied, and the ledger is automatically updated across the network as any payment takes place. The transactions are executed without the need of a middleman, and there are economic incentives to maintain the ledger creating an environment where you don’t need to know or trust the person you are transacting with. While Bitcoin (BTC) is the largest and most recognized blockchain technology, there are many others working to improve or specialize it. In terms of market capitalization, Bitcoin dwarfs these other blockchains but some bring potentially valuable improvements to the overall blockchain ecosystem including faster settlement and the ability to execute programs on a distributed network. Bitcoin has been compared to digital gold because of its scarcity and value. Litecoin (LTC) is described as the digital silver of the cryptocurrency world with the biggest difference from Bitcoin being its increased supply (84 MM vs 21 MM for BTC). Zcash (ZEC) and Monero (XMR) both offer fungible currency that has no transaction history and hides the users’ identities. These two competing cryptocurrencies are untraceable and the closest cryptocurrency options to paying cash.

Two blockchain technologies that have received more media attention are Ethereum (ETH) and Ripple (XRP). Ethereum is a decentralized platform for executing smart contracts that functions in a similar manner to a supercomputer, executing code on the network of computers. The ability to program contracts into the platform helps to remove the cost and risk of counterparties and middlemen. A group called the Enterprise Ethereum Alliance that includes J.P. Morgan Chase, Microsoft, and Intel, are looking to expand the use of this blockchain technology.

Another blockchain technology, Ripple, has also emerged as a useful protocol for banks and payments processors as it boasts the fastest settlement speeds (5 seconds or less). The underlying technology has been adopted by numerous financial institutions to assist in lowering payment processing costs, particularly cross-border transactions. Ripple, of course, is hoping that its cryptocurrency, XRP, will eventually be used to facilitate these transactions, but as of yet this has not happened in a meaningful way.
Bitcoin: The Digital Gold Rush
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