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Putting the Cry in Cryptocurrency Markets – Another Dot Com Bust in the Making?

So far this has not been a Happy New Year for the Cryptocurrency (CC) space. Bitcoin (BTC), the CC poster-child, nearly broke \$20,000 late last year, more than twenty times its value a year earlier, but has since reversed and is now well below \$10,000. CC values in general have followed the path of BTC both up and now down. Anecdotal evidence links the use of CCs to a variety of nefarious purposes – e.g., extortion, drugs, tax evasion, and capital flight – prompting Korea and China to recently impose restrictions on domestic trading, with India now considering measures as well. The potential to make a quick fortune has led to explosive growth in CC launches; web sites now list prices for around 1,500 CCs - some sporting colorful names like Snake Eyes, Pink Dog and Psilocybin – creating a bubble-like landscape.

But there were also some recent positive CC developments. The CME gave credibility to BTC by launching a futures contract in mid-December which can now be traded on the Thomson Reuters REDI platform. As shown in the chart below, trading volume on the futures trended higher in January and the Bitcoin's downturn was closely linked to the future's launch. This may not be a coincidence as there was no effective way for bears to go short BTC in the absence of a futures contract. More importantly, the CC market has grown to a size that makes it hard to ignore. The value of BTC in circulation is close to \$200 billion and the total CC-space capitalization stands at about \$350 billion or about 1/4th of the value of USD currency in circulation.

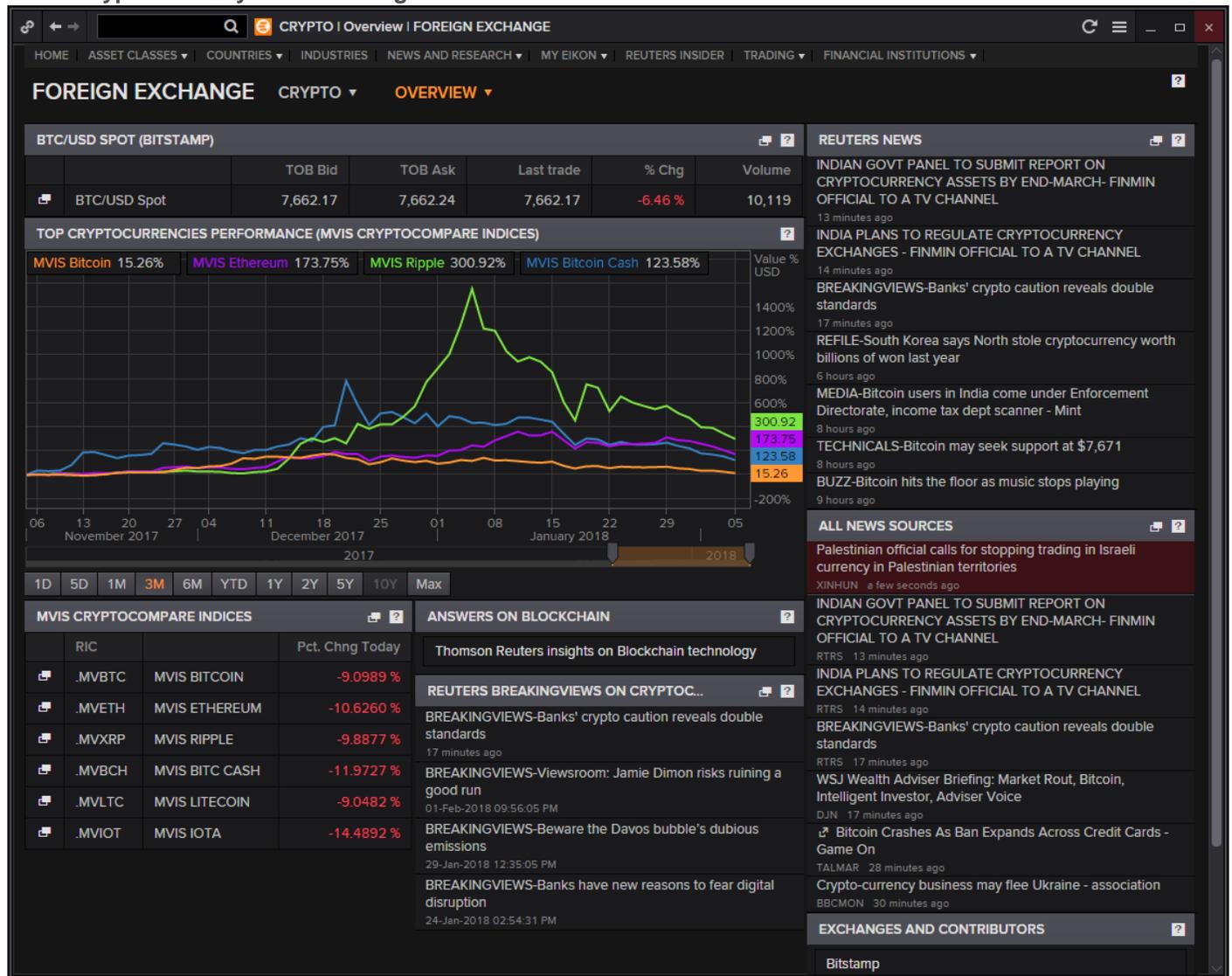
Bitcoin Spot and CME Futures Weekly Closing Prices



Source: Thomson Reuters Eikon – Click on Chart to Request a Free Trial

The combination of explosive new issuance of CCs with questionable provenance and rapid volatile price appreciation harkens back to the Dot Com bubble of twenty years ago. The Dot Com bubble ended in tears, as may the CC boom, but Dot Coms also generated some lasting and now very substantial companies – e.g., Amazon, Ebay, Paypal, etc. So even if it is a bubble, it may be a mistake to fully dismiss the entire CC market as a large but temporary fad. This month’s Market Voice provides an overview of the crypto space and the distinctions between different offerings and will attempt to determine whether there is possible gold hidden amidst the dross.

Eikon Cryptocurrency Overview Page



Source: Thomson Reuters Eikon – Click on Chart to Request a Free Trial

It Started With Bitcoin – but What Exactly is it?

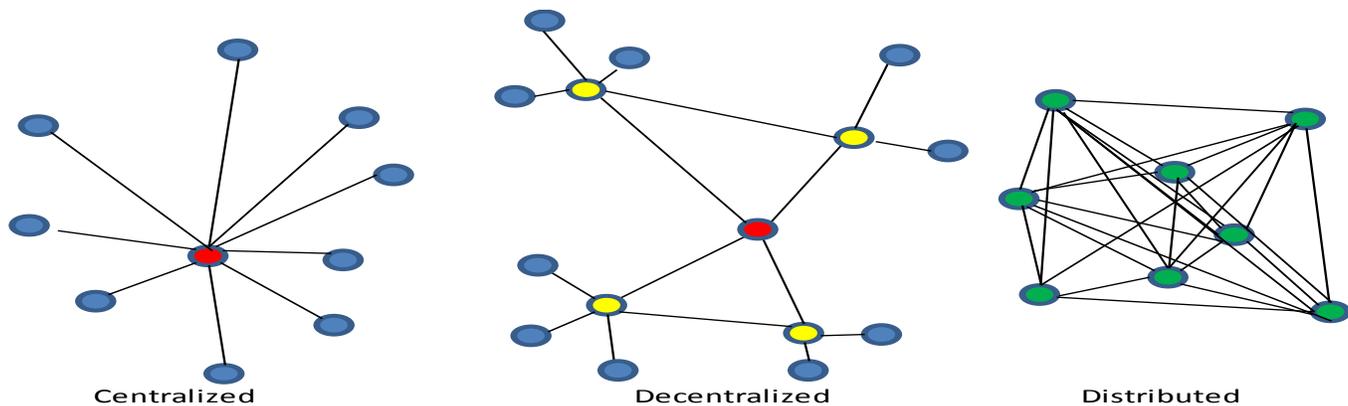
The cryptocurrency story starts with Bitcoin which was launched – by exactly whom remains a mystery – roughly ten years ago and as a result of being the first mover continues to dominate the space. The 2009 launch was at least in part a response to concerns that the widespread adoption of quantitative easing by major central banks would debase the world’s traditional currencies.

Each Bitcoin is a unique algorithm created by a pre-determined self-driven process. It is a bit comparable to the unique serial number on a dollar bill. The absence of the algorithm, like the serial number makes the unit worthless but the algorithm unlike the serial number is invisible and stored as a computer file. BTC supply is not subject to the discretion of a central bank or other authority. A restriction on supply is built into the BTC generation program which is a common feature of CCs as it helps engender a sense of scarcity. BTC, also like most other CC units, relies on something called Blockchain technology as the transaction vehicle.

And What is Blockchain Technology and How Important is It?

As shown in the schematic below, traditional data systems are focused on a hub-and-spoke; data is stored and transferred between users via a hub. As networks grow in size and complexity, central hubs are augmented by local hubs allowing users quicker access to data and other users in the system – but any transmission of information still passes through hubs. Blockchain relies on a Distributed Network which is a revolutionary way to manage data storage and transmission; data is saved across the whole network of users and there are no hubs. The absence of data concentrated in hubs makes the system inherently more difficult to hack and allows most data transmissions to be point-to-point. The absence of hubs also allows Distributed Networks to offer the much touted ability to transfer data – i.e, transact coin exchanges – between users without revealing the identity of the participants. The Blockchain is a permanent ledger of the entire history of transactions within the Distributed Network and assures that a user cannot sell a specific BTC unit multiple times. Since the Blockchain Ledger is not stored in a hub it too is resistant to hacking. The ability of making anonymous transactions in the Blockchain Ledger is why BTC is considered virtual cash.

Schematic of Hub-Based and Block-Chain Data Networks



While the Blockchain ledger is resistant to hacking, there have been episodes of hackers being able to make substantial thefts. Most BTC trades access the Ledger via a broker where the holdings are warehoused. In late January, hackers broke into the files of Coincheck a CC broker and stole \$534 million worth of virtual coins (though they were not BTC but something called NEM). It is possible to store CCs on computers or even a flash drive but there are anecdotal tales of people losing a fortune in BTC because of a hard drive crash. Like physical cash there is no way to recover lost crypto coins. Also while the currency transaction itself is anonymous, the broker usually has some information on the user which can be linked up to the transaction – or be accessed by officials investigating criminal activity - so anonymity can be compromised.

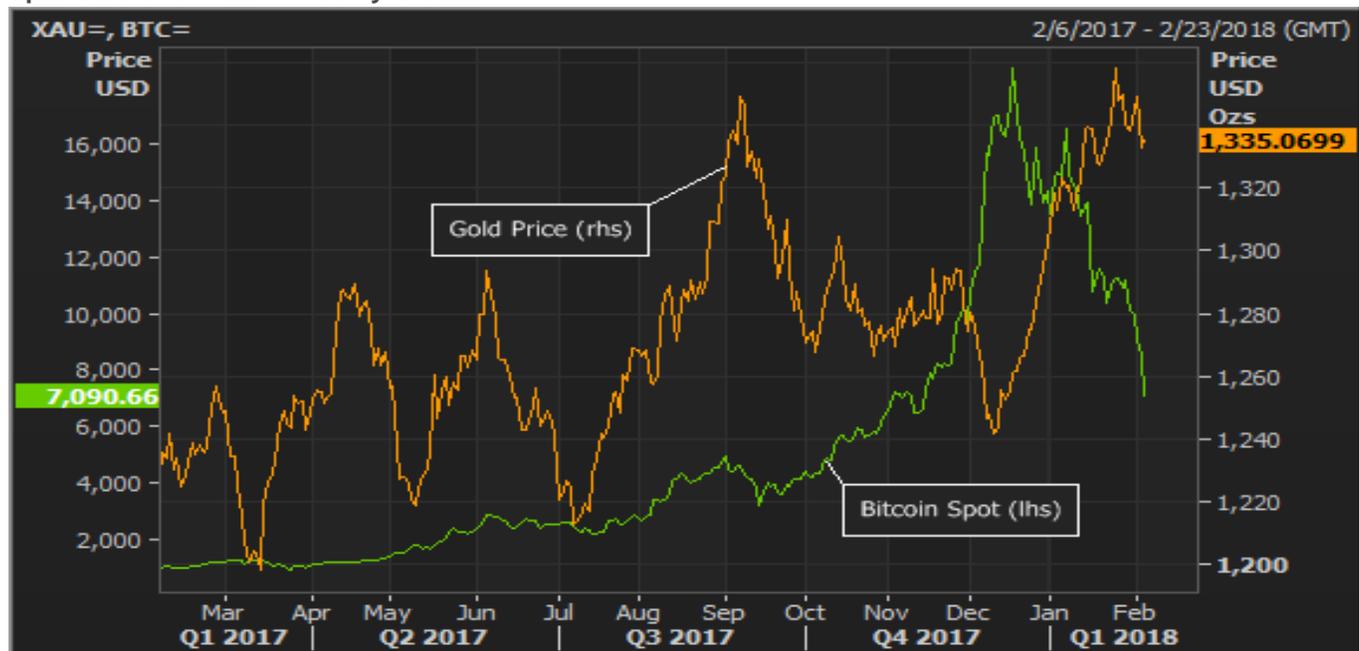
Is it Time to Buy Bitcoin?

The recent sharp downturn could potentially be a buying opportunity for BTC but unfortunately, it is hard to determine "fair value" for BTC. While a few vendors price in BTC and accept it as payment, its use as a transaction vehicle remains modest and skewed to black market activities. In the absence of any significant transaction demand, the value of BTC is largely based on speculator expectations of future value. In essence, BTC demand is akin to the demand for gold as an alternative way to store wealth. Investors demand gold, in particular, as protection against diminished

purchasing power of the dollar and, like BTC, there are limitations on supply. Despite these common underpinnings, as shown below, there is no clear link between the performance of gold and BTC. Indeed, for much of the past year, the driving force for BTC seems to have been the belief that no matter the level, further appreciation was in its future.

There is also a paradox built into the evolution of BTC as a true medium of exchange. It is the high volatility and potential for rapid appreciation that makes BTC an attractive vehicle for speculators. But volatility is detrimental to BTC's acceptance as a transaction vehicle. While BTC may be a cryptocurrency, it has a long way to go before it becomes a true medium of exchange and the absence of general inflation in response to central bank quantitative easing does not help its case.

Spot Gold and Bitcoin Weekly Closes



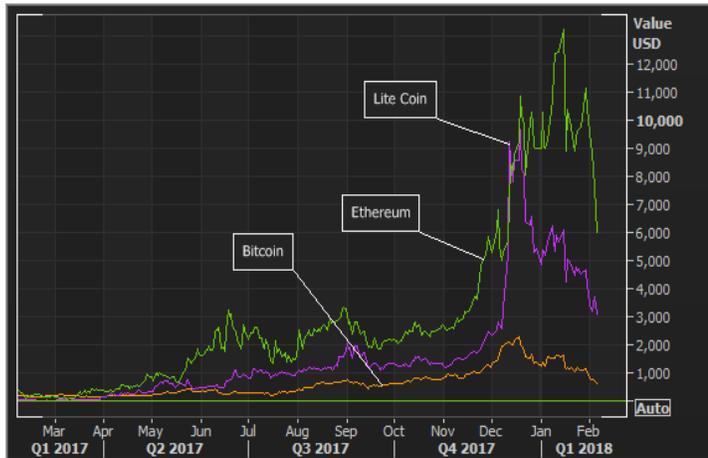
Source: Thomson Reuters Eikon – Click on Chart to Request a Free Trial

Bitcoin is not the only Game in Town

As noted above there are prices for roughly 1,500 CCs listed on the internet but a handful of units dominate the market. The table below shows the half dozen dominant CCs that are listed on the Eikon Cryptocurrency overview page.

Although some of these currencies are less than a year old they are all relatively large cap; the total market cap of the six is bigger than the remaining currencies. Of the CCs tracked on the Eikon page, three of them – Bitcoin, Ethereum (ETH) and Litecoin (LTC) – have been trading for over two years so it is possible to track their year-over-year change over the course of last year and their performance as is shown in the accompanying chart. There is clearly a link in the performance in the three different units but also divergences. (ETH), in particular, has outperformed so there may be reasons why cryptocurrencies are not all the same and some may be better investments.

Overview of Key Cryptocurrency Performance and Size



	Launch Date	Market Cap (bil)	Unit Value
Bitcoin	Jan-09	\$ 119	\$ 7,081.00
Ethereum	Jul-15	\$ 68	\$ 694.47
Ripple	Oct-16	\$ 27	\$ 0.70
Bitcoin Cash	Aug-17	\$ 15	\$ 911.37
LiteCoin	Oct-11	\$ 7	\$ 125.99
Iota	Jun-16	\$ 4	\$ 1.43
Total of above		\$ 240	
Total all Crypto		\$ 328	
USD in circulation		\$ 1,500	
USD High Power M		\$ 3,600	

Source: Thomson Reuters Eikon

The table below gives an overview of performance and market correlations of the six major CC. The outstanding characteristic is volatility levels in excess of 100% roughly 10 to 15 times the volatility typically seen for traditional currencies. Again, extreme volatility is a deterrent to the establishment of these units as broadly accepted transaction vehicles. It is also notable that while there is reasonable cross-correlation within the CC space, there is virtually no correlation with any other market – including gold or other currencies like the EUR. One could potentially see this as an indication that CCs are a unique asset class but it could also be an indication that the broad rally was isolated from the reality of the marketplace. As was true for BTC, it is difficult to isolate any fundamental basis for the valuations of units in the CC space.

Cryptocurrency Market Performance Since August

*****Correlations*****

	<u>Volatility</u>	<u>Gain</u>	<u>Cross-Cor</u>	<u>Gold</u>	<u>SPX</u>	<u>US 10Y</u>	<u>EUR</u>
BTC	104%	54%	0.39	-0.11	0.13	0.08	-0.12
ETH	123%	75%	0.39	0.05	0.15	-0.03	0.14
XRP	183%	171%	0.21	0.11	0.02	0.14	0.09
BCH	190%	52%	0.27	0.02	0.06	-0.06	0.07
LTC	160%	77%	0.46	-0.04	0.15	0.00	-0.06
IOT	222%	60%	0.38	-0.07	-0.04	-0.01	-0.03
Avg	164%	82%	0.35	0.00	0.08	0.02	0.01

Red is max and Green is min

Source: Thomson Reuters Eikon

There are two distinct themes underlying the basis of these crypto units. Bitcoin Cash, Lite Coin and Iota are all designed to be technological updates on Bitcoin – remember, Bitcoin runs on a ten-year old platform. Bitcoin Cash and Lite Coin use processes that are cheaper and faster than Bitcoin. Iota is based on a variation of Blockchain that its designers claim is easier to link up to existing data systems. But these three units, like BTC, have no intended purpose other than as a transaction vehicle – i.e. as digital currency.

The intended use of Ripple and Ethereum, by contrast, is to serve as units of account providing real-time settlement within a platform offering specific services. Ripple’s creators purport it enables “secure, instantly and nearly free global

financial transactions of any size with no chargebacks". XRP is the unit of account used for clearing across this system so users need to hold it to participate in the product. The creators of Ethereum are developing a new version of the internet. Unlike the current internet where users can only create an identity via vendors – e.g., Facebook, Snapchat, Twitter, etc. – Ethernet would allow users to be self-defined and have control on how much of their information is made available – and who can see it. As with XRP, ETH units would be used as units of account to clear transactions within the network. The Blockchain technology means that these transactions could be anonymous – e.g., I could buy something from Amazon without having to identify myself.

There is another CC called Tether (₮) which is outside the top six units – market cap is approximately \$2 billion- but is contributing to the current downturn across the crypto space. Tether, in theory, is linked one-for-one against the USD as it is supported by 100% reserve backing – a virtual currency board. There has been evidence that Tether based buying has been a significant factor in the surge in BTC and some other CCs. This would not be an issue except there are concerns emerging of accounting irregularities suggesting the promised full backing may not be there. The possibility of a run on Tether and that it may have been used to artificially inflate values of other currencies is putting downward pressure on the whole space. Concerns about financial fragility have led several major banks to bar usage of their credit cards to purchase cryptocurrencies adding further downward pressure.

The Bottom Line

Despite the astounding rise of Bitcoin and other CCs, we are skeptical that any of these units will develop significant traction as transaction vehicles for the foreseeable future. The link to black market activities raises significant risks that other governments will follow the example of Korea and restrict trading. And there is the paradox that the volatility that makes them attractive as speculative vehicles is a deterrent to use as a medium of exchange. The absence of the feared inflationary response to quantitative easing eliminates an important motivation to using cryptocurrencies and this is likely to be compounded in the year ahead by a general rise in interest rates. The overhang of the Tether risk makes the near-term prospects for the cryptocurrency space look particularly problematic.

We believe that active use as a transaction medium is critical for systems like Bitcoin which are not linked to any other use. Interest in these units is likely to fade if they serve no purpose other than speculation and this will cause them to lose value. Bitcoin, in particular, looks vulnerable both because of its still lofty levels and older less efficient technology base. A stronger case can be made for crypto units that are integrated as clearing units for a broader business platform. A bet on these units is not dependent on their success as a currency but rather in the success of the underlying business.

About the Author



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Prior to joining Thomson Reuters in 2013, Phil was the Head of U.S. Trading at the multi product, multi strategy \$30B+ hedge fund, Millennium Partners, for 10+ years. Prior to Millennium, Phil worked on the International trading desks at Merrill Lynch and Zurich Scudder. Phil holds an MBA with a concentration in Finance from Binghamton University.

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