**Cryptocurrencies Are Not Necessarily Free from Fraud (10/24/17)**

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**Abstract**

There is enormous volatility in the cryptocurrency marketplaces, but many of them have skyrocketed in dollar value recently. Many believe that these cryptocurrency transactions are anonymous. However, once the IRS classified these transactions as property instead of currency, they began to reverse engineer the block chain transactions to identify many of the associated wallets, miners, and network/exchange owners (DAO’s). Further, digital currencies can be lost, stolen, and hacked. Also, your computer may be unwittingly used to mine digital currencies for someone else.

Obviously, these cryptocurrencies, in general, are decentralized and unregulated, which can create problems for prospective participants in the cryptocurrency growing web of exchanges.As such, in this early stage of growth of this relatively new phenomenon, the issues of scale, unregulated growth, and prospective fraud to the trading partners or users in this web could represent questions of value and decisions to use cryptocurrencies, which as of July 17, 2017, there were 900 cryptocurrencies, along with initial coin offerings (ICO’s) appearing frequently over 110 exchanges.

We are in the adolescence of the altcoin, digital currencies, or the emergence of a major new way to assess the risk and record and track transactions worldwide through the blockchain ledger software. We are not yet adequately moving from technical analysis to fundamental analysis of cryptocurrencies. But moving from the proof of concept, early stage, mid-stage, to the second mouse that gets the cheese are typical steps in disruptive technologies. On the sidelines the cat is waiting to get the mouse: late stage investors or hardened technology competitors enter.

# Cryptocurrencies Are Not Necessarily Free from Fraud

Cryptocurrencies are digital assets used as a medium of exchange (but not really coins), that can be sent electronically from one entity to another, almost anywhere in the world with an internet connection. No single entity or company controls many of the cryptocurrency networks (such as Bitcoins), but a decentralized network of computers keep track of the currency by a token ID. In effect, the block chain technology records, verifies, and stores transactions without a trusted central authority. In fact, the network relies on these decentralized autonomous organizations (DAO’s) with uncertain legal standing. This transparent block chain technology is a ledger that maintains a continuously growing list of transactions in real time, date stamped, called blocks.[[1]](#footnote-1)

# Background

 Using Bitcoin as an example, certain wallet IDs allow buyers and sellers to remain anonymous when going from Bitcoins (BTC) to BTC (but not from USD to BTC). With no central authority, no one has the authority to force new users to reveal their identities currently. On November 17, 2016, the U.S. DOJ, on behalf of the IRS, filed a “John Doe” summons demanding that the Coinbase Exchange reveal identities and full transaction records of customers registered between January 2013 and December 2015.[[2]](#footnote-2) After the government narrowed the scope of the summons, Coinbase indicated that the requested information included more than 8.9 million transactions and 14,355 account holders [U.S. v. Coinbase, Inc., N.D. Calif.]. Some parties have presented amicus briefs opposing the “overbroad subpoenas.” Despite the issuance of IRS Notice 2014-21 treating digital currency as property for tax purposes, of millions of transactions, only 802 people informed the IRS about their Coinbase profits. As a result, the IRS has begun to reverse engineer the blockchain transactions, resulting in the identification of many associated wallets and owners.

All of this uncertainty has led to enormous volatility in the cryptocurrency marketplaces. For example,



on June 21, 2017, the price of Ethereum plummeted to $3.74 from a high of $365 earlier in the day.[[3]](#footnote-3) As of October 24,2017, Ethereum, was trading at $305.01 per Coinbase.4 This volatility makes risk assessment for an investor or user troublesome.

Since that time prices have skyrocketed once more, with Bitcoin trading at a high of $6,054 per coin in October even after negative comments from JP Morgan’s CEO. A previous massive drop of nearly 30% was triggered by a near total ban by China of Bitcoin trading. Thus, the combination of information asymmetry, world government actions, and social media coverage tends to result in extreme volatility in the marketplace.

There are a number of cryptocurrencies, including Bitcoin, Ethereum, Ethereum Classic, Litecoin, Nem, Dash, Iota, Bitshares, Monero, Neo, Ripple, and many more in the market. There are supply limiting features built into most cryptocurrencies. For example, the supply of Bitcoins is mathematically limited to approximately 21 million bitcoins.[[4]](#footnote-4)



There are over 110 cryptocurrency exchanges, with Japan dominating the market.6 There are estimated to be over 3 million active cryptocurrency users.[[5]](#footnote-5) In efforts to expand accessibility, several filings have been made with the SEC to create ETFs which track these cryptocurrencies. However, thus far the SEC has rejected or requested withdrawal of all such ETF filings, most recently doing so as on October 5, 2017.

Miners use special computers with Application-Specific Integrated Circuits (ASIC) to mine bitcoins by solving mathematical puzzles with raw computational power and clever algorithms, and the winners receive newlycreated bitcoin rewards. Think of a computer that is specifically designed to mine BTC. A bitcoin rig can be purchased, but the calculation process requires a huge amount of power (electricity), especially for cooling the computers. Chinese miners in the past have performed a great deal of the mining because of cheap power, along with Iceland. With China’s recent ban on initial coin offerings (ICO), others will have to do the mining. How do you hide a warehouse of computers? Unless a person commands a tremendous hashrate, the odds of solo-mining and solving a block is extremely low. Thus, miners band together in pools to increase the hashrate.[[6]](#footnote-6)

 Each currency has its own supply provision, with Ethereum tied to the creation of “smart contracts” (counter-party protocol on top of the blockchain), proposed in the future is Litecoin aiming for more universal usage[[7]](#footnote-7) (thus a large total supply that can increase), and Bitcoin limiting the supply based on a mathematical formula. As many new cryptocurrencies have emulated Bitcoin to some degree, they also may find themselves approaching the mathematical limit of supply rather quickly. Now many are copying the Ethereum’s smart contract feature, including Bitcoin.

In the case of Bitcoin, as the amount that can be mined approaches the 21 million limitation, rewards to miners decrease. The number of rewards is reduced by a process of *halving*, which occurs every four years (or every 210,000 blocks until the 21 million limit is reached. The next halving occurs in 2020, dropping rewards from 12.5 to 6.25 coins, and there is a Bitcoin Block Reward Halving Countdown website. As of October 10, 2017, [16.6 million BTC/](http://blockchain.info/)21,000,000 or 79.25% have been mined on 10/23/17.

## Companies Accepting Bitcoins

 BitPay, with six locations, is one of the largest bitcoin exchanges with 30,000 merchants globally, processing $1 million in bitcoin transactions daily. Overstock is signed up with rival exchange Coinbase, which also boasts around 30,000 business customers.10 Coinbase shifted to a so-called on-chain transaction fees after March 21, 2017 to users.

 There are long lists of companies accepting bitcoins, such as Overstock, Microsoft, Dell, Time, Inc., Reddit, PayPal, Target, Subway, Zappos, Expedia, Sacramento Kings, 50 Cent, and more. Coinbase indicates they support 32 countries and serve 10.3 million customers. Overstock’s CEO, Patrick Byrne, confirmed August 10th, that he plans to launch a “SEC compliant” ICO (initial coin offering) by Thanksgiving called tZero. The bitcoin partners make money on the transaction fee (around 1%). In reality, the large companies have a bitcoin processing partner (e.g., Coinbase, BitPay), and the companies ask for the bitcoins to be instantly converted to cash. For example, Overstock keeps at least 90% of their bitcoin transaction revenue in U.S. dollars. Possible reasons for companies favoring dollars are that they do their accounting and finance in dollars.[[8]](#footnote-8)

**Currency or Property?**

 The Bank Secrecy Act (BSA) requires financial institutions to collect and maintain information about their customers and share that information with the Financial Crimes Enforcement Agency (FinCEN), which is a part of the Treasury Department. When do business dealings with cryptocurrencies fall within the definition of “financial institution?” For example, are BSA obligations triggered when the developer of a new cryptocurrency (or token) sells it to a U.S. person?[[9]](#footnote-9) Do these sales fit into the definition of “money transmission” under federal surveillance regulations? How can sales to U.S. citizens avoid BSA rules? FinCEN has said that selling your own bitcoins from your account is not a money transmission.

In a settlement agreement with Ripple in 2015, however, FinCEN said that selling a token you own is a money transmission. Thus, to do so without registering with FinCEN is a serious offense.[[10]](#footnote-10) IRS Notice 201421 (March 25, 2014) treats payments using cryptocurrency as income, like any other in-kind payment. In *SEC*

*v. Shavers*, 416 WL 4028182 (E.D. Tex. August 6, 2013), the Court treated bitcoins as a currency or form of money. FBI seized about $80 million of bitcoins from Trenton Shavers. The Shavers’ judge used the three part *Howey* test to decide that the bitcoins were investment contracts under the securities regulations laws (re the Ponzi scheme). See *SEC v. W.J. Howey Co.,* 328 U.S. 293 (1946).

## U.S. Tax Treatment

 Virtual currency is treated as property for tax purposes, and it does not have legal tender status.

Thus, wages using virtual currency are taxable to the employee, must be reported by an employer on a Form W-2, and are subject to federal income tax withholding and payroll taxes. Payments using virtual currency made to independent contractors and other service providers are taxable, and self-employment tax rules generally apply. Normally, payers must issue a Form 1099.

 Most of the time, Bitcoin and other cryptocurrencies are pegged to the US Dollar, and they are expressed as a base currency for conversion in US dollars, BTC/USD as of October 23, 2017, $5,617. A Bitcoin is expressed in the denomination of *satoshis*, and each Bitcoin has 100,000,000 satoshis = 1 Bitcoin.

 The character of gain or loss from the sale or exchange of virtual currency depends on whether the virtual currency is a capital asset in the hands of the taxpayer (e.g., long or short-term). Because the IRS views cryptocurrency holdings as property, income is measured at the fair market value at the time of receipt, and a capital gain or loss may ensue when the currency is later sold or exchanged. A payment made using virtual currency is subject to information reporting to the same extent as any other payment made in property.

## Issues with Cryptocurrencies

 The fact that a person must determine a gain or loss on each transaction can be a real problem in the U.S. for cryptocurrencies. Imagine the difficulty of taxpayers keeping track of every gain or loss on each transaction if they use digital money like cash, credit cards, or checks. Soon virtual currency would be used only for large purchases or sales.[[11]](#footnote-11) Or cryptocurrencies may move to the Dark Web or the underground economy for USD to BTC transactions. So be careful with statement that fiat currency is dead, and the days of coin and paper money are over. Governments may try to outlaw cryptocurrencies. Other countries have restricted it or not officially permitted it. But countries such as Japan and Australia have embraced such currencies, officially recognizing them as legitimate forms of payment. With over 37% of the world’s population, the actions of India and China will likely have large long-term effects on the legitimacy and universal acceptance or denial of the future of these transactions and markets. China is reaching out to play a major role to regulate decentralized autonomous organizations through licensing.[[12]](#footnote-12)

In March 2013, the Department of the Treasury’s Financial Crimes Enforcement Network (FinCEN) issued guidance that clarified which participants in virtual currency systems are subject to anti-money laundering requirements and required virtual currency exchanges to register with FinCEN. In July 2013, the Securities and Exchange Commission (SEC) charged an individual and his company with defrauding investors through a bitcoin-based investment scheme. In October 2013, multiple agencies worked together to shut down Silk Road (an online marketplace) where users paid for illegal goods and services with bitcoins. But like the Hydra, it created at least 50 illegal markets similar to Silk Road.

Then there is the long list of issues posed by the Staff at the International Monetary Fund (IMF) published January 2016, *Virtual Currencies and Beyond: Initial Considerations.*A compilation of the IMF Staff also has given foresight on policy, as IMF considers its role in this digital currency.

Russia is contemplating the adoption of cryptocurrency rules, in a *Financial Times* interview with Putin, he declared: “First of all, opportunities to launder criminally obtained money, evade taxes, and even finance terrorism, as well as, of course, perpetuating fraudulent schemes that obviously may affect ordinary citizens. But we need to use the advantages that come with any technological solutions in banking. It is important not to set up superfluous barriers, naturally, but to create the essential conditions for the further development and perfection of the national financial system.”[[13]](#footnote-13)

This Putin comment may be a consensus opinion of many users which might have an influential role in scaling the efficiency and effectiveness of the cryptocurrency system development. Even China signaled a conditional acceptance after shutting down exchanges and involvement in licensing Bitcoin exchanges.[[14]](#footnote-14)

## Blockchain and Network Forks

Blockchain technology is the record-keeping system underlying most cryptocurrency transactions, and it appears robust and relatively secure. Through this process, blocks or transactions sent over the network are connected to previous transaction blocks in an encrypted manner with exact time and sales transaction data embedded within them. As this sequence of transactions continues over time, a chain is formed. The transactions run through a worldwide peer-to-peer network, ensuring multiple points of redundancy. Once the information in the block becomes part of the chain, the information cannot be changed without a majority consensus within the network. In such a situation, all subsequent blocks are altered to account for the point of change of origination. See the easy to read *Bitcoin* *Developer Guide* to become familiar with software, its language, protocols, and processes.[[15]](#footnote-15)

 When the community, through majority consensus, wants to make changes to the underlying code, or two more different versions of a ledger split from the original single ledger, a chain would normally split in two, causing a fork in the record of transactions. When a software update is not required by all users to maintain the integrity of the chain, this process is known as a soft fork. A hard fork results when a major change to the software is proposed and accepted by the majority of the community that results in incompatibility of the code between the old and new version. In the situation of a hard fork, all users must quickly update their software to the new version in order to continue to access the ledger.

 Sometimes difficulties ensure regarding the community’s decisions with forks. For example, on June 17, 2016 a hacker exploited a code loophole which allowed one-third of the funds associated with Ethereum to be siphoned away.[[16]](#footnote-16) A hard fork was decided upon, primarily to reimburse losses and reset ownership. However, a major battle ensued, and there was a split in the community. Many felt the integrity of the system created would be compromised with the fork and decided to avoid the hard fork. From this split, what is now known as Ethereum Classic (ETC) was kept. The major players in the market, however, went with the hard fork and Ethereum (ETH) was created at that point.[[17]](#footnote-17) Thus, hard forks have the potential to disrupt a community and create an entirely new path for the blockchain to follow.

## Stolen Funds

 Unfortunately, despite the robustness of the technology underlying the blockchain recording process, the processes related to securing the holdings of a given cryptocurrency have not been nearly as robust. While the crypto-community has been quick to point the finger at infrastructure problems, user errors, and insecurity by the users, companies, and exchanges, no systems currently exist which cannot be hacked.[[18]](#footnote-18) Thus, the scale and scope of crypto-theft, unsurprisingly, is on the rise.

 At its most basic level, your computer may be unwittingly being used to mine crypto coins for someone else. Kaspersky Labs estimates that nearly 2 million of the computers it monitors had such software running in the background.[[19]](#footnote-19) Similarly, security experts note that millions of computers are likely infected with code waiting to be activated. Once a bitcoin address is detected the software comes alive and reports home, allowing the hacker to steal the private key, when generated or used. Even simple hacking redirect techniques can be used. For example, in July 2017 the Coindash exchange was hacked and the address to send Ethereum was changed for three minutes. Within these three minutes, however, hackers made off with over $7 million USD.[[20]](#footnote-20) Perhaps even more troubling though, is the increasing pace of theft. Over $4 billion USD is estimated to have been stolen thus far, with few recoveries noted. [[21]](#footnote-21)

Hundreds of millions of $USD have been stolen in whole or in parts from individuals over time. In Ethereum alone, over 30,000 people have been impacted, with an average loss of over $7,500 per occurrence.[[22]](#footnote-22) Additionally, several larger scale seizures and heists are notable in the brief history of cryptocurrency. The Silk Road, an infamous dark web site notorious for drug trafficking, was breached, and the FBI was able to recover 144,000 Bitcoins valued at approximately $30 million USD at that time.[[23]](#footnote-23) Similarly, the Sheep Marketplace (established as a hidden service) was closed upon announcing the theft of

$6 million of users’ Bitcoins. However, further examination revealed the true theft may have been as high as $100 million USD by the principals within the firm.[[24]](#footnote-24)

One of the most famous scams was the Mt. Gox exchange. Mt. Gox, launched in July 2010, became the largest crypto-exchange in the world, handling over 70% of all such transactions worldwide by 2013.[[25]](#footnote-25) However, due to a lack of proper business practices, internal controls, and security, hackers were able to access the hot wallets of the exchange, resulting in 850,000 Bitcoins being stolen and/or lost ($460 million

USD in 2014). The second largest breach of an exchange came in August 2016, when Bitfinex announced the theft of nearly 120,000 units of cryptocurrency. The multi-signature wallets of individual users were emptied of approximately $72 million USD in value.[[26]](#footnote-26)

Ethereum has functional computer programs, known as “smart contracts”, within the blockchain to create the store of value. An investor directed venture capital fund (DAO) was created to organize for- and non-profit enterprises in relation to Ethereum. However, a vulnerability was discovered in the DAO code allowing any of its users to steal Ether. In June 2016, this technique resulted in the loss of over $50 million USD, and the hard fork in Ether enabled these losses.[[27]](#footnote-27) Further, in July 2017, a popular multi-signature wallet was breached and over 150,000 Ethereum (ETH) were stolen due to a bug in the code allowing anyone to access a wallet and send all funds to an account of their choosing. Over $30 million USD was lost.[[28]](#footnote-28)

 Sadly, complete security is unobtainable. Most people who use cryptocurrency are aware that anyone who discovers your private key can steal your funds. Thus, while exchanges or wallets that can store such keys in the cloud for you are convenient, their massive vaults make increasingly attractive targets for hackers. Once breached, your coins are lost in the sea of others. Similarly, while many people believe that for such reasons, storing your private key on your own hard drive is a good idea. Others use a paper wallet, generating keys using a QR code, printing the QR code, and deleting all traces of the key from the computer. Typically, they then cut the code into pieces, storing each piece in a different, secured location.[[29]](#footnote-29) However, one these locations may have its own theft, water damage, or fire events, and pre-existing malware may activate upon the generation of such keys, setting up the ability to steal the cryptocurrency. New multi-step keys are being tried on differing devices to counter this problem. However, referring back to the example of Jared Kenna, hackers have already demonstrated their resolve and ability to break even multi-factor identification. Probably, the only truly secure route would be to generate your key on a computer that has never been connected to the internet.

## Problems with Digital Currencies

 Obviously, digital currencies can be lost, stolen, or hacked. A British man threw a hard drive containing 7,500 bitcoins into the trash. The IT worker had mined the virtual currency four years earlier when the bitcoin business was in the domain of tech geeks. At current prices (10/17/17), this loss has a value of approximately $30 million USD. Jared Kenna lost 800 Bitcoins when he re-formatted his hard drive, erasing his associated records of the coins. He also lost millions when a hacker convinced his cell phone provider that he was Jared, stealing 30 accounts associated with 2-factor authentication and raiding its bank accounts and wallets.[[30]](#footnote-30) In the U.S., such types of losses could be capital losses or casualty losses, depending upon the circumstances. There are a number of devices for sale to protect digital currencies, but keep hardware wallets in a safe deposit box.

## Unregulated Markets

 Today, cryptocurrency, in general, is decentralized and nearly unregulated. As a result, volatility occurs often, with multiple currency assets having experienced over 80% declines at some point in their history. Without the backing of physical assets and lacking a central authority’s full faith and credit, one is forced to question the long-term value of currency assets. Does the work performed to create the currency still have value a year later? 10 years? 100 years? Further, countries continue to develop their own distinctions on the extent of asset recognition. Questions such as the legality of holdings and how taxation works are almost never certain. As of October 2017, for example, China and South Korea banned all Initial Coin Offerings (ICOs), with the Chinese government rumored to have been further responsible for the closing of all associated exchanges. Similarly, Bangladesh, Bolivia, Ecuador, and Kyrgyzstan have explicitly made cryptocurrencies illegal. On the flip side, Australia and Japan officially have recognized it as legal tender. Note, however, many of the world’s top economic powers have central banks in the development phase of cryptocurrency creation (Russia). China appears to be the first to market at the moment, with live testing occurring daily.34

## Accounting for Bitcoins

 In regards to controls regarding the ownership of each coin within the chain, there is a potential malleability bug addressed by implementing a segregated witness. The malleability bug involves the second part of a bitcoin transaction – the witness which proves the owner really wanted to spend the bitcoin. Essentially, under certain circumstances, crypto-signatures can be slightly changed by anyone, even after the signature is created without invalidating the signature. The appearance and the transaction identifier can be altered, making it harder to build second-layer protocols on top of bitcoins. This bug makes the ledger muddy, and is what led to the closure of what was previously the largest crypto-exchange in the world (Mt. Gox). However, a SegWit protocol, responsible for segregating the witness data and speeding up transactions, has been activated by Bitcoin, Litecoin, Groesticoin, and DigiByte as of August 2017.35 Widespread adoption is expected to take up to a year.

After accounting for the controls regarding witnessing, Marty Zigman suggests three accounting methods for cryptocurrencies. Initially, define a new payment method in the accounting software, relate it to the bank account that the fund will settle, and then follow the procedures that the bitcoin providers (e.g., BitPay or Coinbase) prescribe for accepting bitcoins in the business. Second, if the volatility stabilizes and they become more widely accepted, treat as foreign currency. “Third, in the final adoption wave, while it may be far off, it is conceivable to see businesses deem bitcoin as the base currency and thus treat all other currencies as foreign — even the home currency!”36

Integration of BTC4ERP with the General Ledger is a real option. Companies that run NetSuite are set up to transact globally, and with [**BTC4ERP**](http://www.btc4erp.com/) they have the full range of options to configure their accounting practices based on the way they see bitcoin used in their business.37

## Clone Coins – Bitcoin Cash

Clone Coins may be a natural example of a problem of new growing system as it scales to larger and more expansive roles of cryptocurrencies. Copycat behavior with the name ‘Bitcoin’ may end up in the trash can. Or with the adoption of technology, robust players within the decentralized authority organization through self-regulations (e.g., SegWit protocol) may cause copycat behavior to become illegal. One has to wonder when a network exchange owners will require external regulation, much like the self-regulated securities market did with the 1933 and 1934 Securities Exchange Acts (still self-regulated through laws and processes of disclosure).

So as the marketplace finds the openings for entry of Clone Coins, the barriers are being tested by copying both the code and the blockchain, as was done with Bitcoin Cash. Several exchanges refused to

1. https://www.technologyreview.com/s/608088/chinas-central-bank-has-begun-cautiously-testing-a-digitalcurrency/
2. Aaron van Wirdum, “The Long Road to SegWit: How Bitcoin’s Biggest Protocol Upgrade Became Reality,” *Bitcoin Magazine*, August 31, 2017, [https://bitcoinmagazine.com/articles/long-road-segwit-how-bitcoins-biggest-protocolupgrade-became-reality/.](https://bitcoinmagazine.com/articles/long-road-segwit-how-bitcoins-biggest-protocol-upgrade-became-reality/)
3. Marty Zigman, “[Three Methods for Simple Bitcoin Business Accounting,](https://bitcoinmagazine.com/articles/three-methods-simple-bitcoin-business-accounting-1427833704/)” *Bitcoin Magazine*, March 31, 2015.
4. Marty Zigman, “[Three Methods for Simple Bitcoin Business Accounting,](https://bitcoinmagazine.com/articles/three-methods-simple-bitcoin-business-accounting-1427833704/)” *Bitcoin Magazine*, March 31, 2015.

participate in this scheme to drive up value by limiting supply of service or exchange providers, thus affecting the ability to clear transactions and driving up price (See Fortune Samson Mow’s commentary on the *Bitcoin Cash Clone as a Dangerous Trick*). The bubble is this manipulation.

### Volume, Volatility, and Value

The continuing increase in volume of transactions, users, trading partners, and exchanges pressure

the supply of cryptocurrencies to provide more selection to winnow out the those coins or tokens that are less functional. However, the idea of the blockchain ledger system is likely to be increasingly attractive to the ‘continuous flow’ users, promptly recording the time and date of all transactions, and expanding the demand. Hence, IBM, WMS, and Oracle are stepping into the picture or market with competing blockchain clouds to dampen the volatility and to integrate the value into the commercial supply chain.[[31]](#footnote-31) The exchanges are likely to be absorbed as functional part of the blockchain clouds and potentially satisfy the need for continued validation.

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| --- | --- | --- | --- | --- |
|   |  |  |  |   |
| **Crypto-Currency**  | **Price**  | **Supply**  | **Trade volume**  | **Market capitalization**  |
| [BitConnect (BCC)](http://www.cryptocurrencychart.com/coin/BCC)  | $ 200.24 USD  | 7,250,876 BCC  | $ 12,617,000 USD  | $ 1,451,944,411 USD  |
| [Dash (DASH)](http://www.cryptocurrencychart.com/coin/DASH)  | $ 294.00 USD  | 7,640,957 DASH  | $ 67,199,200 USD  | $ 2,246,433,649 USD  |
| [Monero (XMR)](http://www.cryptocurrencychart.com/coin/XMR)  | $ 89.36 USD  | 15,261,882 XMR  | $ 43,272,100 USD  | $ 1,363,739,213 USD  |
| [Bitcoin (BTC)](http://www.cryptocurrencychart.com/coin/BTC)  | $ 5,706.05 USD  | 16,644,025 BTC  | $ 2,880,170,000 USD  | $ 94,971,638,851 USD  |
| [Bitcoin Cash (BCH)](http://www.cryptocurrencychart.com/coin/BCH2)  | $ 330.91 USD  | 16,710,863 BCH  | $ 278,516,000 USD  | $ 5,529,741,377 USD  |
| [NEO (NEO)](http://www.cryptocurrencychart.com/coin/ANS2)  | $ 30.67 USD  | 50,000,000 NEO  | $ 76,911,600 USD  | $ 1,533,460,000 USD  |
| [Litecoin (LTC)](http://www.cryptocurrencychart.com/coin/LTC)  | $ 57.67 USD  | 53,519,807 LTC  | $ 212,541,000 USD  | $ 3,086,551,515 USD  |

Whether Goldman Sachs or other major commodity trading bankers enter the market, or any of the big server companies......., none of them will do it if it is unprofitable at this time. Those companies would offer structure to the participants, and be able to efficiently handle this exchange between trading partners.[[32]](#footnote-32)

The key risk and contributor to volatility is liquidity or illiquidity. Size, scale of operations to handle

the volume, and the ability to create value resides in these organizations. As an example here is the daily quote charts showing the volatility of the Bitcoin, Ethereum, Ripple, and Litecoin, among the top ten, the excitement due to chartists, not fundamental analysis. There are over currencies. Risk assessment is based on the chart trends.[[33]](#footnote-33)

Crypto Currency List

2017-10-24 20:59 (UTC).outdated just as quickly as it is recorded through services like Coinbase

or business wire services:

$ 29,091,946,151 [Ethereum (ETH)](http://www.cryptocurrencychart.com/coin/ETH)  $ 305.27 USD 95,298,755 ETH $ 735,027,000 USD

USD

[NEM (XEM)](http://www.cryptocurrencychart.com/coin/XEM)  $ 0.21 USD 8,999,999,999 XEM $ 5,955,790 USD $ 1,903,923,000 USD

38,531,538,922

[Ripple (XRP)](http://www.cryptocurrencychart.com/coin/XRP)  $ 0.21 USD $ 230,105,000 USD $ 8,227,755,101 USD

XRP

Liquidity

Most marketplaces are assumed to be the best source of pricing an asset. With the number of

cryptocurrencies and exchanges, and the limited liquidity of cryptocurrency, the risk for volatile prices as result of both the supply of and demand for prices through miners and their respective exchanges is difficult to assess from the fundamentals rather than reading a chart.

As mentioned before, price of bitcoin is very volatile anyway. Another reason for volatility is due

to liquidity, which is the amount of bitcoins flowing through the market at any given time. By definition, the exchange is a supply and demand function, not a value function.

Control of that flow is limited and inefficient. Through DAO’s and network collaboration, consensus for any change is democratic, leaving a gap between the supporters and dissenters, offering a split or a **fork**.41

“With fiat currencies like the US dollar and the British pound, people trade huge volumes every day. With bitcoin, the volumes are relatively small, meaning that single events can make a bigger difference.”42

# Conclusion

As corporations like IBM, WMS, and Oracle might present an opportunity for some form of standardization and accounting to know where there is a deviation from the standard (e.g., intentional, negligent, or a stray miner or exchange participant). Government intervention could provide stability and rules, but this stability requires standardization which could dissipate the rule making as a democratic exercise of the DAO’s (which may be the DAO efficacy). Comparison to the currency commodity market would require miniscule trade comparisons, even if there is a strong “real” appreciation in the value and use of cryptocurrencies. When or if the bubble burst on the today’s prices, will we see the crash coming, and will we have ability to understand why? And there remains the issue

41 https://coinspeaker.com/2017/08/16/segwit2-working-group-announces-bitcoin-hard-fork-will-block-494784/ 42 https://www.thebalance.com/who-sets-bitcoin-s-price-

391278?utm\_term=Price+of+a+Bitcoin&utm\_content=p1-main-4-title&utm\_medium=sem-

rel&utm\_source=gemini\_s&utm\_campaign=adid-6cd22c93-052f-4925-8e8b-cab469491446-0-ab\_tsb\_ocode33128&ad=semD&an=gemini\_s&am=broad&q=Price+of+a+Bitcoin&o=33128&qsrc=6&l=sem&askid=6cd22c93052f-4925-8e8b-cab469491446-0-ab\_tsb

of liability, how do you sue a DAO?[[34]](#footnote-34) While it might be more expensive to sue IBM, it may be easier than suing a DAO today. There will certainly be a need for many lawyers and expert witnesses.

Troubled waters are still ahead. Controlling the flow, the standards, the risk of integrity of the participants, and the ability to redress grievances in this “democracy” are of keen interest to those who wish to trade for profit in the cryptocurrency marketplace. Who will get the cheese?

1. <https://www.toshblocks.com/decentralized-automous-organizations-dao-blockchain>

 [↑](#footnote-ref-1)
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