

Cryptocurrency: History, Advantages, Disadvantages, and the Future

Mitchell Rice

A Senior Thesis submitted in partial fulfillment
of the requirements for graduation
in the Honors Program
Liberty University
Spring 2019

Acceptance of Senior Honors Thesis

This Senior Honors Thesis is accepted in partial fulfillment of the requirements for graduation from the Honors Program of Liberty University.

Andrew Light, Ph.D.

Scott Ehrhorn, Ph.D.

Robert Van Engen, Ph.D.

Mark Ray Schmidt, Ph.D.
Assistant Honors Director

Date

Abstract

Cryptocurrency is a digital asset that has seen a large amount of attention within the past five years. Its origin is intriguing to some based upon its newness, yet it has invoked mysticism and skepticism in others. Bitcoin is the most recognizable currency, receiving heavy media attention. There are several other cryptocurrencies as well, less in the spotlight. Most appealing to cryptocurrency could include lack of government oversight, and increased privacy available to the consumer(s) (Bunjaku, Gjorgieva-Trajkovska, and Miteva-Kacarski, 2017, p. 37). Additional advantages include the simplicity in the start-up process, the ease of transferability, and the opportunity to have a seamless process in investing and/or exchanging monies. Cryptocurrency creates the ability to invest for some people groups that could never invest before and diversify investment portfolios (Theron and van Vuure, 2018, p. 2). While the newness of cryptocurrency certainly has been appealing for some, it also has been perceived oppositional by others. There has been concerns identified with regard to the level of trust required, an obvious and significant drawback if valid. Another identified disadvantage to cryptocurrency is its low amount of oversight and liquidity hurt for investing future. The ability for cryptocurrency to be used for illegal and/or evil activity is an ethical drawback (Nian and Chuen, 2015, p. 15). Lastly, the uncertainty of the future is a significant drawback. The future of cryptocurrency requires much economic forecasting. The new changes that cryptocurrency will bring to traditional economic institutes is an area which cryptocurrency needs to explored more. Lastly, is cryptocurrency a fad or an economic bubble.

Key Words: Cryptocurrency, Bitcoin, Blockchain, Finance, and Diversify

Cryptocurrency: History, Advantages, Disadvantages, and the Future

Cryptocurrency discussions have become routine in the finance and economic spheres, with a majority of the attention concentrated towards Bitcoin (DeVries, 2016, p. 1). Still, many people do not understand what cryptocurrency is or the purpose behind such. Due to cryptocurrency being an international instrument, cryptocurrency can have a major impact on the global finance market and economies. Bitcoin is not the only form of cryptocurrency, which has created conflict and increased uncertainty about the instrument. The potential confusion and/or skepticism surrounding cryptocurrency brings with it questions about the validity and longevity of cryptocurrency as an investment and financial instrument. There are also many questions of the origin of cryptocurrency, the advantages of cryptocurrency, disadvantages of cryptocurrency, and most importantly what the future holds. While addressing these questions, with an outlook of forward thinking, a biblical worldview can play a large role in how believers can approach and interact with the financial instrument.

History and Background

Cryptocurrency still does not have a fixed definition. Harwick (2016) defined cryptocurrency as a virtual asset utilized as a form of digital currency that is exchanged to transfer assets and other forms of financial instruments (p. 570). As Park and Park (2019) discussed cryptocurrency is not controlled by a major governing body, such as a banking system or other financial institution. Instead it utilizes a public transaction ledger. This ledger logs each sale, trade, etc. and is not monitored by a set body or organization. This ledger uses blockchain technology as a public transaction database for the relaying of the transferred currency. The ledger uses simple accounting methods to record data transactions and information using

cryptocurrency (p. 1-2). Due to the ledger, the transactions are single in allowance, resulting in increased privacy due the protective nature of its single transaction mode. This bizarre process about the history of cryptocurrency is what cryptocurrency was founded on. Chohan (2017) discussed how in the early 1980s, an American cryptographer named David Chaum was credited with creating the first form of cryptocurrency referred to as ECash. Although ECash never had large amounts of transactions, it is recognized as the start of electronic ledger trading. In 1984 after creating ECash, Chaum also created an electronic payment system that was virtually untraceable by the banking system or government agencies (p. 2). Over the next five years, multiple diverse financial forms of improved cryptocurrency emerged into the market. A few years later, cryptocurrency information was released in an MIT (Massachusetts Institute of Technology) e-mail list. This listing sparked the interests of many of the university's students and faculty. Many MIT students and faculty are believed to have made new and varying minor forms of cryptocurrency. The extent of the MIT impact is unknown, but is believed to have evolved into many of the current major cryptocurrencies that are still around to this day. Milutinović (2018) stated,

The most important thing about cryptocurrencies, and especially the Bitcoin is that it can't be controlled by no server or any authority, it is completely safe and there is a bigger chance for the humanity to be wiped from the face of the Earth, than for a transaction or a user on this platform can be revealed (p. 108).

As Milutinović stated, there is no governing body or oversight for cryptocurrency, and the transactions on the journals are completely confidential. This confidentiality is due to the signup process not requiring personal information. Additionally, confidentiality is kept by the

blockchain ledger as discussed previously. The required steps to set up a virtual wallet is simple. It asked that one finds a blockchain wallet and then enters in the required email and password. There are a few other miscellaneous information pieces required but only basic and anonymous information. To start buying cryptocurrency with the virtual wallet to start transfer money from a bank account into the wallet via routing number. For security for the virtual wallet add additional passwords and codes to secure the trading safety. Cryptocurrency can be requested or sent by simply having a code with another user, and the transaction is ready to be underway.

The first form of cryptocurrency to receive serious notoriety was Bitcoin. As Madey (2017) discussed bitcoin was created by Satoshi Nakamoto. Satoshi Nakamoto is a pseudonym for an unknown creator that is believed to be from Japan (p. 8). As Madey (2017) stated, “Nakamoto then created a website with the domain of bitcoin.org and Nakamoto continued to work with other developers on the code base through this site until around mid-2010” (p. 8). Nakamoto was able to use his platform up until this time and have a major catalyst effect on the crypto marketplace. He has since stepped aside and Gavin Anderson has become the face of the company and a public figure (p. 8). Bitcoin is the first decentralized cryptocurrency and the trailblazer of many of the standards for the digital currency. According to Andolfatto (2019) as of January 2019, Bitcoin reached a peak of 19,783.00 USD which was hit December 17, 2017. One Bitcoins initial price was 327.00 USD. Bitcoin was the first case of bullish cryptocurrency with consistent and stable investment opportunities (p. 1). Many different cryptocurrencies have been created since, like Litecoin, Ethereum, Ripple, and countless others. The majority of these are put on Coinbase, which acts as a currency exchange for these cryptocurrencies. Recently, there are even some that are backed by different materials, such as gold, other precious metals,

oils, and even bananas. Though cryptocurrency has been in existence for multiple decades now, many areas of the media are not up to date and are just becoming informed. As Chohan (2017) stated "Typical of the lag-time of academia in responding to practitioner phenomena, it was only in 2016 that the first cryptocurrency-related journal, Ledger, was launched" (p. 6). As many other common outlets like journals and news networks slowly start putting more emphasis on cryptocurrency, people are finally starting to notice the power of cryptocurrency. With all the speculative history and constant changes, cryptocurrency is finally becoming standard in finance conversations. The need for constant research and knowledge is seen through the volatile market of cryptocurrency, this shows the opportunities and risks that investors thrive from.

Advantages

Many investors and economists are very skeptical with the knowledge of the background information and history of cryptocurrency. Aside from all the skepticism, there are many advantages to cryptocurrency to consider. One of the many advantages is the privacy that cryptocurrency allows. As Bunjaku, Gjorgieva-Trajkovska, and Miteva-Kacarski (2017) wrote, "There is no central control authority in the network, the network is distributed to all participants, each computer mining bitcoins is a member of this system" (p. 37). Simply stated, there is a lack of authority and regulation over cryptocurrency. The lack of regulation allows for the owner of the cryptocurrency's unwarranted need to justify the purchases to authority, which creates personal freedom of purchase. Due to being decentralized, there is no personal information relayed and decentralization allows for privacy in purchases. This may seem like something that would only be used for illegal activity but there are many other legitimate reasons for hidden transactions. As Goldfeder (2018) discussed hackers and schemers use programs that track

repetitive use of certain items purchased or searched. With customer information, criminals can find ways to con consumers into buying services that would never be fulfilled or steal other personal information by use of information linked to a credit card. Some of these constant recurring purchases and scams have been attached to cookies on computers. Also, some select companies can sell your information when the "I agree to these terms" or similar boxes are selected by consumers (p. 181). These hidden ways of getting personal information create a need for privacy of purchase. Cryptocurrency has each transaction logged into the ledger specifically by one user to another. This process virtually eliminates hacking and scams from occurring due to the journal postings creating a much safer way of purchasing and intelligent reason to keep an identity anonymous.

An additional advantage is a diversity that cryptocurrency adds to an investor's portfolio. Regardless as to whether the investor is an asset manager, hedge fund manager, or an average person working on personal retirement, diversity is critical for long-term portfolio success. As Theron and van Vuure (2018) discuss, the ability to add forms of diversification is what creates consistent returns for investors. Finding ways to have bad years of investments neutralized or to a minimal is the main area of focus for diversification (p. 2). Finding ways to have bad years of investments neutralized or to a minimal is the main area of focus for diversification. Adding cryptocurrency to the mix with other investments like IPO's, REIT's, and individual stocks just increase the power and strength of a well-diversified portfolio. As Kajtazi and Moro discussed, Bitcoin specifically may add risk to a portfolio compared to some more stable but lower risk investments. But when it comes to the overall health of a portfolio Bitcoin added more diversity and increased the risk to return ratio in nearly every simulation that ran on the many portfolios.

Three of the four portfolio scenarios held increased risk to return ratio to be fact ever run that was attempted. While the other scenario, semi-constrained portfolio, had mixed results of success (p. 154). The risk to return ratio is significant, which this article discusses. The return received proportionate to the risk associated is always necessary to consider. Although cryptocurrency increases risk it increases return more proportionately. As Kajtazi & Moro (2018) discussed concerning the ability to use cryptocurrency allows for stronger mutual funds for investors, which allows for more stable and consistent retirement or other investment accounts (p. 154). As Wang, Guo, and Wang (2018) wrote,

The results show that the CRIX and cryptocurrencies can be a good option to help diversify portfolio risks because the correlations between cryptocurrencies and traditional assets are consistently low and the average daily return of most cryptocurrencies is higher than that of traditional investments. Furthermore, the plots of the efficient frontier illustrate that incorporation of the CRIX significantly expands the efficient frontier relative to traditional asset classes alone (p. 19).

The different variations of cryptocurrency allow for investors to utilize the different cryptocurrencies by their role in the market. Some cryptocurrencies can be grouped by being cash cows or rising stars. Another way cryptocurrency can be used to increase diversification is by selecting particular indexes, similar to the stock market. These groupings can go by industry like produce, commodities, or be backing financial instruments. Some investors may even be interested in short-term gains that cryptocurrency can create. As Bouri, Gupta, Tiwari, and Roubaud (2017) stated,

Thus, unlike conditional-mean based results, Bitcoin is shown to serve as a hedge against uncertainty at the extreme ends of the Bitcoin market and global uncertainty, but at shorter investment horizons. Therefore, short-horizon investment in Bitcoin can help investors hedge global equity market uncertainty, especially when the market is functioning in bear and bull regimes and also when uncertainty is either low or high (p. 15).

Thus, cryptocurrency creates a quick and immediate fix for hedging for investors that can receive tremendous rewards in the future against volatile markets. Since there are varying cryptocurrencies they can potentially fit in great with the current financial market with 401k's and IRA's. These portfolios are looking to have high returns and matches by employers. Investing the employer matched money into cryptocurrency can be a risk-free way to diversify and reap great rewards on investments.

Another advantage is the easy access of cryptocurrency to the public. Being anonymous affords opportunity for any individual to set up a digital wallet, and to be able to participate in the purchasing and trading of cryptocurrency. The simplicity to setup allows for simpler money movement that not only is free but also again is anonymous. Cryptocurrency allows for quick and simple wiring and money exchange. While conventional money wiring can take around 24 hours, cryptocurrency wiring occurs in a couple of minutes. Some cases have had cryptocurrency transfers that only took less than five seconds. Going along with wiring, intercontinental and other long-distance transfers are much less troubling and done simply with cryptocurrency. There are no holds on large transactions like in the typical financial system, instead recipients can have a large quantity of money transferred with ease. There are no

restrictions on who users can send payments to or a cap on the amount of cryptocurrency that can be transferred during a transaction. Wiring may not seem like a major issue, however holds on wired money at nearly all financial institutions range from three days up to a couple of weeks in duration. To businesses and other individuals who need to move large amounts of money around quickly, these holds can be a major issue. Sometimes money is needed instantly for businesses just to stay open and functioning. Cryptocurrency creates a unique avenue for these specific people and businesses to receive and distribute currency quickly and effectively. The advantages of privacy and simple transfer are a major advantage that cryptocurrency has which is contributing to mainstream success. Along with the benefit of wiring comes the exchange rate benefits and inflation benefits. As Ivaschenko (2016) stated, “The ability to send money anywhere and to anyone in a matter of minutes after the BTC network will process the payment” ... “the maximum number of coins is strictly limited by 21 million Bitcoins. As there are neither political forces nor corporations able to change this order, there is no possibility for development of inflation in the system” (p. 272). Ivaschenko is discussing the wiring and inflation benefits, not only the ease that wiring brings but how it can help with utilizing strong dollars to an advantage. This number can be changed if the company sees fit but only through the mining process. There are two parts to the economic advantage, utilizing the power of currency rates and no inflation. The trade rates can be buying cryptocurrency when a specific country’s dollar is weak and then selling when the dollar is strong, free from any exchange rate fees. This can be a terrific investment tool and even a hedging tool for future business transactions. When it comes to the inflation benefits it comes from the set numbers specifically for Bitcoin. Having the same numbers means no inflation due to not being watered down by the market being

flooded by currency and vice versa. This lack of inflation means the dollar value holds strength increasing the quality of the investment and gives a better perspective on the return for cryptocurrency since it more accurately displaces the true value compared to other investments that have an inflation rate to consider also.

An additional advantage that is tied in with the privacy and easy public access is that there is no regulations and taxation by the government. As of now, the money received and earned through cryptocurrency is not taxable and basically not known by the federal government. Along with intractability of cryptocurrency means no third parties are involved, with the exception of depositing and withdrawing. In the financial process of cryptocurrency, the owner of the virtual wallet has minimal restrictions on what they can do with the money. With the lack of restrictions and governmental regulation means a lack of other non-tax costs. As Wealth Management discussed cryptocurrency has a 25 percent capital gain tax which can be a significant contribution and give a more realistic and true investment gain through using cryptocurrency instead of regular dollar gains (2018). Basically, all major tax implications from major capital gain transactions can be lightened due to using cryptocurrency as the transaction currency. The capital gain and investment taxes create a lessened return which is reduced by cryptocurrency due to not being taxed by the government. With a lack of government intervention of cryptocurrency leaves out the middleman effect. The middleman effect creates charges in regulations, enforcement, and administrative processes. Another advantage is the lack of inflation and dilution the value of cryptocurrency. All cryptocurrencies, with the exception of a few minor currencies, have a strict limit of cryptocurrency coins that are available. With the limit to the amount of cryptocurrency, inflation is not a factor, and investments and analysis can

be made not need to worry about inflation. With the lack of government or enterprise control on cryptocurrency, the currency will stay at the same quantity and avoid the risk of diluted value.

An issue that can run into with avoiding the government is that believers are called to follow the law, which includes taxes. As Mark 12:17 states, "Well, then," Jesus said, 'give to Caesar what belongs to Caesar, and give to God what belongs to God.' His reply completely amazed them" (NLT). The giving to the government what is rightfully theirs is something that is commanded for those that are followers of Christ.

Another overlooked benefit of cryptocurrency is the use of charity and nonprofit assistance. With some individuals wanting their contributions to be made in anonymous fashion cryptocurrency can be an avenue to have this gone about. As is written in Matthew 6:3 "But when you give to someone in need, don't let your left hand know what your right hand is doing" (NLT). Cryptocurrency allows not letting others to know who the donor of the money is. This giving can be beneficial for not only due to the anonymity of cryptocurrency but also again tying into the ease of transferring large sums of money without any questions. Another benefit tying into the nonprofit side is how the lack of taxation of the profits can affect higher contribution through tithing. With there being no taxation on the money earned from cryptocurrency there can be more given to tithing.

A great innovation that cryptocurrency creates is the average person can now save and invest in this new financial instrument. As Warden (2015) wrote,

Bitcoin advocates argue that the virtual currency can bring freedom to those living under repressive systems of all kinds, be they political dissidents or women trying to keep earnings out of the hands of husbands or brothers. By the same token, advocates argue,

Bitcoin can have a profound social effect by opening the door to the financially marginalized. Some two billion people still operate outside of the formal global financial system. But anybody with a mobile phone can use bitcoin, and these days, a remarkably large number are connected wirelessly (p. 18).

As Warden discusses above the new advantages to people who could never save in a great capacity now have the opportunity presented to them to invest in their future. This new and innovative way of investing is a major benefit to certain people whose traditional savings is not as much of an option. This new option leads to creating greater opportunities for the non-typical investor. Cryptocurrency utilizes the lack of public information necessary for these individuals. This opportunity gives a person who may not be able to open a savings account due to past issues or people with lack of personal information a chance to invest or save. This may not seem like an issue for the average person but for people who are adopted from other countries may have difficulty receiving specific documentation for investing purposes. Even for some people who have had criminal or other questionable pasts, the standard institutes of savings may not be the most simplistic and optimal route to take for these people who now want to change.

Finally, another benefit of cryptocurrency is the lack of traceable information, this, in turn, creates a very minimal chance of fraud. As Dumitrescu (2017) stated,

There is a low risk for the Bitcoin users in case of a retailer or a partner in a transaction is subject to a cyber-attack and loses traditional financial or personal data of the customers or its own. Bitcoin users are at risk only if the hackers get access to their private keys (p. 66).

Dumitrescu's article focuses mostly on Bitcoin but holds true for the majority of cryptocurrency. The risk of hacking is virtually impossible without access to the private key to personal accounts. As Kshetri (2018) discussed the lack of traceable information makes a process, for example something as simple as credit card fraud, to be virtually impossible. This is due to having to log the information into the virtual ledger. Each of the different strains needed to go through to steal the wallet owner's personal information would be a nearly impossible. The necessary backtracking needed in minimal time keeps cryptocurrency purchases secure. The punishments for breaches of privacy for those individuals attempting to illegal hacking through laziness by the user can have extreme penalties. The illegal activity can have amplifying results of not just getting in trouble for hacking but many other trusts and more severe charges due to the connection (pp. 99-101). The more intense and severe punishment along with the very low probability of fraud creates increased challenges and difficulties, and not as much of a rewarding scenario for people who intend to hack cryptocurrency. Fees settled many of these court cases but a recent case, Joel Ortiz, was sentenced to ten years for his criminal offenses.

Disadvantages

With the prevalent optimistic outlook on the future of cryptocurrency, there are legitimate negatives and drawbacks that are also associated with the virtual currency. First, the unfamiliarity with cryptocurrency is something that is a major drawback to investors and novelty users alike. Many people entering into cryptocurrency as a fad vs. informed consumer creates a very volatile market. Again Madey (2017) wrote,

Given the relatively adolescent nature of Bitcoin much is not known. This gap in knowledge poses a significant threat to financial, and more importantly, currency

markets. Confidence in any currency is the backbone of its value, as exemplified by the widespread use of the American dollar across the globe. Bitcoin and other cryptocurrencies lack this confidence (pp. 5-6).

As Madey alludes to the lack of knowledge creates a higher chance for loss of money and potential for investment by individuals. All cryptocurrency, due to the newness has the potential to have significant fluctuation in prices. With that said the larger named cryptocurrencies have a potential for the most price fluctuation. This fluctuation in price is due to cryptocurrencies novice investors. These investors are not average investors that are into cryptocurrency for the long-haul, but instead, are more invested to make quick money. Many of these novice investors will buy into cryptocurrency high like many other people do in the typical stock market. The issue with this is when an investor buys in high and the market falls the novice investor has low risk-tolerance. This low risk-tolerance results in many of these novice investors pulling their money out, resulting in prices that bottom-out. As Dierksmeier & Seele (2018) stated,

In short, drastic price differentials are useful only for the arbitrage games of professional speculators. The volatility of cryptocurrencies, therefore, tends to work to the advantage of those who have above-average financial assets, are time-rich and well-informed. But at the same time, such volatility works to the disadvantage of the less privileged. The only possible redeeming feature of cryptocurrency volatility is that, over time, it tends to invite its own demise (p. 8).

The volatility that is created by cryptocurrency is appalling not only for the crypto market but also the novice investors. The less privileged of knowing the trend and volatility of the market can be heavily harmed due to lack of experience and low-risk tolerance. This volatility may not

be the end of markets such as the failure that has historically been evident within the New York Stock Exchange. But failure for markets that have such newness like Coin Base and cryptocurrency, in general, could be devastating to the market. Market failures have the potential to make all currencies plummet due to being built on trust and not being financially backed by a financial instrument.

Another disadvantage that is involved with cryptocurrency is a large amount of trust in the product and system. As Devries (2016) discussed how some cryptocurrencies are backed by commodities, but majority are backed by trust. Additionally, commodity markets are highly fluctuating. This is similar to the United States dollar. Cryptocurrency sustains from the trust and acceptance of its owners and users of the instrument (p. 4). Since there is no building that investors can go to or government agency that enforces cryptocurrency, trust is involved in believing that cryptocurrency will be around tomorrow. Typical financial institutions are federally backed and insured, so the risk to the investor is minimal when it comes to overnight failure. Cryptocurrency has no insurance and cannot be guaranteed against liabilities or paid off by other assets like banks or other institutes can. As Harwick (2016) wrote,

The essential problem here is trust. The necessity' of a method transition, however, deserves a few more words. Because a cryptocurrency protocol defines both the coinage and exchange of the base money, issuing liabilities on a fractional-reserve basis requires more than simply adding parameters to coins. A bank that wants to vary its issue with demand would need to create its own coinage and exchange mechanism, a new protocol, which would not be compatible with the original even if its processing took place on the

same blockchain. Nor would one issuer's liabilities be compatible with another's (pp. 578-579).

The method being used with the cryptocurrency of protocol and coinage are even issues. The other issue with trust is placed on proper functioning of cryptocurrency. As Liu, Li, Karame, and Asokan (2018) discussed there is heavy reliance on the blockchain length window. This window is where transactions are logged and if closed too soon the proper journal ledger cannot be recorded. This can hinder the receiving of cryptocurrency from one user to another. It also may create many issues that cannot be resolved due to lack of governing body or insurance backing these currencies (p. 8). These issues involve a lot of trust in a virtual system of currency that is uninsured and most are not backed by instruments. Creating an increased risk for investors who typically rely on the trust of an investment instrument being in their account or portfolio the next day.

The third drawback that accompanies the newness of cryptocurrency is the lack of acceptance. Due to the relative newness of cryptocurrency, there are only a select amount of crypto ATM's. There are approximately 2500 crypto ATM's in America with majority of these being in major cities. Additionally, many financial institutions do not recognize cryptocurrency as real currency. Along with the lack of acceptance comes the lack of ability to buy regular items like groceries, food, or clothing. The need for a broker not only makes things inconvenient, but also raises the price exponentially due to fees and other charges. The lack of acceptance is a major drawback that unless changed cryptocurrency will stay stagnant or end up becoming obsolete. Liquidity is a major need for many investors and that being something that cryptocurrency is not successful in offering yet. With the increase in recognition there could be

rapid liquidity within the next five years. Next is the lack of a governing body. This can be an advantage, but this also has drawbacks. The lack of acceptance by governing bodies is a tremendous disadvantage to go along with that. As Abu-Bakar (2018) discusses how cryptocurrency may be in grave danger in the Middle East. This danger is due to the lack of acceptance by the Shariah governments. Some people groups may use cryptocurrency but many of the people in these countries are more concerned with the political punishments that can be brought about by not using governmental currency (pp. 16-17). This can appear to be of little issue to the United States and rest of the world's economies of cryptocurrency. This ignorance could not be further from the truth. The Middle East has some of the world's wealthiest and diversified individuals. Without the financial partaking in the buying, selling, and investing in cryptocurrency the market for cryptocurrency shrinks significantly. The United States has been less public about their views on cryptocurrency. The U.S. government is more interested in tracking users and how to be able to tax cryptocurrency. The Chinese government seems to be more positive on the way that the country views cryptocurrency by rating the different assets as public information. This is information available to the public, so the true opinions of the government are not completely given.

Another issue is the ability for cryptocurrency to be used for illegal activity and criminal operations. The use by scammers and hackers may be unethical and wrong but, the use by other much more sinister activities is the scare. Cryptocurrency can be used by organized crime for money laundering, terroristic groups for funding, or other illegal activity that can be hidden due to the anonymousness of cryptocurrency. As is stated by Nian and Chuen (2015),

The Financial Action Task Force, which deals with anti-money laundering and the countering of terrorist financing, has issued a paper on the subject, but the discussion is only beginning. The International Monetary Fund, which deals with currencies issued by nation states, is said to be unable to recognize virtual currencies like Bitcoins as currencies (p. 15).

The use of activities that are not only unethical but potentially fatal in result can be something that can tarnish the reputation of cryptocurrencies. The ability for illegal activity to not only use cryptocurrency improperly, but also as a preferred mode of money transactions based upon its attraction due to anonymity could be devastating. This makes not only institutional investors, not average people, become skeptical and have a negative view on cryptocurrency. This is something as a believer to also consider. Involvement with sinful activity is one of the most significant drawbacks. As the apostle Paul wrote in 1 Corinthians 13:6 "It does not rejoice about injustice but rejoices whenever the truth wins out" (NLT). Staying away from things that cause harm and evil is something that for followers of Christ is necessary. Some of the improper use of cryptocurrency can be for illegal activity. Additionally, the harm and evil caused by some activities that use the anonymousness of cryptocurrency to their advantage.

The final negative is the uncertainty of cryptocurrency. The future is unpredictable and uncertain for many commodities. Not knowing if cryptocurrency is just a fad and will only be around for another few years hurts the future of the currency, which makes for a drawback for major investors. As Fang, Bouri, Gupta, and Roubaud (2019) stated,

The fact that Bitcoin volatility is affected by the state of economic uncertainty suggests that investors and practitioners in the Bitcoin market have to closely watch the level of

global economic policy uncertainty while making investment decision involving the volatility of Bitcoin, which represents a central input into options pricing. Therefore, investors can use information about the state of global economic uncertainty to enhance predictions of Bitcoin volatility (p. 35).

The uncertainty of the investment and future is a disadvantage to investors because of the constant maintenance from an upkeep perspective. The other perspective of not knowing if the currency will even be something that will be around for time to come is another disadvantage that cryptocurrency creates. Many of the crucial variables that investors attempt to measure like liquidity, volatility, and sustainability are in question when it comes to cryptocurrency. For investing even regular everyday life the most minimal amount of risk for the most benefit is what is best. Uncertainty due to lack of past market existence can be something that definitively hinders the use of cryptocurrency. This can be for not only investments but for everyday use of cryptocurrency. With the many risks already involved in investing, adding the uncertainty of cryptocurrency could be a major drawback that can devastate some investors. Not only is there the uncertainty of price, but the many other uncertainties such as how to retrieve a wallet if lost, what if the cryptocurrency is fake vs. genuine. The uncertainty of cryptocurrency is a major drawback resulting in substantiated needs for further investigation to determine its' safety, value and worth.

Future and Potential

The future for cryptocurrency looks to be both infinite and uncertain. There are many predictions to be made of the future of cryptocurrency and what lies ahead. Some economists and financial analysts believe that cryptocurrency will not only have government involvement,

this is nearly guaranteed, but be the standard currency within the next fifteen to twenty years. With the involvement of the government, the currency will be accepted virtually anywhere and can potentially create a type of global currency. The involvement of governance has mixed reactions and side effects. The results of government involvement can have a multitude of different future scenarios and are virtually unpredictable. This could be synonymous with how the Euro had impacted in the EU, making trade and other types of business acquisitions a more seamless process resulting in increased ease in an everyday purchase and standardized economy. This growth from the use of similar currencies can create much ease for the average person and make transactions fairly simplistic. Other areas that can be simplified with the utilization of cryptocurrency are things like tax-returns. Ease with tax-returns is due to cryptocurrency being electronic, this could simplify the tax business and heavily assist the IRS with the way tax returns are filed. If the government would find a way to monitor and intervene cryptocurrency transactions, the government can be able to view what each transaction was used for with cryptocurrency. This data from cryptocurrency than can be all plugged into an online tax-return with ease. Other areas in which government intervention can be interesting is it could be used to get census data that could more easily be tracked through purchase histories.

Another potential future for cryptocurrency is that it can be another financial negative bubble. This is what the projection for the most common cryptocurrencies, Bitcoin and Ripple, had in the summer of 2018. The concept is that cryptocurrency market can only get to a certain size and then it pops like a bubble. The pop can be caused by shock to the market or the interdependence of the market currencies. As Fry and Cheah (2016) wrote, "Suppose that the market is exposed to an unpredictable shock. The timing of the shock is assumed to be

completely unpredictable. If the shock is exogenous in nature then its effect is merely transitory (Sornette & Helmstetter, 2003). In contrast, the after-effects of an endogenous shock are potentially much longer lasting” (p. 347). Fry and Cheah write about the impact of the shock on the cryptocurrency market, implicating that the shock could be either/or internal or external. The origins of the shock determine if cryptocurrency can bounce back or disappear and be just another fad. As Cheah and Fry stated in a different article (2015), an empirical investigation into the fundamental value of Bitcoin that all asset classes are bound to have bubbles and Bitcoin is no exception. Along with that, the bubbles that Bitcoin specifically has are more significant than the average bubble (p. 35). Seeing how bubbles are a common occurrence in financial instruments and asset classes a Bitcoin bubble is bound to happen. This should be expected and not a significant deal due to its occurrence being consistent in all assets. But the significance of the bubble is specifically what should be feared. With a high severity of a bubble on the foundation of the cryptocurrency market not having a firm foundation formed. Bitcoin could be built on a fad and value through the customer base. According to Yahoo Finance Bitcoin tracker the cryptocurrency bubble was displayed from the fall of Bitcoin by nearly 60% from the peak for the currency (2019). The unpredictability of shock and financial bubbles are just a part of the inherited risk involved with cryptocurrency.

There are more general potentials for the future of cryptocurrency and some areas that very specifically can be affected. A more general area is the banking and financial institutions. The financial arena will no longer be the same brick and mortar financial systems that exist today, but function in different facets. The financial industry will be completely different in backing and trade. This allows the average person more accessibility to investing on their own.

The more common that cryptocurrency gets will make the financial institutions, banks, and other financial systems become more creative and find new ways to make a profit from cryptocurrency. With the traditional financial institution not having much experience and leverage in the cryptocurrency arena, this leaves significant room for some smaller and less established banks, investors, and corporations to take a risk with cryptocurrency. This new financial instrument could change the way these institutes operate bringing in business they never would have before. These new opportunities for financial institutions can create more jobs not only from the finance industry but also within fields of computer programming and information technology. The ability to see if financial institutes are going to be able to not just keep up with cryptocurrency but use it to their advantage is a potential future.

A more specific area that cryptocurrency could venture into is the area of clarification. Is it a traditional asset, investment, can collateral be held against it? The future involves a lot of legalities and defining if cryptocurrency wants to be a mainstream and commonly used currency. As Low and Teo (2017) wrote,

However, as this paper has demonstrated, property rights over bitcoins may well represent a truly unique and novel form of property altogether, whereby the legal right is inseparable from its registration, here on the blockchain. While the world of bitcoins and cryptocurrencies has been sustained by what has been regarded by some as blind faith and cryptographic trust, a little pixie dust in the form of private law rights will certainly not hurt in their further adoption (p. 267-268).

The writers discuss how the anonymous history needs to disappear if cryptocurrency wants to maintain relevance and how the asset can be as property. Cryptocurrency classification needs some work on clearing up to a more specific definition of what cryptocurrency is.

This struggle of classification ties in heavily with how cryptocurrency can be taxed. Will cryptocurrency be in its own individual tax bracket or will it be classified more generally into a specified area. A potential is that cryptocurrency can be used as a lien for a loan. Due to the same amount of cryptocurrencies always existing making it an optimal currency to put a lien against. With the same amount of cryptocurrency coins in circulation, this allows for the effects of inflation, as like stated before, to not be a factor. With inflation not being a factor of concern, the lean will not lose its worth due to loss of value. With the price of cryptocurrency fluctuation, this could be an opportunity to increase the loan on the lease and be an investment in its own value for the lessor. With the default risk being a threat with the price fluctuation the need to do proper underwriting is crucial. Defining the capabilities within cryptocurrency and how it can and cannot be used eliminates a lot of grey areas that need illuminating.

Another potential is having cryptocurrency mining become something that is taken to a corporate industrialized level on a massive scale. The potential for cryptocurrency being a future standardized currency or even as an investment tool creates a market for mass mining of cryptocurrency that produces major income for industrial crypto miners. These are massive factories that mine for cryptocurrency and are becoming the main holders of the currency as it attempts to control the supply. As Valencia Ventures (2018) indicates, there are three crucial factors to having a highly effective cryptocurrency mining facility. The first is a low electricity cost to have a higher profit margin on the mining of the coin. Secondly is the need for high-

speed internet for rapid transmit and reception of data to keep up with the database, ledger, and transactions. Thirdly is the location of the equipment for use needs to be cold. This is due to the equipment constantly overheating and optimal conditions for the mining machines to perform with high efficiency. Additional benefits are reductions in the cost of heating the facility (Valencia Provides Update on Earth Renew Acquisition). These factors are suggested key issues and/or requirements in optimizing the increased success of these super mining factories. The use of these mining facilities can have a beneficial economic impact on areas that have lower jobs due to the weather and use plots of land that are difficult to use due to the treacherous conditions. The employed skill levels need to vary but a significant volume of workers can be of lower skill level. This is due to the facilities not needing much human interaction beyond ensuring its cleanliness and proper maintenance. These large mining facilities offer a new industry that can create future discoveries into advanced trends and innovations.

The final potential area of cryptocurrency future is the use of digital payments on a normal and global scale. Cryptocurrency has gone a long way from its root to what it is today. With more and more businesses slowly accepting cryptocurrency the ability for the currency to be the "currency of the future" and a "global currency" are highly probable. The problem for years was the transition cost and transaction fees but that is finally changing. As Luther (2016) stated,

At the moment, processing transactions using the blockchain seems to be less costly than the traditional approach. Moreover, the business of processing transactions tends to be highly concentrated. As such, the volume of transactions handled by each payment processor means that the benefit of switching might be quite large, and the small number

of participants means that the cost of coordinating to overcome network effects are probably small. (p. 401).

Luther discusses the benefits of businesses switching to accepting cryptocurrency are huge, with the lowering of transaction costs and gaining new customers. With the transition, there are some hidden overlooked conversion fees. With some elderly individuals that like to have the actual material instrument in their hands, this could be an issue. Another identified issue is of individuals passing away. If a deceased wallet owner without sharing the login information this could mean loss of cryptocurrency whether partial or in its entirety. This brings up the additional issue and identified need for more diversity in the companies that transition dollars to cryptocurrency. The need for more companies is to keep the exchange fees down due to competition. The other cost of the transition is the potential benefit for the industry and growth to have a startup for new jobs. These transition costs could be a onetime cost and create many new opportunities to further financial futures. Also, the new capabilities and simplicity that cryptocurrency offers is, for example, the absence in need to carry around money on person. This is crucial for business deals with large sums of money being transitioned to different hands. Additionally, simple transfer and easier tracking abilities are advantageous to future digital currency and the acceptance and use of cryptocurrency.

Conclusion

Cryptocurrency is a digital currency that has the potential to change the future. The history of cryptocurrency is very mysterious and speculative. Being that the industry is less than forty years' old there is new information on past history. Now with many new cryptocurrencies being released to the public, knowledge is growing. The expanding numbers of commodities

backed cryptocurrency creates a fresh twist to the industry and a new appearance for cryptocurrency. The many advantages of no government oversight and privacy are very attractive to investors and interested people alike. The simple start and transferability create an eased way of investing and exchanging money. The ability of some people groups that could never invest before are also assisted by cryptocurrency. One of the most important advantages that cryptocurrency provides is the ability to build a diverse portfolio for investors. Even with all the many advantages, there are some drawbacks of cryptocurrency. The newness and a large amount of trust are alarming issues that need to be resolved if cryptocurrency wants to stay relevant. Also, the lack of oversight and liquidity make for a major fright to investors and people into the craze alike. The ability for cryptocurrency to be used for illegal and evil activity is something that significantly hampers the reputation of cryptocurrency. Finally, the future of cryptocurrency is uncertain which direction cryptocurrency will take. From potentially replacing the brick and mortar financial structures of today to how to classify cryptocurrency as an asset. There are endless potentials of good, like being the future of digital payment, and bad, like being a financial bubble waiting for a shock to occur. The uncertainty of cryptocurrency leaves room for a lot of growth and skepticism. The uncertainty is also what makes cryptocurrency so intriguing and attractive not just for investors or banks, but for the average person. Weighing out the benefits and the disadvantages is a critical factor for the cryptocurrency. With its potential for either tremendous future or failure, the need to do research and having tremendous discernment is crucial for those looking into cryptocurrency.

Reference

- Abubakar, Y., Ogunbado, A., & Saidi, M. (2018). Bitcoin and its legality from Shariah point of view. *Seisense Journal of Management*, 1(4), 13-21.
- Andolfatto, D., & Spewak, A. (2019). Whither the price of Bitcoin? *Economic Synopses*, 1, 1-2.
- Bitcoin USD (BTC-USD). (2019). Interactive stock chart. (April 07).
- Bouri, E., Gupta, R., Tiwari, A. K., & Roubaud, D. (2017). Does Bitcoin hedge global uncertainty?: Evidence from wavelet-based quantile-in-quantile regressions. *Finance Research Letters*, 23, 87-95.
- Bunjaku, F. & Gorgieva-Trajkovska, O. & Miteva-Kacarski, E. (2017) Cryptocurrencies – advantages and disadvantages. *Journal of Economics*, 2 (1). ISSN 1857-9973.
- Cheah, E. T., & Fry, J. (2015). Speculative bubbles in Bitcoin markets? An empirical investigation into the fundamental value of Bitcoin. *Economics Letters*, 130, 32-36.
- Chohan, U. W. (2017, October 06). A history of Bitcoin. *SSRN Electronic Journal*. 1-11.
- Chuen, D., & Nian, L. (2015). Handbook of digital currency: Bitcoin, innovation, financial instruments, and big data. Amsterdam: Elsevier/ AP. 5-30.
- DeVries, P. D. (2016). An analysis of cryptocurrency, Bitcoin, and the future, *International Journal of Business Management and Commerce*, 1(2), 1-9.
- Dierksmeier, C., & Seele, P. (2016). Cryptocurrencies and business ethics. *Journal of Business Ethics*, 152(1), 1-14.
- Dumitrescu, G. C. (2017). Bitcoin – A brief analysis of the advantages and disadvantages. *Global Economic Observer*, 5(2), 63-71.
- EarthRenew Inc. (2018). Valencia provides update on Earthrenew acquisition, 2(9).

- Fang, L., Bouri, E., Gupta, R., & Roubaud, D. (2019). Does global economic uncertainty matter for the volatility and hedging effectiveness of Bitcoin? *International Review of Financial Analysis*, 61, 29-36.
- Fry, J. & Eng-Tuck C. (2016). Negative bubbles and shocks in cryptocurrency markets. *International Review of Financial Analysis*, North-Holland.
- Goldfeder, S., Kalodner, H., Reisman, D., & Narayanan, A. (2018). When the cookie meets the blockchain: Privacy risks of web payments via cryptocurrencies, *Proceedings on Privacy Enhancing Technologies*, 2018(4), 179-199.
- Harwick, C. (2016). Cryptocurrency and the problem of intermediation. *The Independent Review*, 20(4), 569-588.
- Ivaschenko, A.I. (2016). Using cryptocurrency in the activities of Ukrainian small and medium enterprises to improve their investment attractiveness. *Problems of Economy*, (3), p. 267-273.
- Ilutinović, M. (2018). Cryptocurrency. *Ekonomika*, 64(1), 105-122.
- Kajtazi, A., & Moro, A. (2018). The role of Bitcoin in well diversified portfolios: A comparative global study. *SSRN Electronic Journal*.
- Kshetri, N. (2018). Cryptocurrencies: Transparency versus privacy [Cybertrust]. *Computer*, 51(11), 99–111.
- Lee, D. K. C., Guo, L., & Wang, Y. (2018). Cryptocurrency: A new investment opportunity? *Journal of Alternative Investments*, 20(3), 16.1.
- Liu, J., Li, W., Karame, G. O., & Asokan, N. (2018). Toward fairness of cryptocurrency payments. *IEEE Security & Privacy*, 16(3), 81-89. doi:10.1109/msp.2018.2701163

- Low, K. F., & Teo, E. G. (2017). Bitcoins and other cryptocurrencies as property? *Law, Innovation & Technology*, 9(2), 235-268.
- Luther, W. (2016). Bitcoin and the future of digital payments. *The Independent Review*, 20(3), 397-404.
- Madey, R. S. (2017). A study of the history of cryptocurrency and associated risks and threats. Utica College.
- Park, S., & Park, H. W. (2019). Diffusion of Cryptocurrencies: Web traffic and social network attributes as indicators of cryptocurrency performance. *Quality & Quantity*.
- Warden, S. (2015, October). Bitcoin. *The Milken Institute Review: A Journal of Economic Policy*, 17(4), 16+.
- Wealth Management. (2018). Don't lose your clients' cryptocurrency in cyberspace.