EXPLORING AN ORANGE FUTURE:

WHY FIAT CURRENCIES ARE BOTH ANTIQUATED AND CORRUPT

AND BITCOIN IS THE SOLUTION

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Senior Thesis: Section A

Final Draft

April 6, 2022

Introducing the World of Decentralized Finance

2008 saw the world on the brink of financial collapse. Spurred by mortgage-backed securities, virtually anyone could get a loan, which led to an inflated housing market. When the bubble popped, people saw the rotted structure on which their lives were built and panicked. Who knows if Satoshi Nakamoto made Bitcoin in response to the bubble, like how Micheal Burry shorted the real estate market when he saw the imminent danger, but a month after the market crashed in September of 2008, Satoshi Nakamoto published the Bitcoin whitepaper.

Since it went live in 2009, Bitcoin has had bull markets and bear markets. It has brought innovation to decade-old, and even centuries-old, financial markets. Put simply, the world was never going to be the same. Bitcoin offered a world that was not tied to a financial market run by banks. The digital world of decentralized finance (DeFi) has become the land of opportunity.

Opposition to Bitcoin states that Bitcoin is not reliable because nothing is backing it and there is no governing body to regulate it. This opposition plays into all three areas that this thesis will cover. The first section will focus on defining Bitcoin as well as finding its value, focusing on the blockchain technology behind it. The second section focuses on Bitcoin as an asset and how it compares to other assets. Investing is all about risk management, which was proven by Benjamin Graham’s work, and this section will show the risk of owning other assets compared to Bitcoin. An important aspect to note is that this thesis does not prompt investing all of one's portfolio into Bitcoin, but rather learning how Bitcoin will shape the future. The third section will focus on the debate between Austrian economics and Keynesian economics, more specifically the “crypto” terminology of decentralized finance and centralized finance.

How Bitcoin is different from Altcoins

There are many topics that can be covered while writing about Bitcoin and many of them can be extremely useful but this thesis will primarily focus on the three areas of Bitcoin mentioned above. The one subject that will briefly be addressed though is Altcoins, Altcoins being any crypto that is not Bitcoin. Although Altcoins will not be part of the discussion, and can seem off-topic, it is important to differentiate them from Bitcoin as many will have heard of names like Etherium, Solana, and Cardano. The first part that is important to understand is that there are coins and tokens. Coins are networks and tokens are built on networks. Bitcoin and Ethereum are coins and Solana and Cardono are tokens built on the Ethereum blockchain network. An analogy comparing coins and tokens to smartphones and apps will help. Ethereum (coin) is the smartphone while Solana and Cardona (tokens) are apps on the phone. The second part that is important to understand is that no change to an Altcoin will have an impact on the network of Bitcoin. If a coin is created and has an infinite supply, Bitcoin will still have a limited supply. With the difference between Bitcoin and Altcoins covered, this thesis can officially begin.

Defining Bitcoin

Before discussing the various opinions on Bitcoin it is important to get an idea of what Bitcoin is. While researching the topic it became clear that a definition of Bitcoin is not agreed upon. It is important to point out that both sides of the debate on Bitcoin define Bitcoin in relation to how they see it as an investment: Bitcoin is a bad investment because… vs Bitcoin is a good investment because…

Opposition

Those who disagree with using Bitcoin see no value in it. Charlie Munger, Vice-Chairman of Berkshire Hathaway, said, “Bitcoin is rat poison.”[1] When asked about his business partner’s comment, Warren Buffet, CEO of Berkshire Hathaway, said, “Bitcoin is rat poison squared.”[2] Both men represent one of the most recognizable names in the financial sector, Berkshire Hathaway, and do not believe in Bitcoin.

Bank leaders have also weighed in. Jamie Dimon, the CEO of JPMorgan has voiced his strong opinion many times that Bitcoin is a scam.[3] Christine Lagarde, the European Central Bank President, said “Crypto’s are not currencies, full stop. Cryptos are highly speculative assets that claim their fame as currency… possibly… but they are not. They are not.”[4] Here Lagarde is classifying crypto, which includes Bitcoin, in the “highly speculative” asset class, which has recently become known as a “meme asset” due to the prices of GameStop, AMC, and Dogecoin skyrocketing last January for no financial logical sense.

Supporters

Proponents of Bitcoin define it and see it very differently. They see it as an answer to many financial problems because Bitcoin is a hard currency or asset. Hard and soft currencies

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[1] “Warren Buffett: *Bitcoin Is An Asset That Creates Nothing* | CNBC,” interview by Becky Quick, CNBC Breaking News, May 7, 2018, video, 6:16, featuring a discussion of Bitcoin with Warren Buffet, https://youtu.be/LtITDtZPYEw.

[2] Warren Buffett, May 7, 2018.

[3] “*JPMorgan CEO Jamie Dimon says bitcoin is “worthless,”* Yahoo! Finance Alert, October 11, 2021, video, 1:52, featuring a discussion of what Jamie Dimon said with Jennifer Schonberger, https://youtu.be/PTDi946ot7A.

[4] “'*Cryptos Are Not Currencies, Full Stop,'* ECB's Lagarde Says,” interview by David Rubenstein, The David Rubenstein Show: Peer-to-Peer Conversations., September 13, 2021, video, 2:29, September 16, 2021, featuring a discussion of Bitcoin with Christine Lagarde, https://youtu.be/pBRT4frdLQ8.

and assets are related to the stock-to-flow ratio, which is calculated by dividing the existing stock of bitcoin, gold, or dollars by the flow or production of bitcoin, gold, or dollars. The bigger the number the harder the currency. The harder the currency the more difficult it is to inflate the currency. Soft currency is the opposite. Saifedean Ammous, the author of *The Bitcoin Standard*, used stock-to-flow as one of the key points in his book, supporting the notion that Bitcoin is the hardest currency that currently exists.[5]

Another supporter in the pro-Bitcoin camp is the late Austrian economist Ludwig von Mises who said, "The sound money principle has two aspects. It is affirmative in approving the market's choice of a commonly used medium of exchange. It is negative in obstructing the government's propensity to meddle with the currency system."[6] Even though Mesis never got to see Bitcoin, it fulfills his definitions of sound money. The market has chosen it, since it is used across the globe, and Bitcoin does not allow the government to "meddle" with the currency system.

To bring a more recent perspective, Kevin O'Leary, Mr. Wonderful from Shark Tank, has said that Crypto, which includes Bitcoin, is the 12th sector of the S&P 500, with the S&P currently having 11 sectors.[7] We are starting to see a future where Bitcoin is integral to the market. When Crypto is added to the S&P one would get Bitcoin when one buys a share.

[5] Saifedean Ammous. *The Bitcoin Standard*, (Hoboken, NJ: John Wiley & Son, 2018), 5.

[6] Mises, Ludwig von. *Human Action,* The Scholar's Edition. (Auburn, AL: Ludwig von Mises Institute, 1998), 414-416.

[7] "*Crypto As An Asset Class*? | YouTube Short,", YouTube Short, September 24, 2021, video, 0:55, featuring a discussion of Bitcoin with Kevin O'Leary, https://youtu.be/vrZPWjnCmE4.

Investing in Bitcoin

With a definition, or an idea, of what Bitcoin is from each perspective, it is possible to move on to a key question of the discussion surrounding Bitcoin; is it a good investment?

Opposition

Jerome Powell, the Chairman of the Federal Reserve, said, "It is risky because they (cryptos) are not backed by anything."[8] As Lagarde and Dimon said before, Powell is classifying crypto, which includes Bitcoin, as a risky investment.

Alternative Investments to Bitcoin

While the con side criticizes Bitcoin, they do offer alternatives to Bitcoin in investments they see as solid. Warren Buffet said, "The reason to buy stocks and real estate is because they are productive assets. Gold and Bitcoin do nothing. "You can stare at it and no little bitcoins are going to appear." Gold and Bitcoin are built on the hope that you can constantly sell it for a higher price."[9] Warren Buffet likes stocks and real estate because you can see the cash flow and the dividend payout. They are not objects that do nothing, they are productive assets.

Peter Schiff, a strong supporter of gold and CEO of Euro Pacific Capital, does not believe in the sentiment that Bitcoin will replace gold. He said that large investors believe that there is no inflation problem. They believe that the Fed will fix inflation. They are following the Wall Street saying, "Don't fight the Fed." The Fed would end quantitative easing (which means putting

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[8] "Fed Chair Jerome Powell on crypto: *I don't see it as a financial stability concern*," Federal Reserve Press Conference, Yahoo! finance Alert, December 15, 2021, video, 3:53, featuring a discussion of Bitcoin with Ben Chiller, Karina Mitchell, and Adam Shapiro, https://youtu.be/1C5MvYu19DA.

[9] Warren Buffet, May 7, 2018.

money into the market) and lower inflation which would be bad for gold. Peter Schiff does not believe this will happen, meaning gold is undervalued and is a good investment.[10]

Other interesting alternatives to Bitcoin that have been brought forward are stablecoins and CBDCs (central bank digital currencies). It is important to note that while stablecoins are currently operational, CBDCs are not and are just a concept.

Stablecoins are cryptos that are technically backed by a national currency. For example, the crypto ABC has the same number of coins as the number of U.S dollar bills and the same worth. It's the digital version of the U.S Dollar. CBDCs are slightly different. While stablecoins have open-source code, which is what Bitcoin has, CBDCs do not. They use a private code only the government has access to. CBDCs would be a direct replacement of the physical fiat currency we use now.

CBDCs are an idea that has been put forward by bank leaders. Christine Lagarde said that CBDCs are a way to grow and modernize the economy while still maintaining the current currency structure we have in place. Instead of cash or debit/credit cards we could have digital wallets on phones but with the same currency.[11] Supporters say that both of these forms of crypto (stablecoins and CBDCs) put reliability into a currency since it is backed by a bank.

Supporters

As for the proponents of Bitcoin, they obviously believe that Bitcoin is a great investment. They state many reasons but these stem from two main elements of Bitcoin; its resistance to manipulation because of the security of blockchain technology, and the limited

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[10] "Peter Schiff: *Here Is The Truth About Gold*," interview by Anthony Pompliano, August 11, 2021, video, 11:03, featuring a discussion of Bitcoin with Peter Schiff, https://youtu.be/d2MAMmWvcsg.

[11] Christine Lagarde, September 13, 2021.

number of coins that will ever be made, that being 21 million. Another reason why proponents like Bitcoin is because of the possibility it has to shake up the financial market.

Bitcoin makes sending money very easy because it cuts out the middleman of the Foreign Exchange (or Forex) market which, according to BIS's 2019 triennial survey, traded $6.6 Trillion a day in April of 2019, or $2.4 quadrillion in a year. A large portion of that money would go into Bitcoin as it would be used for sending money.[12]

Kevin O'Leary adds to the conversation about the Forex market. He has said that it would make life so easy for him to trade stocks in Switzerland or do any business in Europe if Bitcoin were to be used.[13]

Another reason people like Bitcoin is because it is safe, which could be comical; however, Micheal Saylor, CEO of MicroStrategy, a $5.42 billion company, said that Bitcoin is the safest form of property right now. It has not been hacked, it has been copied 10,000 times and each copy has failed, and it's not affected by inflation.[14]

The security of Bitcoin is based on blockchain, and there being no single point of failure. Each node supporting Bitcoin across the world has a ledger of every transaction. Even if someone hacked a computer the others will still be functional. Along with the protection from security threats, Saylor also believes Bitcoin is safe from stablecoins, which are affected by inflation. He said that Bitcoin is where money can be stored and not be affected by inflation.

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[12] "*Forex Statistics*," Tim Fries, The Tokenist, last updated September 3, 2021, https://tokenist.com/investing/forex-statistics/.

[13] "*DeFi Will Disrupt The Financial Markets* | YouTube Short,", YouTube Short, September 24, 2021, video, 0:58, featuring a discussion of Bitcoin with Kevin O'Leary, https://youtu.be/-lPrkZ80B2I.

[14] Michael Saylor (@saylor), "The price of #Bitcoin will be driven by inflation technology, and adoption," Twitter, December 9, 2021, 9:58 a.m., https://twitter.com/saylor/status/1468958234681634825?s=20.

stablecoins then are used for everyday purchases. For moving large amounts of money use Bitcoin and for small transactions use stablecoins.[15]

Another reason people are invested in Bitcoin is because of the adoption rate. A graph from Bitcoin On-Chain analyst Willy Woo shows that Bitcoin currently has roughly the same amount of users as the internet had in 1997, but in the next four years, it is projected to have the numbers the internet had in 2005, same growth in half the time.

Economic Worldview

All the smaller disagreements over Bitcoin stem from one large divide in the world of economics. This is the divide between Austrian Economics and Keynesian Economics. To give a quick summary, Austrian economics is called Austrian because of the many economists who came from Austria and supported a market-controlled economy. Keynesian Economics is named after John Maynard Keynes, who supported a government-controlled, or directed, market. Keynesian economics is a centralized version of capitalism.[16]

Keynesian Economics

One of the most prominent Keynesian Economists today is the American-born Paul Krugman. In a famous debate dubbed Paul vs Paul, against Ron Paul, Krugman said, "A completely unmanaged economy is subject to extreme volatility and extreme downturns… I want the market economy to be left as free as can be, but there are limits. You need the government to step in and stabilize. Depressions are a bad thing for the economy and it is the job

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[15] Michael Saylor (@saylor), "The winner of yesterday's congressional hearing was #Bitcoin," Twitter, December 9, 2021, 9:46 a.m., https://twitter.com/saylor/status/1468955094729170959?s=20.

[16] Willy Woo (@woonomic), "In terms of adoption, Bitcoin has roughly the same users as the Internet had in 1997." Twitter, February 1, 2021, 1:35 p.m., https://twitter.com/woonomic/status/1356310219215699968?s=20.

of the government to prevent them or make sure they don't last too long."[17] Krugman wants to let the market innovate and have the benefits of a capitalist system, but sees danger in letting it loose. The belief is that if the government is able to intervene during strained times the market can be put back on track.

Another supporter of centralized finance was the late Paul Warburg, who was one of the founding members of the Federal Reserve. In his book, *Defects and Needs of Our Banking System,* he wrote, "In order thus to make our paper part and parcel of the means of the world's international exchange, it needs, however, as a preliminary condition, to become the foundation of which our own financial edifice is erected. It must always have a ready home market, where it can be rediscounted at any moment. This is ensured in nearly every country of the world claiming a modern financial organization, by the existence of some kind of a central bank, ready at all times to rediscount the legitimate paper of the general banks."[18] What Warburg is saying here is the premise of the Federal Reserve. He wanted to make a central bank that could bail out any failing bank to protect the interests of the entire American market and create a competitive home market to push America to center stage in world finance.

Austrian Economics

On the other side of the debate is the late Austrian Economist Friedrich Hayek who said, "I don't believe we shall ever have a good money again before we take the thing out of the hands of government, that is, we can't take it violently out of the hands of government, all we can do is

[17] "*Ron Paul vs. Paul Krugman on Bloomberg TV* - April 30, 2012," interview by Bloomberg, April 30, 2012, video, 13:19, featuring a discussion between Ron Paul and Paul Krugman on economics, https://youtu.be/jEmKIRqz9AI.

[18] "*Defects and Needs of Our Banking System*," Warburg, Paul M., Jstor, date added February 20, 2013, https://archive.org/details/jstor-1171781.

by some sly roundabout way introduce something they can't stop."[19] Satoshi Nakamoto, the pseudonym that the creator or creators of Bitcoin use, must have read this quote. Bitcoin fills the role of this sly roundabout "something" that the government can't stop. Due to blockchain technology, the Government can't change the code or manipulate Bitcoin.

Decentralized Finance

The whole concept of Decentralized Finance (DeFi) started with the abilities Bitcoin has to create decentralization, because of the blockchain technology behind it. The space of DeFi is very disruptive. Kevin O'Leary said "Will DeFi disrupt the existing financial markets? The answer is 100% yes."[20]

In his video about Defi, James Mullarney, A Wharton graduate and the owner of the YouTube channel InvestAnswers, gave an example of how he personally used Defi. He wanted to go yacht racing but the owner of the boat wanted to insure the mast since it could break. They wrote up a quick contract that stated that if the saltwater sensor beacon that was mounted on the top of the mast came in contact with the ocean, an automatic payment of one bitcoin ($1 thousand at the time) would be made. There were two exclusions, those being if there was a collision, or if the wind was lower than 40 knots. This involved no banks, lawyers, or anything that would have been needed if DeFi was not used. He also spoke about how this could be used in real estate and minimize many unnecessary fees such as appraisal fees, credit check fees, report fees, legal fees, escrow fees, and 15 other fees.[21]

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[19] Saifedean Ammous, 72.

[20] O'Leary, September 24, 2021.

[21] "How to use DeFi to make Money! *Beyond yield farming…..*," InvestAnswers, April 8, 2021, video, 13:35, featuring a discussion on DeFi with James Mullarney, https://youtu.be/LtITDtZPYEw.

DeFi takes the power away from the banks and gives it to individuals to trade with each other because Bitcoin is a trust-free system. There is no need to trust the other party with whom business is conducted. In the example of the yacht insurance, the boat owner did not need to trust Mullarney to pay since the payment would be completely automated and could not be tampered with, or reversed.

The Problem and the Solution

Centralized finance in the form of Central Banks and fiat currencies have become tools of the government and banks to exploit the financial system for their benefit. Through fractional reserve banking, manipulation of inflation, and interest rates, banks have devastated the financial markets. Bitcoin offers the common man a defense against centralized finance by being immune to inflation and manipulation while maintaining privacy. This thesis strives to shed light on the failures of fiat currencies and bring Bitcoin center stage as a safe answer for the future. It will do this by looking at the track record of the Federal Reserve and the illogical logic of Keynesian economists as well as discussing the value of Bitcoin, which is derived from the blockchain technology backing it.

The Value of Bitcoin

Miner vs Node

For the following sections, it is important to go over the difference between a miner and a node. A miner is a computer that solely works to process transactions and solve the mathematical questions to mint new bitcoins. A node is simply a ledger that has all the transaction history of Bitcoin. A miner is expensive to run as computers will need to get faster to solve the more complex mathematical questions but a ledger is fairly cheap and realistically could be made for less than $1,000.

Understanding Blockchain

Bitcoin is changing the way financial markets view money, value, and assets. While the previous section of this thesis covered how proponents of Bitcoin define Bitcoin and its value, the summary was too short. To fully understand the value of Bitcoin, it is important to understand the blockchain. Interestingly enough there was a primitive version of blockchain as known today. Rai stones were a currency used up to a century and a half ago on the island of Yap in the modern-day Federated States of Micronesia. Rai stones were large circular disks with a hole in the middle. Rai stones were not native to Yap and were imported from Palau or Guam. The stones could weigh up to four-metric tons so the process of shipping them was difficult and required tremendous manpower. For this reason, Rai stones were scarce and held their value across time. They were used as currency when the community gathered and individuals announced changes in ownership of the stones to everyone. The stones were kept in designated locations so everyone knew what people owned.[22]

Blockchain works similarly. Every node (computer) and miner that helps run Bitcoin is like a member of Yap island. Bitcoin runs on a proof-of-work protocol. This is simply a verification system. Proof-of-work is exactly what it sounds like. A node must work to be considered legitimate. *The Bitcoin Standard* puts it this way "In its essence, proof-of-work involves network members competing to solve mathematical problems that are hard to solve but whose solution is easy to verify."[23] Once verified, every node has an updated ledger which is final and cannot be reversed. This ledger is how Satoshi solved the problem of double-spending. The ledger, which verifies transitions, is the power of Bitcoin. The ledger is also where the name

[22] Saifedean Ammous, 11-12.

[23] Saifedean Ammous, 218.

blockchain comes from since it is a chain of blocks made up of information. Like the Rai stones, ownership is open to the public via the ledger. The ledger contains anonymous addresses from which public ownership is derived. This is how people know Satoshi Nakamoto owns between seven-hundred thousand and one million bitcoins.[24]

Scarcity

Scarcity is the single reason economics exists. If an infinite amount of all resources existed then there would be no use for the management of humanity's property. The interesting aspect of scarcity is that in the world of currency it can be a good thing. As mentioned previously, the idea of hard and soft currencies comes from the scarcity of a currency. Scarcity in Bitcoin comes from the blockchain behind it. Rewards, in bitcoin, are only given out every ten minutes. When Bitcoin first started, each reward was 50 bitcoin. After an average of four years, the number of bitcoins in the reward is halved, giving birth to the event dubbed "a halving."[25] The rate at which bitcoins are issued cannot be changed and that is the beauty of the scarcity of Bitcoin. No one can add bitcoins and no one can change the rewards.

Payments

To get from A to B one would logically go in a straight line; our financial system does not do this though. Money will go from person A to the bank, then to person B. Bitcoin by-basses the bank and Satoshi explains in the Bitcoin white paper, "A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution."[26] Bitcoin is constantly verified so that

[24] "*Does Satoshi have a million bitcoin*?" BitMex, last updated August 20, 2018, https://blog.bitmex.com/satoshis-1-million-bitcoin/.

[25] Saifedean Ammous, 178.

[26] "Bitcoin: *A Peer-to-Peer Electronic Cash System*," Satoshi Nakamoto, Bitcoin.org, last updated October 31, 2008, https://bitcoin.org/bitcoin.pdf.

transactions do not depend on mutual trust. Bitcoin, and the blockchain, cut out the middleman of financial institutions, which take the form of banks and foreign exchange markets. This makes sending money extremely easy using the blockchain. Take for example the first country to make Bitcoin legal tender, El Salvador. If family members working in the U.S. want to send money back home they would need to pay Western Union, or complete an expensive wire transfer. In contrast to traditional wiring costs, a transfer of $933 million worth of bitcoin was only charged $3.89 to make the transfer.[27] Using Bitcoin, money is sent quicker and at a much cheaper cost. The peer-to-peer network of Bitcoin is what enables the difference in cost and time.

Lightning Network vs Credit Network

Jack Mallers did an incredible presentation during the Bitcoin 2022 conference and exposed the harsh reality of the credit payment system; there has been no innovation since 1949. The whole idea of a card started in 1949 when a dinner in New York wanted to give its customers an easy way to pay for caviar. Bank of America thought it was a great idea and made their own card for the public in 1958, American Express started later that same year. MasterCharge was founded in 1966 because a bank was unable to issue Bank of America cards and wanted its own. Visa was started by Bank of America because of competition in 1976, which caused MasterCharge to also rebrand in 1979 to MasterCard. The last person to join the party was when Citi bought the original diner, the one with caviar, and rebranded the card as Discover in 1981. Since 1949 the system is still the same credit payment system and only the only thing that has been done is a series of rebranding efforts. The credit payment system also has been owned by the big banks and financial firms since 1949 with no competition. The way the system work is the following: The merchant sends the customer's card information to their bank. The

[27] "*Here Are The 5 Biggest Bitcoin Transactions In History as of 2022*," Crypto Vantage, last updated February 18, 2022, https://www.cryptovantage.com/news/here-are-the-5-biggest-bitcoin-transactions-in-history/.

merchant's bank then checks with the card network (Vista, MasterCard, etc..) to see if the customer has enough money. The card network then checks with the customer's bank to see if they have enough money. For the sake of the example, the customer does have enough money and the payment goes through. The process repeats itself but instead of checking to see if the customer has the money, this time the process is to actually transfer the funds. All this wasted energy is how the credit payment system works. Bitcoin on the other hand is much better.[28]

Bitcoin is an all-in-one system. It has the accounts, payment network, and point of sale (QR code or public key). Now all someone must do is scan a QR code or input an address to pay an item and the money is sent instantly from the customer to the merchant without the banks and credit payment system. In the same presentation Jack Mallers announced that he had teamed up with NCR, 1 in 6 point of sale (card readers) are from NCR, and BlackHawk, which specializes in alternative payment systems like self-checkout and QR code checkout and has 400,000 thousand storefronts and 37,000 partners, to incorporate bitcoin transactions into daily life.[29]

In the early years of Bitcoin, there was a concern about the number of transactions the Bitcoin network could support but recently, with the innovation of the Lighting Network, those fears can be put to rest. Lighting is a layer 2 solution, the Bitcoin network being layer 1. This means that the Lightning Network is like a plug-in someone could use with google chrome. The Lightning Network improves the Bitcoin networks' transactions per second (TPS) from 7 to millions.[30] The way it does this is by creating direct channels through which bitcoin can be sent.

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[28] "*The Full Jack Mallers Announcement at the Bitcoin 2022 Conference*," Bitcoin Magazine, April 7, 2022, featuring a speech by Jack Maulers at the Miami Bitcoin 2022 Conference, https://youtu.be/dD2-T7TX2rk.

[29] Jack Mallers, April 7, 2022.

[30] "*THE STATE OF THE LIGHTNING NETWORK BEHIND THE CURTAINS*," NAMCIOS, Bitcoin Magazine, last update October 5, 2021, https://bitcoinmagazine.com/markets/the-state-of-lightning-network-bitcoin-adoption.

To create a channel Bitcoin must be deposited and logged on the Bitcoin ledger. After the channel is created, Bitcoin can be sent back and forth between the two users off the Bitcoin network, or in other words making off-chain payments. To close the channel the original bitcoin deposit is paid, with the new amounts for each user after taking into account the transactions, and listed on the Bitcoin ledger. This decentralized way of creating a direct financial network means that at some point of being "connected enough" everyone is connected to everyone using the theory of six degrees of separation.[31] To compare with the millions of transactions the Lightning Network can execute, VISA can only execute 65,000 transactions per second.[32]

Security

Security is always important when it comes to finances, but security, in terms of Bitcoin, goes beyond the typical security. First, Bitcoin has security from outside threats. While blockchain information, so far, has been condensed and simplified for this thesis, blockchain security is an entirely different animal. At its core Bitcoin security is based on its decentralized nature. There is no single point of failure on the Bitcoin network. In the unlikely event that 99% of nodes were wiped out, Bitcoin would still be up and running. Security comes from numbers. If a group of nodes is hacked to show a false transaction, the majority of nodes will isolate the hacked nodes and the Bitcoin network continues as normal. As shown, the security of the network comes from blockchain, but Bitcoin also offers security from inflation and government manipulation.

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[31] "What is the Lightning Network?" Bitcoin.com, https://www.bitcoin.com/get-started/what-is-lightning-network/.

[32] Bitcoin Magazine, October 5, 2021.

Security from Inflation and Government Regulation

It is important to understand inflation before talking about its application to Bitcoin. Inflation is not simply printing more money because in other currencies that did not use paper for currencies inflation still occurred. Inflation is when excess currency enters the market. For example, the Romans experienced inflation and they used metal currency. Today inflation is caused when the Federal Reserve prints more money resulting in less scarcity, which devalues the currency, and injects the money into the market through loans and government programs. It is easier to understand when examining the Roman currency. Roman emperors would inflate their currency by incorporating less gold and silver into their coins and substituting less valuable metals in their place. This meant that the Romans could make more coins and in theory spend more money, but in reality, inflation rose and left the economy broken. Bitcoin eliminates the problem of being physically altered because it is completely digital. There is no way to turn one bitcoin in to 95% bitcoin and 5% ethereum. The other reason Bitcoin is resistant to inflation is that there will only be twenty-one million bitcoins ever mined.

The second part of Bitcoin's security against inflation is its resistance to government regulation. The code can only be changed by nodes voting on the change. The winner is decided by what has been called "CPU power" or the majority of nodes. The more nodes one has the more CPU power they have, meaning the more voting power they have. A government would need to get to a majority of CPU power, but by doing this they would need to spend energy running nodes, which makes Bitcoin more valuable due to the heightened security and because of Metcalf's law, which will be mentioned later. Taking over the Bitcoin system is beyond feasible now by a government because of the massive scale of the network and the energy, as well as money, it would take to get a majority in the voting system.

Refuting The Bad Actor Theory

One of the criticisms of Bitcoin is that it is used by bad actors to get paid and not be traced. While it has been the case that Bitcoin has been used by hackers as a method for ransom payment, a recent story shows the benefit of Bitcoin's open ledger and using it to get Bitcoin back from the bad actors. On May 7, 2021, the Colonial Pipeline was hacked and held for ransom by a hacker group called *Dark Side*. The ransom was 75 bitcoins which was $4.4 million at the time. An article written on June 9th, 2021 stated that the FBI had recovered 63.7 bitcoins (85%) from the original payment. In order to understand how this is possible, blockchain must be revisited. As stated before, all payments and all wallets are public but encrypted. The FBI could see which wallet the payment went to by looking at the public key the hackers provided. Each wallet has two keys; the public key and the private key. The public key is the key you share with people for them to send money to you. It is the public account address. The private key is the "password" to the account. So once the bitcoin is tracked to an account, the only thing needed to get the bitcoin back is to know the private key. It is not known how the FBI got the private key but the Colonial Pipeline shows that hackers will have to reconsider Bitcoin as its form of payment.[33]

Bitcoin Account versus Bank Account

This event with the FBI will most likely spark the idea that "the government can still take someone's money." While this is true it is only true if the government has someone's personal password and no different than if they had the personal password to their bank account. The difference between a Bitcoin account and a bank account is that a Bitcoin account could include

[33] "*How could the FBI recover BTC from Colonial's ransomware payment*?" Paul Ducklin, last updated June 9, 2021, https://nakedsecurity.sophos.com/2021/06/09/how-could-the-fbi-recover-btc-from-colonials-ransomware-payment/#:~:text=Sadly%2C%20the%20value%20of%20Bitcoin%20has%20taken%20a,them%20to%20do%20its%20deal%20with%20the%20criminals.

cold storage. Cold storage is when one moves their bitcoin into a physical wallet and off the internet. While the government can freeze bank accounts and some online Bitcoin accounts it is impossible for them to freeze a cold storage wallet.

Security from Inflation and Government Regulation Continued

Now that the value of Bitcoin is understood, the blockchain technology, ease of making payments, scarcity, and security, it is now possible to look at Bitcoin as an investment.

Bitcoin's Competition

Bitcoin is complicated and it does not help that it is used in so many different ways. Satoshi Nakamoto saw Bitcoin as a global currency that could be used in daily life. Nayib Bukele, the President of El Salvador, sees it as many things including as the means to create a bond. Others see Bitcoin as a store of value, an asset similar to gold, only better. Then there are the naysayers who believe it is little more than trading useless internet numbers. Not only does a definition need to be found, but Bitcoin must also be compared to other assets to see if it truly is better.

Current and Future Status of Bitcoin

To start, an idea of what sort of asset class Bitcoin falls under is needed. It would be helpful to look at how the IRS defines Bitcoin. A Barron's article states, "The IRS, in 2014, said it would treat bitcoin as a capital asset and must be treated as property."[34] The IRS has not changed that definition since. Not calling Bitcoin a currency is important, and also reflects how Bitcoin has recently behaved. Bitcoin was initially created as a currency, but now it has become a store of value that is used for trade. Examples will help explain. A Glassnode chart from a February 2, 2022, *InvestAnswer* video showed the number of bitcoins that have been held for

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[34] "*Consider How the IRS Defines Bitcoin*," Crystal Kim, last updated January 25, 2018, https://www.barrons.com/articles/consider-how-the-irs-defines-bitcoin-1516895489.

half a year is 76.5%, and the number that has been held for ten years is about 13%.[35] These numbers indicate that Bitcoin is being used to store value away from currency or even other assets such as stocks and bonds. Another recent example shows how Bitcoin is used as currency, or as a method of moving funds. Francesco Madonna, CEO of HeliosFund, tweeted a screenshot of a conversation with an employee fleeing Ukraine during the Russian invasion. The employee only had $600 and was in Poland after escaping Ukraine. Francesco asked if he had bitcoin, which he did, and Francesco explained that there are ATMs where he could transfer bitcoin for another currency.[36] There is also the Bitcoin Conference where, to no surprise, one can buy tickets in bitcoin, and also all purchases at the conference itself are in bitcoin. Obviously, using Bitcoin as a currency is still a novel idea and only used in specific instances; the same can be said about Ethereum. When combining the current examples of Bitcoin as a currency and Micheal Saylor's statement about stablecoins and Bitcoin, how Bitcoin would be used for large purchases, it is possible to see Bitcoin as a currency in the future. Until the financial world gets there though, Bitcoin is being used as a store of value, similar to gold. In a simplified status, Bitcoin is currently a store of value that will continue to be a store of value, and it will be a currency for large transactions in the future. With a working definition, Bitcoin can now be compared to other assets, specifically gold, bonds, and stocks.

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[35] "Good, Bad & Ugly from On Chain TA Today: *BTC Sandbox MATIC Tesla Fantom and more*," InvestAnswers, February 22, 2022, video, 28:22, https://youtu.be/Y1AakewOm0s.

[36] Francesco Madonna (@CiccioMadonna), "1/2 Crazy story, my webmaster escaping from Ukraine 2 hours before the gvnmt closes the border for men of war age…", Twitter, February 25, 2022, 8:24 a.m., https://twitter.com/CiccioMadonna/status/1497200850099445760?s=20&t=gcCwA9gAncfGahT1gOewvQ.

Gold

Gold has a long history in finance. Stealing gold is a fairly popular trope in Hollywood. Gold has symbolized wealth for thousands of years, but it is slowly losing the war against Bitcoin. Gold had been used as a currency for close to 2,500 years. From the time of the Greek king Croesus, who was said to have minted the first gold coins, up until the early twentieth century, gold was a legal currency.[37] Gold was valued above other currencies because it was durable, able to last for generations, and easy to transport. Gold also had a somewhat scarce property, more so than copper or silver, which was a reason it won out over a silver or copper standard. Gold, however, was not perfect and could still be inflated. Roman emperors would re-mint coins using less gold to generate more coins thus creating inflation. Fast-forwarding several centuries and the practice of using banknotes, and fractional reserve banking, begins to spread throughout Europe. An individual could exchange a defined amount of gold and in return would get a slip of paper stating that the paper was redeemable for the same amount. Over the next few centuries, gold was inflated by fractional reserve banking, and slowly countries began to use paper currencies printed by a central bank that held gold in reserve. This practice started in the early 20th century when nations went off the gold standard. There are no nations that still hold to the gold standard, but many countries still hold gold in reserve, which points to the truth that those governments know they need an asset of real value on their balance sheets that is not just paper. A clear picture of the state of gold is found in the book, *The Creature From Jekyll Island*, "Even today, in a world where money can no longer be defined, the common man instinctively knows that gold will do just fine until something better comes along."[38]

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[37] Saifedean Ammous, 18.

[38] G. Edward Griffin, *The Creature from Jekyll Island,* (Westlake Village, California: American Media, 2010), 140.

Gold is at the point where "*something bette*r" has come and it is shaking gold to its core. The best place to see this conflict is on Twitter, between Peter Schiff and Micheal Saylor. On a podcast with Patrick Bet-David, who is a businessman and content creator, Saylor was asked about his Twitter feud with Schiff, who declined to be on that episode, and Saylor simply said that he does not take Schiff seriously because he only has 5% of his portfolio in gold. He said that he would not entertain the thought of debating Schiff until he had invested $1 billion into gold, Saylor having invested close to $4 billion into Bitcoin. It is not that Schiff is not rich enough but that he does not trust gold enough. If gold is so great why not invest 50% of his portfolio into it? In the same interview, Saylor even claimed that Schiff was short gold, which means Schiff thinks gold will go down, because of how many gold mining stocks Schiff owns. Saylor explained it by saying "look at the three biggest gold miners, what you will find is they over mine the gold, dump the gold, then they pay an income tax, then they dividend out their excess and pay a dividend tax, then they pay off their debt which is 2%. So another way to say it is they would rather loan money out to the world for 2% interest than hold gold… That's how bad they don't like gold and they are the ones who mine the gold."[39] That is a fairly damning sentence for gold and Peter Schiff owns stock in the gold miners meaning he knows what they are doing and still supports them.

Not only is gold suffering at the hands of inflation and returns but comparing the supply of gold and Bitcoin, Bitcoin is projected to have a far higher stock to flow ratio than gold, 120 for Bitcoin and 60 for gold.[40] This is the case of gold having served its purpose and trying to

[39] "He's Full Of Sh*t' - *Billionaire Destroys Peter Schiff's Gold Argument*" Valuetainment Short Clips, March 3, 2022, video, 7:29, featuring a discussion on Peter Schiff's regard of gold, https://youtu.be/TXvvMGrZDAw.

[40] "Understanding Bitcoin: *Does Bitcoin Belong in Asset Allocation Considerations*," Fidelity, Jurrien Timmer, last updated March 3, 2021, https://institutional.fidelity.com/app/literature/white-paper/9901337/understanding-bitcoin.html.

stretch its shelf life. To show this differently, a quick look at the numbers tells the story. Looking back as far as possible on Yahoo Finance for both, at the time of writing, since late 2000 gold has gone up 619.03% however, since late 2011, it has only gone up 7.39%. [41] Since 2014, Bitcoin has gone up 10,389.31% (Bitcoin started at zero value in 2009). Gold has moved very little in a decade while Bitcoin has gone up 1,405.86 times the gain of gold.[42] Not only has Bitcoin outperformed gold, but gold is being murdered by inflation. The cumulative inflation since 2011 is 29.48%. When subtracting a gain of 7.39% from an investment of gold, the total loss is 22.09%.[43] Any asset that has yielded such a poor return on investment over such a long period of time should not be at the top of the list for anyone. These numbers are sure to cause more leaders like President Bukele to move to a Bitcoin-backed economy instead of gold.

A quick note before moving into bonds is that this thesis is not stating that a portfolio should be made up of only Bitcoin. Even Micheal Saylor does not have his entire portfolio in Bitcoin. The thesis emphasizes the reasons why Bitcoin is the best investment, and why it should be at the top of the "to buy" list.

Bonds

Bonds are to some extent in a similar situation as gold. Bonds are simply debt. In stocks, if you own a share of a company you become part owner, but in bonds, if you buy a bond, you become a lender. A person lends money to the company or government and in x number of years

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[41] "*Gold Jun 22 (GC=F)*" Yahoo! Finance, last updated March 2022, https://finance.yahoo.com/quote/GC=F?p=GC=F&.tsrc=fin-srch.

[42] "*Bitcoin USD (BTC-USD)*" Yahoo! Finance, last updated March 2022, https://finance.yahoo.com/quote/BTC-USD?p=BTC-USD&.tsrc=fin-srch.

[43] "*CPI Inflation Calculator,*" in2013dollars.com, last updated March 2022, https://www.in2013dollars.com/us/inflation/2011?amount=1#:~:text=The%20dollar%20had%20an%20average%20inflation%20rate%20of,the%20Bureau%20of%20Labor%20Statistics%20consumer%20price%20index.

they will be paid back their money plus interest; the important part of this discussion focuses on the interest. In essence, bonds are a fiat contract: “I give you fiat now for more fiat in the future.” The concept of bonds is not going away, as seen with the Salvadorian Bitcoin bond, but fiat bonds are becoming a weakening investment. To understand why, recall the percent inflation over time. When talking about the return on gold, a total inflation percent since 2011 was stated to be 29.48%. While the data is accurate, it is not the complete truth. The CPI (Consumer Price Index), which is used to track inflation, is not a constant index. The variables used to measure inflation have changed over the years. Greg Foss, who has 30+ years of experience in the bond market, said in an interview that if calculating the CPI with the initial formula from 1980 when CPI was first calculated, inflation is over 14%. This number is for 2021, not years since 2011. The 10-year U.S bond yield is currently hovering around 1.9% return, when subtracting 14% that is a -12.1% return.[44] When compared to gold, at least in gold you have an asset that is not tied to fiat. In bonds everything is based on the dollar, the same problem with stocks. A popular investment portfolio strategy is the 60/40 split, which many pension fund managers use, between bonds and stocks. If 40% percent of your portfolio is in bonds the other 60% must be a stellar investment. If CalPERS (California Public Employees' Retirement System) needs a 7% ROI then that 60% must really be good and still beat out inflation.[45] To add to the pain of the bond market Bill Gross, otherwise known as the bond king and former Bitcoin critic, is now an investor in Bitcoin.[46]

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[44] “*Bitcoin, Bonds, Risk Management, Asymmetric Bet of our Lives, Digital Energy w Greg Foss*,” InvestAnswers, November 19th, 2021, video, 1:11:28, featuring an interview of Greg Foss by James Mullarney, https://youtu.be/FlYFtgWmd7c.

[45] InvestAnswers, November 19th, 2021.

[46] “*Crypto Critic Bill Gross Invests in Bitcoin*,” BitcoinNews.com, last updated March 21, 2022, https://bitcoinnews.com/crypto-critic-bill-gross-invests-in-bitcoin/ bill gross.

The future of bonds could be saved with different collateral, or base of the contract. For example, changing a bond being based on the Dollar to being based on Bitcoin. The first Bitcoin bond is being issued by El Salvador and will pay a 6.5 coupon and will be a $1 billion bond. Half of the money will go into buying bitcoin and the other half will go into infrastructure for mining Bitcoin. It would be a 10-year bond and the interest paid out would come from the gains in Bitcoin, also the bond will be traded on crypto platforms.[47] The function of a bond is still the same, as shown above, but its backing has changed to a solid asset.

Stocks

Stocks are an interesting topic in this discussion because the simple idea of stocks is being able to own part of a company. Stocks are a great means to get started in investing because, with the help of apps like Robinhood, SoFi, and Acorns, they are accessible to the general population and do not require large sums of money to start. This section on why Bitcoin is better than stocks is not a hit on the stock market but a hit on the Federal Reserve. The Federal Reserve does many things, the main two that come to mind though are printing money and regulating interest rates. Inflation has been covered already, but interest rates have not and it is interest rates that really affect the stock market. Interest rates set by the Federal Reserve determine how much interest must be paid back on a loan. If this number is high then not many people will want to take out a loan because it will cost more money to do so. If the number is lower then people will want to take out a loan because it costs less than before. Taking a small detour… Interest rates go hand in hand with inflation because of the business plan of the Federal Reserve. Again this will be covered in greater detail later in the thesis, but it is key to understand the Federal Reserve in

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[47] "*Explainer: What we know about El Salvador's bitcoin bond*," Reuters, November 23, 2021, video, 3:37, featuring a discussion on the new bitcoin bond in El Salvador, https://youtu.be/4SXTlo1mlo4.

order to understand its influence on the stock market. In his book, *The Creature From Jekyll Island,* G. Edward Griffin says, "What the bankers wanted–and what many businessmen wanted also–was to intervene in the free market and tip the balance of interest rates downward, to favor debt over thrift," meaning saving, "to accomplish this, the money supply simply had to be disconnected from gold and made more plentiful or, as they described it, more *elastic*."[48] Put simply, interest rates promote loans that get the printed money into the market. Going back to the discussion of stocks… The stock market is an indicator of how well the economy is doing. It also has become a political tool. It is easy to point to the stock market and quote its percentage gain instead of giving an in-depth explanation of the economy. The Federal Reserve fits into this because they inflate the stock market to keep the numbers looking good. By lowering interest rates, getting money into the hands of investors and the general population, and investors invest while the general population spends. What this causes is a scenario where the extra money creates an illusion of prosperity generated by a thriving economy, but in reality, it is an inflated stock market representing an inflated economy caused by the printed money of the Federal Reserve. Investing in an inflated stock market is not necessarily bad, but it brings added risk. It is possible to ride the inflated bull market, but it then becomes extremely important to watch the market for the downturn when inflation pulls the chair out from under the market. In essence, it becomes a game of timing the market which is always a risky strategy.

Investing is all about managing risk. The riskier an investment, the higher chance of a large win or a large loss. The less risky the investment, the smaller the win and loss. One of the most important voices of risk management was Benjamin Graham and his book, *The Intelligent Investor,* is focused on the idea of risk management. While talking about price fluctuations in the market Graham states, "The investor should know about these possibilities and should be

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[48] G. Edward Griffin, 13.

prepared for them both financially and psychologically."[49] This quote helps wrap up the discussion on stocks by reiterating the idea that stocks may be a good investment but a risky investment compared to Bitcoin, and when including ROI, Bitcoin is a better investment than stocks. "Greg Foss and James Mullarney have stated that Bitcoin is the biggest asymmetric investment they have seen in their 30+ years of investing."[50] This quote introduces the next topic of Bitcoin as an investment itself. The value of Bitcoin has been examined, but the investment opportunity has yet to be discussed

Stablecoins and CBDCs

Quickly covering stablecoins and CBDCs, stablecoins and CBDCs are no better than fiat currencies; they are still subject to inflation and manipulation. Some of them have even seen the value in Bitcoin as Luna, a stablecoin, has announced a plan to back their Dollar stablecoin with Bitcoin.[51] CBDCs also have come under scrutiny for privacy as a blockchain that only the government can access, which would mean the government could track every single payment without the public knowing who they are monitoring. Both of these forms of digital currencies are modernized fiat currencies that will continue the failure of a centralized financial system.

Bitcoin's Opportunity

One of the most fascinating charts made about Bitcoin is the stock-to-flow chart, more commonly known as S2F. Made by the pseudonymous Dutch institutional investor PlanB the

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[49] Benjamin Graham, *The Intelligent Investor*, (New York, NY: HarperCollins, 2003), page 188.

[50] InvestAnswers, November 19th, 2021.

[51] Do Kwon (@stablekwon), "$UST with $10B+ in $BTC reserves will open a new monetary era of the Bitcoin standard." Twitter, Mar 14, 2022, 5:07 a.m., https://twitter.com/stablekwon/status/1503296630396645376?s=20&t=fLPrWwApAov2OVHzjJq3Ng.

S2F chart has been surprisingly accurate in charting a rough direction of the price of Bitcoin. The graph is not perfect as Bitcoin has shot above and below the S2F line but it has "created" a path that Bitcoin always comes back to.[52] This is a bullish sign for Bitcoin because keeping with the chart reaffirms the sentiment that part of Bitcoin's value comes from its scarcity.

One of the most surprising papers to come out about Bitcoin has come from Fidelity, the surprising thing is that Fidelity is the fourth largest investment firm in the world with $4.23 trillion in assets under management.[53] In their *Understanding Bitcoin* white paper, they mention the S2F chart but they also mention Metcalf's law. The paper states, "In its simplest form, Metcalfe's Law holds that, as the number of its users grows linearly, a network's value (or, by inference, the bitcoin price) grows geometrically."[54] This states that the value of a network grows exponentially as the number of uses grows linearly. In his video about creating a price projection for Bitcoin, James Mullarney uses both S2F and Metcalf's law as well as other models, which will be explained. The Fidelity S curve based on a log function of Metcalf's Law, which follows the historical trend of mobile phone sales, is also listed. There is also Mullarney's version of the Robert Breedlove model which focuses on the depreciation of the Dollar compared to Bitcoin. In addition, there is Greg Foss's theory that Bitcoin will replace most of the bond market. Mullarney represents Foss's theory with Bitcoin capturing 5% of all global assets, $900 trillion.[55]

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[52] "*Modeling Bitcoin Value with Scarcity*," Medium.com, PlanB, last updated March 22, 2019, https://medium.com/@100trillionUSD/modeling-bitcoins-value-with-scarcity-91fa0fc03e25.

[53] "*The Largest Investment Management Companies Worldwide: What are these giants worth*?" The Balance > Investing, last updated February 13, 2022, https://www.thebalance.com/which-firms-have-the-most-assets-under-management-4173923.

[54] Fidelity, March 3, 2021.

[55] "Bitcoin to $4.6M by 2030? *We tested Metcalfe's Law to find out.*," InvestAnswers, February 18, 2022, video, 22:02, featuring a discussion on price models of Bitcoin with James Mullarney, https://youtu.be/jfP36UG2uA4.

All of these models are projections and can only predict the future, but when looking at current economic situations, inflation, the war in Ukraine, growth of blockchain, adoption of Bitcoin, etc., these models look more and more realistic.

Bitcoin and Deflation

A fundamental part of the value of Bitcoin, as mentioned many times, is its scarcity. Only 21 million coins will ever be mined. This does not mean that 21 million coins will still exist though. The topic of deflation in Bitcoin is due to people losing hard drives with Bitcoin on them and people forgetting their passwords to their digital bitcoin wallets. This means that there will be less than 21 million coins in circulation thus increasing the price per bitcoin. There will grow a fear of "will bitcoin become too expensive due to deflation." The answer is fairly simple. Bitcoin can be divided up to eight decimal places. The eighth decimal is called a satoshi, or sat for short, in honor of Satoshi Nakamoto. There is also the possibility that if the price of a sat were to get too high to work with, more decimals could be added. This does not change the value of Bitcoin as a whole. The best example of this is in a stock split. If there are 100 shares in a company each valued at $1 and there is a 2 for 1 stock split it is the same as adding more decimals to Bitcoin. In the company there will be 200 shares each valued at 50 cents and the total value of the company does not change. Obviously, when a company announces a stock split people will want to buy more of the stock, but after the split things level out again. The same would go for Bitcoin.

A question that arises surrounding deflation is, "how will there be enough bitcoins to go around for everyone?" The answer is similar to the question about deflation. If the total number of bitcoins, twenty-one million, is multiplied by one-hundred-million, one-hundred-million sats equals one bitcoin, the result is two-quadrillion sats in circulation. This number will be smaller because of deflation but Bitcoin's code could, by vote, be changed to include an even smaller division.[56]

Refutation of Bitcoin's Energy Problem

Last summer Elon Musk took over Twitter and the crypto space. Dogecoin was being inflated by every tweet made by Musk and the same went for Bitcoin. It all came crashing down when Musk tweeted "Tesla has suspended vehicle purchases using Bitcoin. We are concerned about rapidly increasing use of fossil fuels for Bitcoin mining and transactions, especially coal, which has the worst emissions of any fuel."[57] He went on to say that crypto is a good idea but at the moment it is not green enough to get behind. It is a funny statement for Musk to make since Tesla charging stations use fossil fuels. His tweet gave Bitcoin haters a free ticket to the chocolate factory. Not only was Bitcoin a meme asset but also bad for the environment. Bitcoin supporters were quick to act though. Willy Woo, Anthony Pompliano, an investment fund manager, and the Twitter account of Loli, a Google Chrome plug-in to win cashback and bitcoin

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[56] "*The Divisibility of Bitcoin*," Medium.com, Eric Grill, last updated May 7, 2017, https://medium.com/@EricGrill/the-divisibility-of-bitcoin-fc1bcb40dd52#:~:text=On%20its%20part%2C%20a%20single%20bitcoin%20is%20divisible,Bitcoin%20can%20be%20broken%20down%20into%20100%2C000%2C000%20satoshis.

[57] Elon Musk (@elonmusk), "Tesla & Bitcoin," Twitter, May 12, 2021, 6:06 p.m., https://twitter.com/elonmusk/status/1392602041025843203?s=20&t=fLPrWwApAov2OVHzjJq3Ng.

on purchases, said that bitcoin miners actually use 70-75% mix of renewable energy.[58] [59] [60] More on that in a moment. Micheal Saylor said "Ironic because no incremental energy is used in a #bitcoin transaction. The energy is used to secure the crypto-asset network, and the net impact on fossil fuel consumption over time will be negative, all things considered."[61] Saylor is completely right here. It does not take energy to make payments with Bitcoin. It only takes energy to keep the system running. Going back to the point about Bitcoin running 70%-75% on renewable energy. An article from CoinDesk published in August of 2021 cited a 2020 Cambridge University study that found that 62% of bitcoin miners ran on hydroelectric power. Most of these miners were in China and since the mining ban, most of these miners have moved out of the country. It also cited a Galaxy Digital 2021 chart that showed Bitcoin using less power than gold and the banking system. Bitcoin uses just below 100 TWh/hr, gold uses just below 250 TWh/hr, and the banking system uses just above 250 TWh/hr.[62] Bitcoin is not perfect in using clean

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[58] Willy Woo (@woonomic), "In a world where 6.5% of GDP is spent on subsidizing fossil fuels, and Tesla decides to drop support for the Bitcoin network which incentivizes clean energy production. Even when that network runs on 70% renewables and scavenges waste energy," Twitter, May 13, 2021, 11:21 a.m., https://twitter.com/woonomic/status/1392862608546402306?s=20&t=vd71z9raOIuUPe44hAY84g.

[59] Pomp (@APompliano), "Elon ... you realize that 75% of miners use renewable energy, right?," Twitter, May 12, 2021, 6:11 p.m., https://twitter.com/APompliano/status/1392603286839115776?s=20&t=vd71z9raOIuUPe44hAY84g.

[60] Lolli (@trylolli), "Lolli.com & Tesla," Twitter, May 12, 2021, 6:21 p.m., https://twitter.com/trylolli/status/1392605928113934345?s=20&t=vd71z9raOIuUPe44hAY84g.

[61] Michael Saylor (@saylor), "Ironic because no incremental energy is used in a #bitcoin transaction.," Twitter, May 12, 2021, 7:22 p.m., https://twitter.com/saylor/status/1392621211302105091?s=20&t=vd71z9raOIuUPe44hAY84g.

[62] "*How Much Energy Does Bitcoin Use?*" Coindesk.com, last updated August 18, 2021, https://www.coindesk.com/business/2021/08/18/how-much-energy-does-bitcoin-use/.

energy but it is doing much better than the general public thinks and it is already developing new ways to power its system.

One headline about a new way to power Bitcoin is using volcanoes. Again, El Salvador is brought into the conversation because President Bukele plans to build Bitcoin City near the dormant volcano Conchagua. The volcano would be used to power the city but also power a large Bitcoin mining grid that would also be set in the vicinity. Another fascinating way of powering Bitcoin is in the Validus Power Corp Mad Maxx Mobile Power Fleet. Validus Power Corp, or VPC for short, is a company that specializes in providing “the ability to generate reliable, sustainable power whenever and wherever it is needed”[63] The Mad Maxx Mobile Power Fleet is a setup that is used in the oil industry. It converts flare or vented gas into conditioned gas using a fuel skid. It then turns the conditioned gas into electricity using a mobile turbine and mobile switchgear. That electricity finally powers the miners to mine bitcoin. The thesis is that the Mad Maxx Mobile Power Fleet will reduce carbon emissions by using the flare or vented gas and not letting them get into the environment.[64]

Along with instances of nuclear energy being used for mining and running nodes another form of turning vented and flair gas has been done by ExxonMobil, who has even entered the mining business with a mining setup meant to reduce emissions. According to a CNBC article, ExxonMobil has had a mining project in North Dakota for a year, and 10-year veteran Eric Obrock has said on his LinkedIn profile that he, “proposed and led the first successful commercial and technical demonstration of using Bitcoin Proof-of-Work mining as a viable

[63] “*Home*” Validus Power Corp, 2022, https://www.validuspower.com/post/mad-maxx-mobile-power-fleet.

[64] “*Mad Maxx Mobile Power Fleet*,” Validus Power Corp, last updated June 3, 2021, https://www.validuspower.com/post/mad-maxx-mobile-power-fleet.

alternative to natural gas flaring in the oil patch."[65] Very similar to what Validus Power Corp is doing with their Mad Maxx project. Bitcoin incentivizes innovation because cheaper and long-term energy sources mean that mining operations have bigger margins. Chasing the big bucks means that Bitcoin will get greener.

Refutation of The Idea "Why Spend Energy On Bitcoin?"

Another negative people see with Bitcoin and using energy is "why?" Someone could say "I understand Bitcoin is currently fairly green and will get more environmentally friendly as time goes on but even then why use so much energy on Bitcoin?" The answer to this is that, as said before, mining is the security of Bitcoin. To give an example… the U.S military spending energy is the security of the Dollar. The best example of this is World War 2. After the war America came out as arguably the strongest power in the world, the other being perhaps the Soviet Union. This gave America the leverage to call a meeting to decide the financial system of the future. The meeting of Bretton Woods in New Hampshire made the Dollar the world reserve currency. Ammous says "The United States was to be the center of the global monetary system, with its dollars being used as a global reserve currency by other central banks, whose currencies would be convertible to dollars at fixed exchange rates, while the Dollar itself would be convertible to gold at a fixed exchange rate."[66] America's financial power after the war had to do with America showing that it could defend itself. No nation would trust a currency from Ukraine or Taiwan because of who they are next to, Russia and China. Russia and China spend more energy on their military than Ukraine and Taiwan. The U.S spends the most though through the manufacturing of

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[65] "*Exxon is Mining Bitcoin in North Dakota As Part of Its Plan to Slash Emissions*," CNBC > Crypto World, last updated March 26, 2022, https://www.cnbc.com/2022/03/26/exxon-mining-bitcoin-with-crusoe-energy-in-north-dakota-bakken-region.html.

[66] Saifedean Ammous, 56.

weapons, the upkeep of bases, and even the a/c of buildings. All this energy that the U.S spends on its energy is the defense of the Dollar. A FossilFuel.com article quotes research done by Dr. Karbuz that states, “The U.S. military has increased fuel consumption per serviceman and woman from 3.8 liters of oil per day during the Second World War, 34 liters per day in the Vietnam War, 38 liters per day in the 1991 Gulf War, and 57 liters per day during the wars in Iraq and Afghanistan”[67]

Energy is key to military and military is key to currency. That is why the only nations who would feel comfortable taking on the Dollar are nations with large militaries… China and Russia. Is society then to ask “why does the U.S spend so much energy on the Dollar?” no because it is not going to ask that because obviously, the U.S wants to protect its interests. The Dollar is protected by a government spending energy and Bitcoin is protected by the general population by spending energy. The unique aspect of Bitcoin is its protection against central financial systems and thus protection against the Dollar. People will spend energy on a system that gives them financial protection. This protection is both protection from inflation in the Dollar and also now is protection from the weaponization of the Dollar through denial of service attacks.

Denial of Service Attacks and a Non-Dollar Future

Because of Bretton Woods and the Dollar becoming the global reserve currency, multiple systems now rely on the Dollar. Two of those are important for this conversation; SWIFT and the petrodollar. SWIFT stands for Society for Worldwide Interbank Financial Telecommunication. It is a system where banks and financial institutions can trade money and do business. SWIFT also

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[67] “*The U.S. Military Consumes More Fossil Fuels Than Entire Countries*,” FossilFuel.com > Petroleum, last updated March 15, 2020, https://fossilfuel.com/the-u-s-military-consumes-more-fossil-fuels-than-entire-countries/#:~:text=Research%20conducted%20by%20Dr.%20Karbuz%20shows%20how%20the,the%20wars%20in%20Iraq%20and%20Afghanistan%20%28Pirani%2C%202018%29.

uses the U.S Dollar. The petrodollar is simply the Dollar being used in the oil industry. All oil business is done using the Dollar. To understand the relationship between these two systems and Bitcoin, Bretton Woods must be revisited. The way Bretton Woods could have worked in a perfect world was if the U.S did not print more dollars than it had gold and if other nations did not print more of their own currency than they had in dollars. Obviously, everyone started printing and exchange rates did not stay the same. The printing also caused inflation and inflation at differing rates based on which nation one looked at. Now, first going back to the petrodollar, why would a nation like Russia, which is the largest exporter of oil, sell oil for a depreciating currency of a hostile nation. It would make more sense to sell oil for gold but that is not easy to transport so… why not sell it for bitcoin? Pavel Zavalny, chair of the Russian State Duma's committee on energy even proposed this during a meeting.[68] This is the threat to the petrodollar and U.S hegemony, or is it?

Now, going back to SWIFT. Just like Bitcoin, SWIFT is affected by Metcalf's law. Since, in a very basic sense, it is a bank group chat the more people in the group chat the more valuable it is since one could talk to more people. The inverse is also true, the fewer people in the group chat the less valuable it is. The value of a system/network grows faster than the number of members in the system/network. Russia is now kicked out of SWIFT so the value of SWIFT has gone down. The problem with America doing this is that it shows the reality of "denial of service attacks." Being denied access to the U.S Dollar is now a matter of national security for nations. In an interview with James Mullarney, Jason Lowery, a member of the Space Force who is currently researching Bitcoin at MIT, warned about the repercussions of denial of service attacks.

[68]"*Russia proposes bitcoin payment for oil shipments to 'friendly' countries,*" NY Post >Business, last updated March 25, 2022, https://nypost.com/2022/03/25/russia-proposes-bitcoin-for-oil-shipments-to-friendly-countries/.

The petrodollar and SWIFT look more and more unattractive for nations and Bitcoin looks more attractive. Lowery warned Senator Lummis about this when the U.S was thinking about kicking countries off of SWIFT.[69]

This seems like a damning sentence to U.S financial hegemony, but there is hope. In response to a question from Mullarney asking if the U.S should offer Bitcoin alongside the Dollar system, Lowery replied that it has to. Lowery said that he has presidential advisors of foreign nations in his classes at MIT and they tell him that they are realizing that their treasuries are not theirs.[70] The U.S must realize that Bitcoin will circumvent their Dollar system and offering a Bitcoin alternative will allow the U.S to stay in the game. Lowery put it the following way, "we need to posture ourselves at the exit door because when the capital does fly we can at least stand to recapture some of that purchasing power."[71]

One last quote from Lowery frames Bitcoin as something the U.S can not afford not to have: "If we frame Bitcoin as a weapons system, meaning as a hunk of metal" miners, "that exists to convert energy into property defense that has the means and capability to physically stop denial of service of attacks just like weapons can then you realize you have to look at anytime a new weapons systems shelling emerged in history. It has never been true that when a new defense system emerges that anything but you must have that technology makes sense."[72] Bitcoin is a system that protects private property and the U.S needs to understand that because the future is looking more and more decentralized.

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[69] "Jason Lowery & IA: *Can Bitcoin Bring Peace? Asset Protection, Great Reset, Mars + more*," InvestAnswers, March 17, 2022, video, 1:28:33, featuring an interview with Jason Lowery conducted by James Mullarney on the topic of Bitcoin, https://youtu.be/VK7YiSkjiJ0.

[70] InvestAnswers, March 17, 2022.

[71] InvestAnswers, March 17, 2022.

[72] InvestAnswers, March 17, 2022.

Centralized vs Decentralized Finance

As mentioned earlier in this thesis, the two major schools of capitalistic economic thought are Austrian and Keynesian economics. For discussions on modern finance, and more specifically crypto, Austrian economics takes on the idea of decentralized finance and Keynesian economics takes on the idea of centralized finance. An idea of both camps has already been given so now it is time to show bias for one, that one being decentralized finance and Austrian economics.

The History of the Federal Reserve

The common American has interacted with central finance for 108 years in form of the Federal Reserve, or the Fed. While it was not promoted as a central bank, the Fed is the central bank of the United States of America. The Fed was the result of the no longer secret meeting at Jekyll Island, where six men met to discuss the future of the American financial system. Nelson W. Aldrich was a republican senator, Chairman of the National Monetary Commission, and father-in-law of John D. Rockefeller Jr. Henry P. Davison was a Senior Partner of J.P Morgan Company. A. Piatt Andrew was the Assistant Secretary of the Treasury. Frank A. Vanderlip was the President of the National City Bank of New York and represented William Rockefeller. Benjamin Strong was the head of the J.P. Moran's Bankers Trust Company. Finally, Paul M. Warburg, who has already been mentioned, was a partner in Kuhn, Loeb & Company and represented the Rothschilds and Warburgs from Europe. These six men clearly represented the elite of the banking world.[73]

In the 1880s most of the banks in the U.S were national banks chartered by the government which meant they could issue their own currency, as mentioned before with the banknotes. In 1996 though the number of non-chartered banks was 61% of all banks and in 1913,

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[73] G. Edward Griffin, 24.

when the Federal Reserve Act was passed it was 71% of banks.[74] The market share of the large banks was slowly disappearing and they needed something to correct the decline. The Fed centralized the power of banking giving the minority of chartered banked power over the majority of the non-chartered banks. Not only did the Fed want to centralize power but it also wanted to create uniformity. The difference in interest rates and the ratio of loan to deposit had caused individual banks to go under and if there was a central authority to enforce uniform banking practices individual banks could be saved. Before the Fed, individual banks could choose how much to lend based on the deposits they had. If one bank decided to lend far more than it had in reserves it would be a strain on other banks because the other banks would still have to convert the banknotes from the first bank and they would not have the money for it.

The problem with the uniformity the Fed wanted is that while individual banks would be saved because the Fed could bail the individual bank out, it pressure on the system as a whole. If the Fed failed all banks failed. The way the Fed would be able to support the individual banks would be to bail them out if there was a bank run, where everyone wants their money at the same time. Of course, the Fed can not bail out all banks at the same time and that was never the plan. Only a few banks would need help at a time. In major circumstances, the Fed would print the money they needed to bail more banks out.

The Fed is also a business, not just a way of regulating the banking industry. Inflation is when the Fed prints more money but the way that money gets out into the market is through loans. The way to give out more loans is if people want more loans and the way to incentivize loans is by lowering the interest rate. The Fed was now in control of both the printing and interest rates which meant banks could loan out more money and make more money from the interest from the loans. To quote the 1985 film adaptation of Frank Herbert's *Dune*, "He who

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[74] G. Edward Griffin, 12.

controls the spice, controls the universe."[75] This can be adapted for the world of finance just by replacing "spice" with "banks." The truth in such a statement is beyond denial. Someone once said "you will never see a poor politician," and it is the bankers that keep the politicians rich. He who controls the banks, controls the universe.

The ugly truth is that the Fed did not bring stability and it is because of their manipulation of the circulation of money that they brought instability. To quote *The Creature From Jekyll Island* about the Fed, "Since its inception. It has presided over the crashes of 1921 and 1929; The Great Depression of '29 to '39; recessions in '53, '57, '69, '75, and '81. A stock market "Black Monday" in '87; and a 1000% inflation which has destroyed 90% of the Dollar's purchasing power."[76] This does not even include the Dotcom bubble and the market meltdown in 2008. The Fed continues to print more money and lower interest rates as seen during COVID and the stimulus checks given out to people have created an even bigger dependency on the Fed.

Converting Debt into Money.

In *The Creature From Jekyll Island,* G. Edward Griffin explains the Mandrake Mechanism, which allows the Fed and Congress to create money out of debt. The Fed takes government bonds (government debt) that have not been bought and writes a check to Congress in exchange for them. The fiat dollars used for the check are created for the specific purpose of the exchange. By then calling the bonds "reserves," the Fed can then use them to print 9 dollars for every dollar printed for the exchange of the bonds. The money printed for the bonds is then spent by Congress and the money printed with the bonds as reserves is used by the banking

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[75] "*Dune (1984) 'He who controls the spice controls the universe*.' 48fps 1080p HD," Culmacatrane, April 26, 2020, video, 4:46, a clip from the 1984 adaption of Frank Herbert's novel Dune, https://youtu.be/hEsIXIwrNbo.

[76] G. Edward Griffin, 20.

system. Simplified, the process creates money for the transfer of bonds which then are used to create more money. It gives the banking system more money to loan out and collect interest on and gives the government money to spend on government programs.[77]

Refutation of Bank Supporters Who do Not Like Bitcoin

With its questionable past and tainted record, why would people not look to a new option? Why do people shut down options that are not tied to the Fed? It is because they stand to lose. Warren Buffet, Charlie Munger, Jamie Dimon, and Christine Lagarde all have ties to the banks. Buffet and Munger are both invested in Bank of America, American Express, U.S Bancorp, and Bank of New York Mellon.[78] A successful DeFi sector would crush their investments. Jamie Dimon is CEO of J.P Morgan Chase and Christine Lagarde is the head of the European Bank, both even more tied to the Dollar Standard system than Buffett and Munger.

This is not meant to put down the legacy of Warren Buffet and Charlie Munge, they have masterfully invested their capital with Berkshire Hathway, but they are wrong about Bitcoin. When Buffett and Munger call Bitcoin rat poison it is true, it is the rat poison that will kill or severely damage the banking system.

The Failure of Centralized Finance

The failure of Centralized Finance, epitomized in the Federal Reserve, is the loss of value in currency. Inflation has been called a "hidden tax" on a population. It gives the government more money to spend while taking away from the taxpayers. The cruelty is the damage this has on the ability of parents to help the next generation. The general population has been sold the

[77] G. Edward Griffin, 193.

[78] "*Top 10 Stock Holdings Of Berkshire Hathaway And Warren Buffett,*" Benzinga, last updated February 26. 2022, https://www.benzinga.com/news/22/02/25859219/top-10-stock-holdings-of-berkshire-hathaway-and-warren-buffett.

idea that they can go to school and get a good job but inflation will kill them. Their wages will not keep up with inflation. One of the main points from Robert Kiyosaki's book, *Rich Dad Poor Dad*, is how each social class views money, “The poor and the middle-class work for money. The rich have money work for them.”[79] The poor and middle class will be choked by inflation caused by a government trying to win votes by constantly pandering to the poor and middle class with social programs that cost more money than anyone has. It is a vicious cycle enabled by the ability to create currency out of thin air. If politicians did not have the ability to print more money the burden of their social programs would become apparent very quickly, although inflation is not starting to wake people now also.

The government is not blind to inflation, though. They understand the impact it has on one’s purchasing power. That is why they increased their salaries by 21%.[80] That is far higher than the true inflation rate Greg Foss gave of 14%. This increase is funded directly by taxes and money printing so it is easier to raise their wages than for a company to pay its employees more, which politicians try to get companies to do.

Centralized finance also puts the government out of touch with the working class. Paul Krugman tweeted, “Is there any good reason to believe that inflation hits low-income households especially hard?”[81] This is Noble Prize Economist speaking. He also said that fiat currencies are

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[79] Robert T. Kiyosaki, *Rich Dad Poor Dad*, (Scottsdale, Arizona: Plata Publishing, LLC, 2017), 71.

[80] “*Congress Just Gave Its Staffers A 21 Percent Pay Raise With Pork-Packed Omnibus Bill*” Your News > Know Everything, last updated April 6, 2022. https://yournews.com/2022/03/12/2312787/congress-just-gave-its-staffers-a-21-percent-pay-raise/.

[81] Paul Krugman (@paulkrugman), “Aside from priorities, is this even true? Is there any good reason to believe that inflation hits low-income households especially hard?” Twitter, Dec 11, 2021, 12:56 p.m., https://twitter.com/paulkrugman/status/1469727921623416846?s=20&t=6LcLgr95H-djFWTWi9ZDKQ.

backed by men with guns,[82] which is true because fiat currencies only have value because the government says they do and the government is backed by the military. Krugman also said, “If we discovered that space aliens were planning to attack, and we needed a massive build-up to counter the space alien threat, and inflation and budget deficits took secondary place to that, this slump would be over in 18 months,”[83]

This is in line with the Keynesian idea that war is good for the economy. It gets the money flowing. The money gets printed, it gets loaned out, it gets spent on the war, and gets loaned out again. That is why Keynesian economists predicted a crash after World War 2 because there would be no more war to fuel the economy but the opposite happened, the economy boomed.[84] It is all based on Keynes's belief that recessions are caused by abrupt reductions in the aggregate level of spending. Keynes was not blind to the knock-on effect of inflation though. In his book, *Basic Economics,* Thomas Sowell quoted Keynes saying “By a continuing process of inflation, governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens.”[85]

The twisted nature of inflation is that the people in charge know the damage they will do to the common person. The many crashes in the economy under the supervision of the Fed go to show that nothing is changing and the Fed will continue to manipulate the Dollar. Insanity is

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[82] “Paul Krugman - *Fiat money is backed by men with guns*,” Anders Hass, December 12, 2013, video, 0:02, featuring a clip from an interview of Paul Krugman on Business Insider, https://youtu.be/MJWi8VUHUzk.

[83] “Paul Krugman: *An Alien Invasion Could Fix the Economy,*” Time > The Economy, last updated August 16, 2011, https://business.time.com/2011/08/16/paul-krugman-an-alien-invasion-could-fix-the-economy/.

[84] Saifedean Ammous, 54-55.

[85] Thomas Sowell, *Basic Economics,* (New York, NY: Basic Books, 2015), 367.

doing the same thing over and over again hoping for a different result and that is what the Fed is doing. They only repackage it and sell it to the public as something different each time with complicated equations and eloquent economic nonsense. One teacher even called it “the black speech of Mordor.” The Federal Reserve seems to have taken a page out of Machiavelli's book, to only appear noble but not necessarily be noble.[86]

What is Decentralized Finance

Decentralized finance has no central point of authority, i.e the Federal Reserve. DeFi is only possible in the modern economy because of blockchain since it allows anyone to see anything and interact with everyone. DeFi is an entire industry where one could invest as well as get insurance and loans. It also allows people to leverage their crypto. Before if someone owned bitcoin they could only hold it and wait to see the gains. With DeFi, that person can take a loan with the bitcoin, or any other crypto, as collateral.

El Salvador

El Salvador has been a trailblazer in Bitcoin. Call them foolish or brilliant, they are trying something new and either way, deserve recognition. El Salvador pre Bitcoin had a very low banked population, meaning the number of citizens who had a bank account. That number was 30% of the population. Within three months of legalizing Bitcoin as a tender, that day being September 7th, 2021, El Salvador banked three million citizens bringing the total number of banked citizens to 46% of the population.[87] This number has grown ever since. The reason for such explosive growth is the ease of using Bitcoin. The only thing that someone needs is a

[86] Niccolò Machiavelli, *The Prince*, trans. George Bull (New York: Penguin Group, 2003), 56-57.

[87] “*How El Salvador is Banking the Un-Banked with Bitcoin*,” Darin Feinstein, last updated December 16, 2021, https://darinfeinstein.com/blog/how-el-salvador-is-banking-the-un-banked-with-bitcoin/.

smartphone. A chart from an article written by Darin Feinstein, former in-house counsel to The Richland Group, cited a chart from the Global FinDex Database showing that there are 145% mobile phone connections to the population.[88] This means that there are more phones than people in El Salvador and banking all of them with Bitcoin or any other crypto is as easy as downloading an app.

Jack Mallers, CEO of Strike, a Bitcoin payment system, has partnered with Bukele and has stated that he will be building an innovation center in El Salvador. This was announced at the 2021 Bitcoin Conference. In the same speech Mallers mentioned another important benefit for El Salvador using Bitcoin. Removing the colorful language, Mallers said that Salvadorians working in the U.S can now also send money back to El Salvador without paying half of the money to banks.[89] An exaggeration but there is a large fee incurred when sending money internationally. This hurts the economy of El Salvador because 20% of the GDP comes from remittances, which total $4 billion a year.[90] El Salvadorians working in the U.S would be able to help support family members back home much more as more of their hard-earned money would actually get across. The change would lead to economic growth that could help stabilize the nation.

Bitcoin Standard as an Energy Standard

Reflecting on the discussion of the petrodollar, Russia said that it was looking for alternatives to using the U.S Dollar. One reason why Bitcoin can be seen as the perfect currency

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[88] Darin Feinstein, December 16, 2021.

[89] "*El Salvador Becomes The First Country to Declare Bitcoin Legal Tender w/ Jack Mallers of Strike*," Bitcoin Magazine, video, 21:25, featuring a presentation by Jack Mallers at the 2021 Bitcoin Conference, https://youtu.be/_59hrgTiRJU.

[90] "*El Salvador Plans to Make Crypto Currency Legal*," BBC News, last updated June 6, 2021,
https://www.bbc.com/news/world-latin-america-57373058#:~:text=El%20Salvador's%20economy%20relies%20heavily,gross%20domestic%20product%20(GDP).

for the energy industry is because Bitcoin has been called digital energy. Micheal Saylor says if you record a piano, create an audio file, send it halfway across the world, and play the sounds it is considered digital music. He compares it to Bitcoin by saying you could convert energy to Bitcoin through a miner, send that bitcoin half across the world, and pay your energy bill, thus using the original energy from the bitcoin miner. He says that Bitcoin is the best way to store energy since there is no loss in energy since bitcoins can not be destroyed. Batteries can slowly lose their charge and sending energy across electrical wires loses energy but bitcoins stay as bitcoins.[91] Saylor was not the only one to think of digital currency as a form of energy.

In 1921, at the turn of the previous century, Henry Ford proposed a currency based on an energy standard. His quote from the New York Tribune article stated "Under the energy currency system the standard would be a certain amount of energy exerted for one hour that would be equal to one dollar. It's simply a case of thinking and calculating in terms different from those laid down to us by the international banking groups which we have grown so accustomed to that we think there is no other desirable standard."[92] This form of energy standard would mean that inflation would cost a lot more than printing paper. It would also mean that there was no way to tamper with the value of the currency. Meaning no one could only spend thirty minutes of energy and get a dollar, it had to be one hour to get the dollar. This is the entire idea of the proof of work verification system. If a miner is not working it does not get Bitcoin. Even in the 20s, the

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[91] "*Bitcoin is Digital Energy with Michael Saylor*," What Bitcoin Did, December 2, 2021, video, 2:32:47, featuring an interview of Micheal Saylor about Bitcoin conducted by Peter McCormack, https://youtu.be/x4-e5wq5AJ8.

[92] "*100 years ago, Henry Ford proposed 'energy currency' to replace gold*," Cointelegraph>The Future of Money, last updated September 18, 2021, https://cointelegraph.com/news/100-years-ago-henry-ford-proposed-energy-currency-to-replace-gold.

framework for Bitcoin was put forward to bring an end to the centralization of currency through an energy standard.

Orange Pilled

Bitcoin is the first currency made for global trade in our digital world while also being a solution to our Government's perpetual habit of inflating the Dollar. Bitcoin is based on the fundamentals of capitalism, to conduct trade with anyone and at the price desired by the customer. Bitcoin's value of scarcity and security, both derived from its blockchain nature, is what enables trust in the system. The fact that Bitcoin has achieved its current state without the market knowing who the creator of Bitcoin is goes to show the level of trust in the network and the ability Bitcoin has to live without its creator. Its dominance over other asset classes is based on the DeFi nature of Bitcoin, there is nothing and no one that can manipulate or regulate it. The corruption from a centralized authority created on an island in Georgia will not taint it. Bitcoin has opened the future up to a level of innovation that has not been seen since the inception of the Internet. The market's future is orange. The market's future is Bitcoin.

Bibliography

Ammous, Saifedean. *The Bitcoin Standard,* (Hoboken, NJ: John Wiley & Sons, 2018).

Barrons. "*Consider How the IRS Defines Bitcoin*," Kim, Crystal, last updated January 25, 2018, https://www.barrons.com/articles/consider-how-the-irs-defines-bitcoin-1516895489.

BBC News. "*El Salvador Plans to Make Crypto Currency Legal*," last updated June 6, 2021, https://www.bbc.com/news/world-latin-america-57373058#:~:text=El%20Salvador's%20economy%20relies%20heavily,gross%20domestic%20product%20(GDP).

Benzinga. "*Top 10 Stock Holdings Of Berkshire Hathaway And Warren Buffett*," last updated February 26. 2022, https://www.benzinga.com/news/22/02/25859219/top-10-stock-holdings-of-berkshire-hathaway-and-warren-buffett.

Bitcoin.com. "*What is the Lightning Network?,*" https://www.bitcoin.com/get-started/what-is-lightning-network/.

Bitcoin Magazine. "*El Salvador Becomes The First Country to Declare Bitcoin Legal Tender w/ Jack Mallers of Strike*," video, 21:25, featuring a presentation by Jack Mallers at the 2021 Bitcoin Conference, https://youtu.be/_59hrgTiRJU.

Bitcoin Magazine. "*The Full Jack Mallers Announcemt the Bitcoin 2022 Conference,*" video, 44:18, featuring a presentation by Jack Mallers at the 2022 Bitcoin Conference, https://youtu.be/dD2-T7TX2rk.

Bitcoin Magazine. "*THE STATE OF THE LIGHTNING NETWORK BEHIND THE CURTAINS,*" NAMCIOS, last updated October 5, 2021, https://bitcoinmagazine.com/markets/the-state-of-lightning-network-bitcoin-adoption.

BitcoinNews.com. "*Crypto Critic Bill Gross Invests in Bitcoin*," last updated March 21, 2022, https://bitcoinnews.com/crypto-critic-bill-gross-invests-in-bitcoin/ bill gross.

Bitcoin.org. "Bitcoin: *A Peer-to-Peer Electronic Cash System*," Nakamoto, Satoshi, last updated October 31 2008, https://bitcoin.org/bitcoin.pdf.

BitMex.com. "*Does Satoshi have a million bitcoin*?" last updated August 20, 2018, https://blog.bitmex.com/satoshis-1-million-bitcoin/.

Bloomberg. "*Ron Paul vs. Paul Krugman on Bloomberg TV* - April 30, 2012," interview by Bloomberg, April 30, 2012, video, 13:19, featuring a discussion on economic thought with Ron Paul and Paul Krugman, https://youtu.be/jEmKIRqz9AI.

Coindesk. "*How Much Energy Does Bitcoin Use*?" last updated August 18, 2021, https://www.coindesk.com/business/2021/08/18/how-much-energy-does-bitcoin-use/.

Cointelegraph.com. "*100 years ago, Henry Ford proposed 'energy currency' to replace gold*," The Future of Money, last updated September 18, 2021, https://cointelegraph.com/news/100-years-ago-henry-ford-proposed-energy-currency-to-replace-gold.

Culmacatrane. "*Dune (1984) 'He who controls the spice controls the universe.'* 48fps 1080p HD," April 26, 2020, video, 4:46, a clip from the 1984 adaption of Frank Herbert's novel Dune, https://youtu.be/hEsIXIwrNbo.

Griffin, G. Edward. *The Creature from Jekyll Island,* (Westlake Village, California: American Media, 2010).

CNBC. *"Exxon is Mining Bitcoin in North Dakota As Part of Its Plan to Slash Emissions*," Crypto World, last updated March 26, 2022, https://www.cnbc.com/2022/03/26/exxon-mining-bitcoin-with-crusoe-energy-in-north-dakota-bakken-region.html.

CNBC. "Warren Buffett: *Bitcoin Is An Asset That Creates Nothing* | CNBC," interview by Quick, Becky, May 7, 2018, video, 6:16, featuring a discussion of Bitcoin with Warren Buffet, https://youtu.be/LtITDtZPYEw.

CryptoVantage.com. "*Here Are The 5 Biggest Bitcoin Transactions In History as of 2022*," Chandler, Simon, last updated February 18, 2022, https://www.cryptovantage.com/news/here-are-the-5-biggest-bitcoin-transactions-in-history/.

Feinstein, Darin. "*How El Salvador is Banking the Un-Banked with Bitcoin*," last updated December 16, 2021, https://darinfeinstein.com/blog/how-el-salvador-is-banking-the-un-banked-with-bitcoin/.

Fidelity. "Understanding Bitcoin: *Does Bitcoin Belong in Asset Allocation Considerations*," Timmer, Jurrien, last updated March 3, 2021, https://institutional.fidelity.com/app/literature/white-paper/9901337/understanding-bitcoin.html.

FossilFuel.com. "*The U.S. Military Consumes More Fossil Fuels Than Entire Countries*," Petroleum, last updated March 15, 2020, https://fossilfuel.com/the-u-s-military-consumes-more-fossil-fuels-than-entire-countries/#:~:text=Research%20conducted%20by%20Dr.%20Karbuz%20shows%20how%20the,the%20wars%20in%20Iraq%20and%20Afghanistan%20%28Pirani%2C%202018%29.

Graham, Benjamin. *The Intelligent Investor*, (New York, NY: HarperCollins, 2003).

Hass, Anders, "Paul Krugman - *Fiat money is backed by men with guns*," December 12, 2013, video, 0:02, featuring a clip from an interview of Paul Krugman on Business Insider, https://youtu.be/MJWi8VUHUzk.

Internet Archive. "*Defects and Needs of Our Banking System*," Warburg, Paul M., Jstor, date added February 20 2013, https://archive.org/details/jstor-1171781.

InvestAnswers. "*Bitcoin, Bonds, Risk Management, Asymmetric Bet of our Lives, Digital Energy w Greg Foss*," Mullarney, James, November 19, 2021, video 1:11:28, featuring a discussion on Bitcoin, Bonds, and Risk Management with Greg Foss, https://youtu.be/FlYFtgWmd7c.

InvestAnswers, "*Bitcoin to $4.6M by 2030? We tested Metcalfe's Law to find out*," February 18, 2022, video, 22:02, featuring a discussion on price models of Bitcoin with James Mullarney, https://youtu.be/jfP36UG2uA4.

InvestAnswers. "Good, Bad & Ugly from On Chain TA Today: *BTC Sandbox MATIC Tesla Fantom and more*," Mullarney, James, February 22, 2022, video 28:22, featuring an on chain discussion on Bitcoin, https://youtu.be/Y1AakewOm0s.

InvestAnswers. "*How to use DeFi to make Money! Beyond yield farming.....*," Mullarney, James, April 8, 2021, video, 13:35, featuring a discussion on DeFi with James Mullarney, https://youtu.be/LtITDtZPYEw.

InvestAnswers. "Jason Lowery & IA: *Can Bitcoin Bring Peace? Asset Protection, Great Reset, Mars + more*," March 17, 2022, video, 1:28:33, featuring an interview with Jason Lowery conducted by James Mullarney on the topic of Bitcoin, https://youtu.be/VK7YiSkjiJ0.

In2013dollars.com. "*CPI Inflation Calculator*," last updated March 2022, https://www.in2013dollars.com/us/inflation/2011?amount=1#:~:text=The%20dollar%20had%20an%20average%20inflation%20rate%20of,the%20Bureau%20of%20Labor%20Statistics%20consumer%20price%20index.

Kiyosaki, Robert T. *Rich Dad Poor Dad* (Scottsdale, Arizona: Plata Publishing, LLC, 2017).

Krugman, Paul. (@paulkrugman), "Aside from priorities, is this even true? Is there any good reason to believe that inflation hits low-income households especially hard?" Twitter, Dec 11, 2021, 12:56 p.m., https://twitter.com/paulkrugman/status/1469727921623416846?s=20&t=6LcLgr95H-djFWTWi9ZDKQ.

Kwon, Do. (@stablekwon), "$UST with $10B+ in $BTC reserves will open a new monetary era of the Bitcoin standard." Twitter, Mar 14, 2022, 5:07 a.m., https://twitter.com/stablekwon/status/1503296630396645376?s=20&t=fLPrWwApAov2OVHzjJq3Ng.

Lolli (@trylolli), "Lolli.com & Tesla," Twitter, May 12, 2021, 6:21 p.m., https://twitter.com/trylolli/status/1392605928113934345?s=20&t=vd71z9raOIuUPe44hAY84g.

Machiavelli, Niccolò. *The Prince*, trans. George Bull (New York: Penguin Group, 2003).

Mises, Ludwig von. *Human Action. The Scholar's Edition,* (Auburn, AL: Ludwig von Mises Institute, 1998).

Madonna, Francesco. (@CiccioMadonna), "1/2 Crazy story, my webmaster escaping from Ukraine 2 hours before the gvnmt closes the border for men of war age…", Twitter, February 25, 2022, 8:24 a.m., https://twitter.com/CiccioMadonna/status/1497200850099445760?s=20&t=gcCwA9gAncfGahT1gOewvQ.

Medium.com. "*Modeling Bitcoin Value with Scarcity*," PlanB, last updated March 22, 2019, https://medium.com/@100trillionUSD/modeling-bitcoins-value-with-scarcity-91fa0fc03e25.

Medium.com. "*The Divisibility of Bitcoin*," Grill, Eric, last updated May 7, 2017, https://medium.com/@EricGrill/the-divisibility-of-bitcoin-fc1bcb40dd52#:~:text=On%20its%20part%2C%20a%20single%20bitcoin%20is%20divisible,Bitcoin%20can%20be%20broken%20down%20into%20100%2C000%2C000%20satoshis.

Musk, Elon. (@elonmusk), "Tesla & Bitcoin," Twitter, May 12, 2021, 6:06 p.m., https://twitter.com/elonmusk/status/1392602041025843203?s=20&t=fLPrWwApAov2OVHzjJq3Ng.

Naked Security by Sophos. "*How could the FBI recover BTC from Colonial's ransomware payment*?" Ducklin, Paul, last updated June 9, 2021, https://nakedsecurity.sophos.com/2021/06/09/how-could-the-fbi-recover-btc-from-colonials-ransomware-payment/#:~:text=Sadly%2C%20the%20value%20of%20Bitcoin%20has%20taken%20a,them%20to%20do%20its%20deal%20with%20the%20criminals.

NY Post. "*Russia proposes bitcoin payment for oil shipments to 'friendly' countries*," Business, last updated March 25, 2022, https://nypost.com/2022/03/25/russia-proposes-bitcoin-for-oil-shipments-to-friendly-countries/.

O'Leary, Kevin. "*Crypto As An Asset Class?* | YouTube Short," YouTube Short, September 24, 2021, video, 0:55, featuring a discussion of Bitcoin with Kevin O'Leary, https://youtu.be/vrZPWjnCmE4.

O'Leary. Kevin. "*DeFi Will Disrupt The Financial Markets* | YouTube Short,", YouTube Short, September 24, 2021, video, 0:58, featuring a discussion of Bitcoin with Kevin O'Leary, https://youtu.be/-lPrkZ80B2I.

Pompliano, Anthony. "Peter Schiff: *Here Is The Truth About Gold*," August 11, 2021, video, 11:03, featuring a discussion of Bitcoin with Peter Schiff, https://youtu.be/d2MAMmWvcsg.

Pomp (@APompliano), "Elon ... you realize that 75% of miners use renewable energy, right?, Twitter, May 12, 2021, 6:11 p.m., https://twitter.com/APompliano/status/1392603286839115776?s=20&t=vd71z9raOIuUPe44hAY84g.

Reuters, "*Explainer: What we know about El Salvador's bitcoin bond*," November 23, 2021, video, 3:37, featuring a discussion on the new bitcoin bond in El Salvador, https://youtu.be/4SXTlo1mlo4.

Saylor, Michael. (@saylor), "Ironic because no incremental energy is used in a #bitcoin transaction.," Twitter, May 12, 2021, 7:22 p.m., https://twitter.com/saylor/status/1392621211302105091?s=20&t=vd71z9raOIuUPe44hAY84g.

Saylor, Michael. (@saylor), "The price of #Bitcoin will be driven by inflation technology, and adoption.," Twitter, December 9, 2021, 9:58 a.m., https://twitter.com/saylor/status/1468958234681634825?s=20.

Saylor, Michael. (@saylor), "The winner of yesterday's congressional hearing was #Bitcoin.," Twitter, December 9, 2021, 9:46 a.m., https://twitter.com/saylor/status/1468955094729170959?s=20.

Sowell, Thomas. *Basic Economics.* (New York, NY: Basic Books, 2015).

TheBalance.com. "*The Largest Investment Management Companies Worldwide: What are these giants worth*?" Investing, last updated February 13, 2022, https://www.thebalance.com/which-firms-have-the-most-assets-under-management-4173923.

The David Rubenstein Show: Peer-to-Peer Conversations. "*'Cryptos Are Not Currencies, Full Stop*,' ECB's Lagarde Says," interview by David Rubenstein, September 13, 2021, video, 2:29, September 16, 2021, featuring a discussion of Bitcoin with Christine Lagarde, https://youtu.be/pBRT4frdLQ8.

The Tokenist. "Forex Statistics," Fries, Tim, last updated September 3, 2021, https://tokenist.com/investing/forex-statistics/.

Time. "Paul Krugman: *An Alien Invasion Could Fix the Economy*," The Economy, last updated August 16, 2011, https://business.time.com/2011/08/16/paul-krugman-an-alien-invasion-could-fix-the-economy/.

Valuetainment Short Clips. *"He's Full Of Sh*t' - Billionaire Destroys Peter Schiff's Gold Argument,"* March 3, 2022, video, 7:29, featuring a discussion on Peter Schiff's regard of gold, https://youtu.be/TXvvMGrZDAw.

Validus Power Corp. "Home," last updated 2022, https://www.validuspower.com.

Validus Power Corp. "*Mad Maxx Mobile Power Fleet*," last updated June 3, 2021, https://www.validuspower.com/post/mad-maxx-mobile-power-fleet.

What Bitcoin Did. "*Bitcoin is Digital Energy with Michael Saylor*," December 2, 2021, video, 2:32:47, featuring an interview of Micheal Saylor about Bitcoin conducted by Peter McCormack, https://youtu.be/x4-e5wq5AJ8.

Woo, Willy. (@woonomic), "In terms of adoption, Bitcoin has roughly the same users as the Internet had in 1997." Twitter, February 1, 2021, 1:35 p.m., https://twitter.com/woonomic/status/1356310219215699968?s=20.

Woo, Willy (@woonomic), "In a world where 6.5% of GDP is spent on subsidizing fossil fuels, and Tesla decides to drop support for the Bitcoin network which incentivizes clean energy production. Even when that network runs on 70% renewables and scavenges waste energy," Twitter, May 13, 2021, 11:21 a.m., https://twitter.com/woonomic/status/1392862608546402306?s=20&t=vd71z9raOIuUPe44hAY84g.

Yahoo! Finance. "*Bitcoin USD (BTC-USD)*" last updated March 2022, https://finance.yahoo.com/quote/BTC-USD?p=BTC-USD&.tsrc=fin-srch.

Yahoo! Finance. "Fed Chair Jerome Powell on crypto: *I don't see it as a financial stability concern*," Federal Reserve Press Conference, December 15, 2021, video, 3:53, featuring a discussion of Bitcoin with Ben Chiller, Karina Mitchell, and Adam Shapiro, https://youtu.be/1C5MvYu19DA.

Yahoo! Finance, "*Gold Jun 22 (GC=F)*" last updated March 2022, https://finance.yahoo.com/quote/GC=F?p=GC=F&.tsrc=fin-srch.

Yahoo! Finance. "JPMorgan CEO Jamie Dimon says bitcoin is "*worthless,*" Finance Alert, October 11, 2021, video, 1:52, featuring a discussion of what Jamie Dimon said with Jennifer Schonberger, https://youtu.be/PTDi946ot7A.

YourNews.com. "*Congress Just Gave Its Staffers A 21 Percent Pay Raise With Pork-Packed Omnibus Bill*" > Know Everything, last updated April 6, 2022, https://yournews.com/2022/03/12/2312787/congress-just-gave-its-staffers-a-21-percent-pay-raise/.