What Drives Bitcoin's Price? Its Inherent System or Human Manipulation

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Abstract: Since the introduction of cryptocurrency and blockchain in 2009, the technology has proved revolutionary in simplifying transactions, providing new ways of security, and most notably as an investment. However, crypto's significant advantage of substantial price growth comes with the risk of sudden price fluctuations and volatility. In this ever-changing, complicated market, cryptocurrencies' nature of being in constant influence of both inherent, preset systems unique to each crypto (described as "economic rules") and human investment decisions (described as "human manipulation") burden the process of tracking price movements. Social media, for example, is a diverse information outlet for private investors seeking trends and new opportunities to generate wealth. In return, the inherent cryptosystem (such as the event of "halving" in Bitcoin) drives the price upwards due to the increasing scarcity against the demand. As shown above, even a single coin is affected by countless factors. Therefore, this paper aims to answer which influences Bitcoin's price more: human manipulation or economic rules, by analyzing social media influence, individual/commercial investing, and examining past case studies that had crucially moved the price of Bitcoin. Through this thorough analysis, we can offer insights into the balance between human manipulation and economic rules.

Introduction:

The invention of a medium of exchange, commonly referred to as money or currency, has been regarded as one of the most significant inventions of mankind, overwriting barter trading, which has been the major method of exchange for 250,000 years (from the Stone Age till 5000 B.C.). “Barter is one of the oldest forms of trade, where small business owners exchange goods and services for other goods and services, for mutual benefit.“[PNC Bank] A recent, controversial example of bartering has been the “One Red Paperclip” story, in which, through a span of a year and 14 Barter Trades, Kyle Macdonald was able to trade his red paperclip into a house. This story underscores two key issues in bartering. “The functioning of the barter system requires a double coincidence of wants on the part of those who want to exchange goods or services. It is necessary for a person who wishes to trade his goods or services to find some other person who is not only willing to buy his goods and services but also possesses those goods with the former wants.”[Dr. Anudit Marandi] This greatly narrowed down the number of trades possible, explaining why 14 trades took a year to execute. “Another difficulty under the barter system relates to the lack of a common unit in which the value of goods and services should be measured.”[Dr. Anudit Marandi] From this, Kyle always obtained more than he had offered in trades, as the price indicator has been greatly based on personal evaluation. These two flaws created unequal exchanges and limited trading opportunities, deeming them inferior to coinage. The introduction of money emerged in Ancient Mesopotamia 5,000 years ago as the shekel, the first fund in the form of a commodity. “You are likely familiar with the three functions of money: • Medium of exchange: It is used for buying and selling. • Store of value: It retains its worth over time. • Unit of account: It is a standard numerical unit of measurement.” [Forbes] By placing objects containing intrinsic value as a medium of exchange, metal coins have functioned as the oldest surviving commodity currency, used today as nickels and dimes. While metal coins served as a great form of currency for its portability and durability for 2,500 years, its limited supply and high production cost have asked for another medium. On paper, the gradual rise of fiat currency has been born as a response to this need, regulated by the government and offering a cost-effective, stable, and flexible alternative. Ancestors to the leading funds such as dollars and euros, its humble beginnings rooted in China have left a significant impact. However, although in circulation only for about 300 years, paper bills quickly arose to have their faults similar to the coinage, as its material has proved to be nondurable, cumbersome to take out every time you pay, and allowing hyperinflation and collapse of the market if not managed with delicacy. In this constant payment evolution cycle, it is important to note that the leap from being an innovation to a widely used commodity is substantial, and creating new payment methods does not come easily.

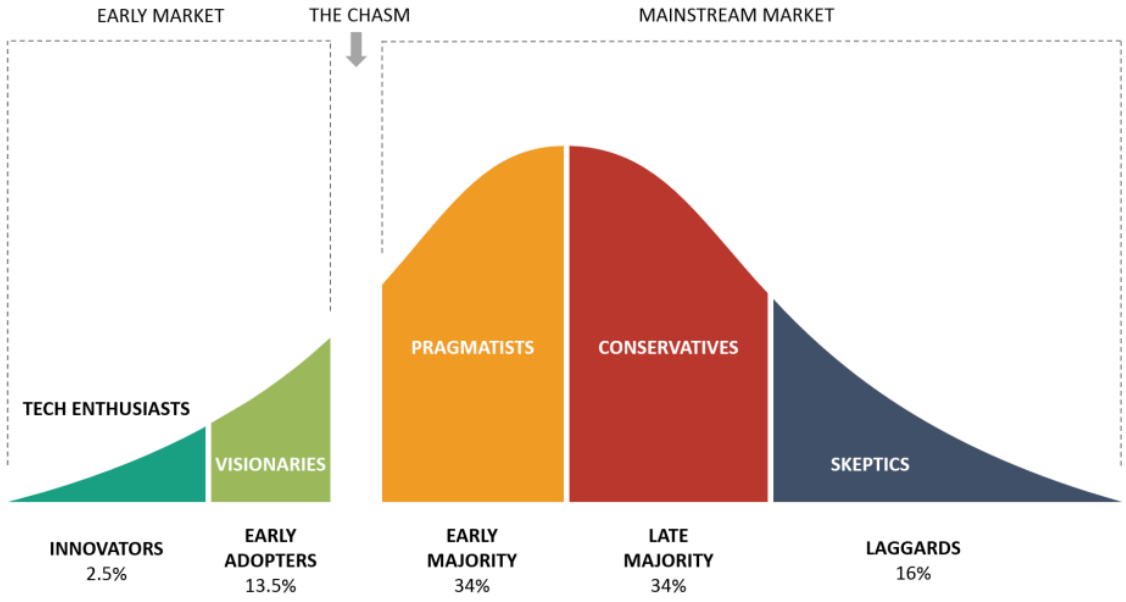

Figure 1, Adoption Curve Model

"While 51% of households had a credit card in 1970, only 16% had a bank-issued card. And an even lower percentage of people in the lowest income bracket (2%) were using bank cards at the time. But the overall rate of households with credit cards had risen 38% to 2007 (70.2%). bank-issued card ownership increased more than threefold in the next 28 years, while low-income card use grew 13 times over." [John Kiernan, 2015] Although credit cards have grown substantially since the 2000s, their beginnings have only seen 10-15% usage, and a wide margin still depends on other products. Now, one product related to finance is about to revolutionize and start another era of payment methods…cryptocurrencies. "It looks like we are now beginning to see that all the noise and predictions around payment disruption, new payment types, innovation, and collaboration between banks and fintechs have become a reality. These are no longer predictions—these trends are real and are beginning to pick up serious momentum." [Jesse Sandoval, senior vice president and director of GTS global payments at East West Bank]

Cryptocurrency is a digital currency in which transactions are verified, and records are maintained by a decentralized system using cryptography rather than a centralized authority. The creation and adoption of cryptocurrencies were accelerated by one of the worst global financial crises in history, the Great Recession of 2008. This crisis resulted in more than a 35% decline in all stocks, 25 Bank failures, and a collapse in the global housing market. "The events of 2008 exposed the vulnerabilities of financial firms whose business models depended too heavily on uninterrupted access to secured financing markets, often at excessively high leverage levels."[Senior Supervisors Group]. The presented vulnerabilities led to a new want for an alternate financial system, including Satoshi Nakamoto, an anonymous coder. The same year, on October 13th, Satoshi published the whitepaper for a digital currency that built a new, unique financial system that could combat presented problems in 2008.

“Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust-based model. …A certain percentage of fraud is accepted as unavoidable." [Bitcoin Whitepaper]
An excerpt above stating the vulnerabilities of money and the inherent digital currency technologies appeared to suggest the creation’s intent: to provide a financial network to combat the unavoidable issues found in traditional financial systems. This was the emergence of Bitcoin, the most successful cryptocurrency with a total volume of over $243 billion today.

“What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party. Transactions that are computationally impractical to reverse would protect sellers from fraud, and routine escrow mechanisms could easily be implemented to protect buyers.”[Bitcoin Whitepaper] Satoshi has expressed the need for decentralization and a smoother method for exchanging money between people, such as the one mentioned above. Bitcoin implements this through Blockchain technology. Upon transactions, several transactions are collected into “blocks,” which are added to a chain of previous blocks through cryptography, securing the information and effectively protecting users from hacking. Its deflationary status is retained by having a market capacity of 21 Million and controlling and changing the rate and amount to create new Bitcoin. Finally, trading “keys” to a fixed amount of Bitcoin directly to other user wallets makes a direct exchange of money possible without a third-party intermediary. However, Bitcoin’s formal definition is lost today as more people realize its potential as an investment. To this end, Bitcoin is currently valued at $55,910 per coin. To know what happened between the jump of a decentralized network and an investment, a delve into the history of Bitcoin is required.

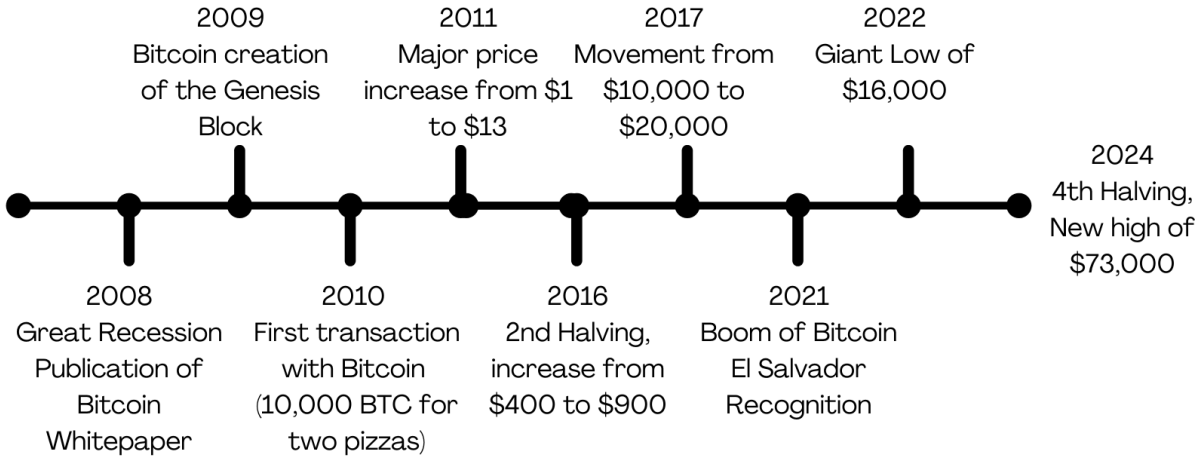

Figure 2, Emergence and Events of Bitcoin

Among other investments, Bitcoin and cryptocurrency have experienced the most volatile trading history in investment assets. “In the fall of 2008, the economic contraction worsened, ultimately becoming deep enough and protracted enough to acquire the label “the Great Recession."(Federal Reserve History). The innovation of Bitcoin was later in the same year on October 13th, and the mining of the first block of Bitcoin quickly followed on January 3rd, 2009,

known today as the Genesis Block. The first purchase of Bitcoin was made on May 22nd, when the programmer Laszlo Hanyecz used 10,000 Bitcoins for two pizzas from Papa John's, displaying the potential Bitcoin had as a medium of exchange. This amount equals $566 million today. 2011 showed the first critical price movement, with Bitcoin's price rising to $13, finally growing from the $1 line Bitcoin had for over two years. The price movement was caused primarily due to the gradual increase of investors from the Early Adopters faction. In July 2016, Bitcoin showed another increase of over $500, from $400 to around $900, and the price was driven by the halving of Bitcoin's creation rate. By 2017, Bitcoin had become popular as a high-return investment with its ever-increasing price, setting another leap from $10,000 to $20,000. "Trading Bitcoin is like trading Apple, Amazon, Google, or Facebook a decade ago. The more you obsess over timing the market, the more mistakes you make. They were all technology networks that were dominant & destined to grow." [Michael Saylor] Investors, early movers(such as Michael Saylor), and News outlets have repeatedly advertised Bitcoin as an investment tool. Bitcoin was met with a massive boom in popularity in 2021, with social media influencers screaming about its potential and highlighting the chaos and sentiment around Bitcoin. El Salvador became the first country to accept Bitcoin as legal tender in 2021, highlighting Bitcoin's use as an alternate financial system.

In contrast, Bitcoin was met with a record-low price of $16,000 in 2022 due to multiple factors, including the collapse of the crypto Terra, which has led to low confidence in cryptocurrency. The Sam Bank-Friedman fiasco, a major financial scandal in November of 2022, also caused a major downfall. It involved Alameda Research (Quantitative Trading Firm) and FTX, two companies that experienced a rapid economic and popularity rise. FTX, although growing to be a great Crypto trading network for many investors, has denied Bitcoin's nature as a direct exchange by taking in fees for each trade. In November of 2022, FTX experienced a massive liquidity crisis, and the added relevance that FTX had allegedly used customer funds to cover Alameda's losses led to an enormous withdrawal request that FTX could not fulfill, causing its bankruptcy. Finally, the 4th Halving of Bitcoin occurred in March of 2024, which had driven the price high enough to set a new record at $73,000.

In this sensitive, dynamic environment of the Bitcoin market, many factors derive from the price of the cryptocurrency. Through the analysis of Social Media's Influence on investors, past Bitcoin pricing history and use cases, and studying the correlation of inherent systems of the currency to its effect on the value of Bitcoin, we have concluded that human interference on Bitcoin affects its price larger than its inherent systems.

Argument 1, Bitcoin Design affects its price.

Although cryptocurrencies were naturally made as a facilitated economic system, their nature has been long overwritten as an investment. Understanding the key factors influencing Bitcoin is crucial for investors and firms. Unlike the pricing for stocks and traditional investment assets depending solely on investor/human interference (such as company sentiment and its success), cryptocurrencies differ due to their unique, inherent designs that directly alter their value. To understand this, we must understand primarily how Bitcoin works.

1. **Blockchain technology**

The most crucial part of the design embedded in Bitcoin has been its decentralized nature in managing and initiating transactions. Bitcoin makes it possible through a timestamped blockchain server that verifies and connects transactions into a chain of exchange records, retaining its security and integrity. Contrary to this, financial institutions act as intermediaries and control the movement of currency, acting as “central authority.” “A transaction is a transfer of value between Bitcoin addresses that get included in the blockchain”[Bitcoin.org, official site of Bitcoin]. All Bitcoin exchanges start with transaction creation in the Bitcoin Network, to which the sender generates the transaction details, including the recipient and the owner's address, transaction fee, and transaction amount. "Each owner transfers the coin to the next by digitally signing a hash of the previous transaction and the public key of the next owner and adding these to the end of the coin. A payee can verify the signatures to verify the chain of ownership."[Bitcoin Whitepaper] The sender wallet generates a digital signature for the transaction (created with hashed transaction details and the sender’s private key) to sign the public key of the recipient (tied to the sent Bitcoin), which declares the transfer ownership and confirms that the transaction has been authorized from the correct wallet. Additionally, the signing of hash from previous encrypted transactions from the Blockchain operates crucially to link the latest transaction into the record chain. “The problem of course is the payee can't verify that one of the owners did not double-spend the coin. A common solution is to introduce a trusted central authority, or mint, that checks every transaction for double-spending. …The problem with this solution is that the fate of the entire money system depends on the company running the mint, with every transaction having to go through them, just like a bank.”[Bitcoin Whitepaper] In prevention of a central authority in financial systems, Bitcoin has implemented a mathematical, cryptographic solution to authenticate trades.

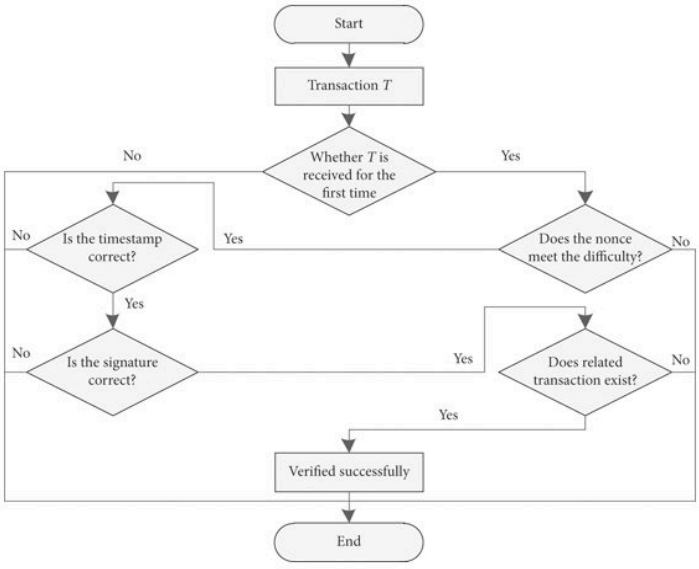

Figure 3, Simplified Blockchain Transaction

Since the Bitcoin network does not rely on a central authority examining the verification process, it uses cryptography to secure each transaction and prevent hacking. Complete with their information and digital signatures, transactions are then broadcast to the Bitcoin network

for verification. Upon broadcasting, various nodes in the Bitcoin Network validate the transaction details for correct digital signature (identity), sufficient balance (funds), and whether the Bitcoin has been double-spent (used more than once other than the transaction). If accepted, the transaction information is moved to the mempool (storage for unconfirmed transactions), where multiple transactions are collected into blocks. The final process of adding these blocks to the blockchain is called mining, where 'proof-of-work' is required to modify/add a block**.** "The proof-of-work involves scanning for a value that when hashed, such as with SHA-256, the hash begins with several zero bits. The average work required is exponential in the number of zero bits required and can be verified by executing a single hash."[Bitcoin Whitepaper] This complex problem-solving taking a specific hash as an answer deems hackers altering a block extremely costly and resource-intensive.**'** After solving the cryptographic puzzle, the first node to solve it correctly adds the block to the blockchain and is rewarded with Bitcoin. "The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work."[Bitcoin Whitepaper] This process finalizes the transaction to append to the blockchain, completing the decentralized system.

2. Supply and Demand

Bitcoin operates on a deflationary model characterized by its limited supply of 21 million coins. Unlike fiat currencies, which can be printed in unlimited amounts, Bitcoin's scarcity allows its value to be primarily driven by supply and demand—a fundamental economic principle. As the supply continues to decrease, the demand will be enlarged exponentially, which will retain/increase the value of the commodity. This is similar to gold, which has long been valued for its scarcity as the limited supply continues to be mined. As co-founder of Founders Fund and former CEO of PayPal, Peter Thiel says, "It's like bars of gold in a vault that never move, and it's a sort of hedge of sorts against the whole world falling apart." Historical economic downturns, such as the 2008 financial crisis, have exposed the vulnerabilities of fiat currencies to be able to depreciate aggressively in some instances. For instance, public pensions lost $899 billion in value, and 401(k) accounts depreciated by an average of 25-30%, illustrating the risk of inflation and the erosion of wealth in dollar-denominated assets. In contrast, Bitcoin does not suffer from inflation-driven depreciation, earning it the nickname "digital gold."

Although the rate of gold mining is constant every year, Satoshi has differentiated Bitcoin by decreasing the creation rate of new Bitcoin every four years. Although having a fixed rate creates a solution for a continuous value through the years, its finite supply still leaves risks that cause a downfall of Bitcoin, such as a significant loss of demand. In those significant instances, the Bitcoin protocol has halved the creation rate of new Bitcoin every four years, ensuring stability. "The steady addition of a constant amount of new coins is analogous to gold miners expending resources to add gold to circulation. In our case, it is CPU time and electricity that is expended."[Bitcoin Whitepaper] Currently, the block reward (newly created Bitcoin) is 6.25 Bitcoin, and the rate will continue to be halved until 2036 for 0.000000596046875 BTC per block, effectively ending the issuance of Bitcoin until 2140 where no new Bitcoin is created for

every mining of a transaction. The dwindling of the creation rate, paired with the finite supply, ensured an automatic economic recovery and a predictable movement in value.

Figure 3, Bitcoin Price chart

"Bitcoin rose 8,069% in the 12 months after the 2012 halving, 284% following the 2016 halving, and 559% after the 2020 halving. 'It's pretty much Economics 101' that bitcoin prices go up after halving, according to Sevens Report analyst Tom Essaye, who explained that so long as demand doesn't decrease and new supply goes down, the "only thing left to move is price."[Forbes] "... there's a surge in Bitcoin's value approximately 60 days before the halving, driven by investors capitalizing on the hype, with intentions to sell before the event itself."[Modern Research in the Sphere of Socio-Economic Sciences and Information Technologies] Although inferior in retrospect, some gains seen in the price chart shown above have been caused purely by Bitcoin's inherent system: halving.

3. Decentralized Nature

Bitcoin is operated within a decentralized system that isolates it from many external influences that affect traditional investment assets. Unlike stocks bound to the centralized financial system of the world, whose prices are heavily influenced by each other, macroeconomic indicators, geopolitical events, inflation, and overall market performance, Bitcoin's value can be derived by different forces. This isolation stems from the lack of central authority, allowing for less control of the government and the world outside. Trace Mayer, J.D., highlights several attributes that make Bitcoin appealing: "Instant transactions, no waiting for cheques to clear, no chargebacks... no waiting for an account to be approved before transacting, open an account in a few seconds... no printing press, no hyperinflation, no debt limit votes, no bank bailouts, completely voluntary." These features, along with its global accessibility and low transaction fees, have made Bitcoin an outstanding competitor for many international money transfers. With an average of 800,000 daily transactions, Bitcoin has expanded its intended presence of Satoshi's as the transaction amount seen in **Figure 4.**

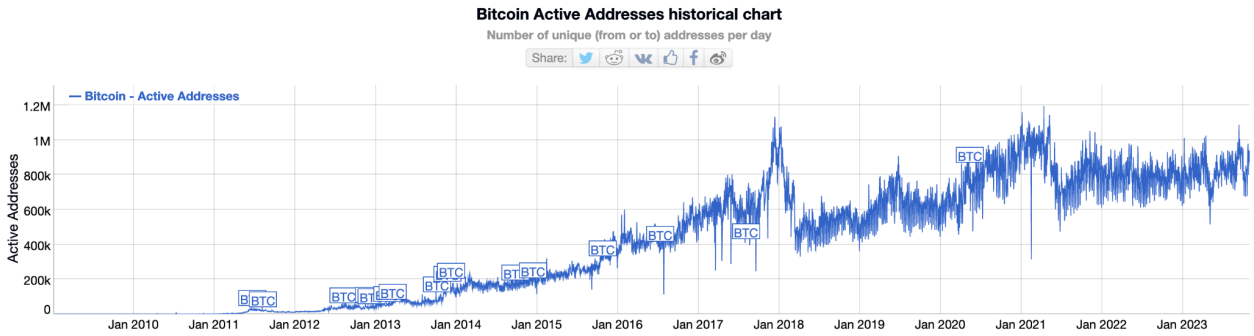

Figure 4, Bitcoin Transaction History

The increasing demand for low-cost, cross-border transactions has been a key factor in Bitcoin's price surge, particularly between 2017 and 2020, as more workers and countries turned to Bitcoin to avoid high transaction fees. Analysis from CryptoNews has averaged the transfer fee for Western Union to vary from 3-10% while Bitcoin is 1.5%-2%. An increase seen in Global Remittance for Bitcoin also shows Bitcoin's increase in popularity, contributing to pivotal upsurges in multiple years of Bitcoin history. Moreover, it's crucial to consider the role of human interference in Bitcoin's evolution. Social media platforms have amplified Bitcoin's visibility, influencing public sentiment and price movements. The mass creation of altcoins has diluted the market, sometimes drawing attention away from Bitcoin. In contrast, mass media coverage alternates between skepticism and endorsement, further contributing to its volatility.

Argument #2, Human Manipulation affects Bitcoin price

Since its birth as a direct payment method for users, Bitcoin has transformed itself into an investment asset through the change of human attitude towards Bitcoin driven by social media influence, primarily in Reddit 15 years ago. Although the value of Bitcoin is determined by its infrastructure and a deflationary, decentralized system based on blockchain technology, it is highly influenced by human action and external factors. These price fluctuations have largely been attributed to social media, corporate interventions, and the rise of altcoins.

1. The Role of Media

In recent years, social media has become a significant factor driving Bitcoin's price movement. Platforms like Twitter, Reddit, and YouTube have become spaces for influencers, investors, and users to discuss, promote, or manipulate the cryptocurrency's value. Public sentiment has caused massive price surges and crashes, depending on the news or hype. Forbes lists the number of people involved in Social media today as 4.9 Billion People, appealing to its strength as public opinion. Social media further fuels FOMO, where millions track Bitcoin's live movements. Viral posts about Bitcoin as a high-return investment or an inflation hedge can trigger buy-ins, while negative posts on security issues, scams, or regulatory fears can prompt sell-offs. In this way, social media has created a dynamic relationship with

Bitcoin, where prices are more heavily influenced by collective human behavior than the underlying technology.

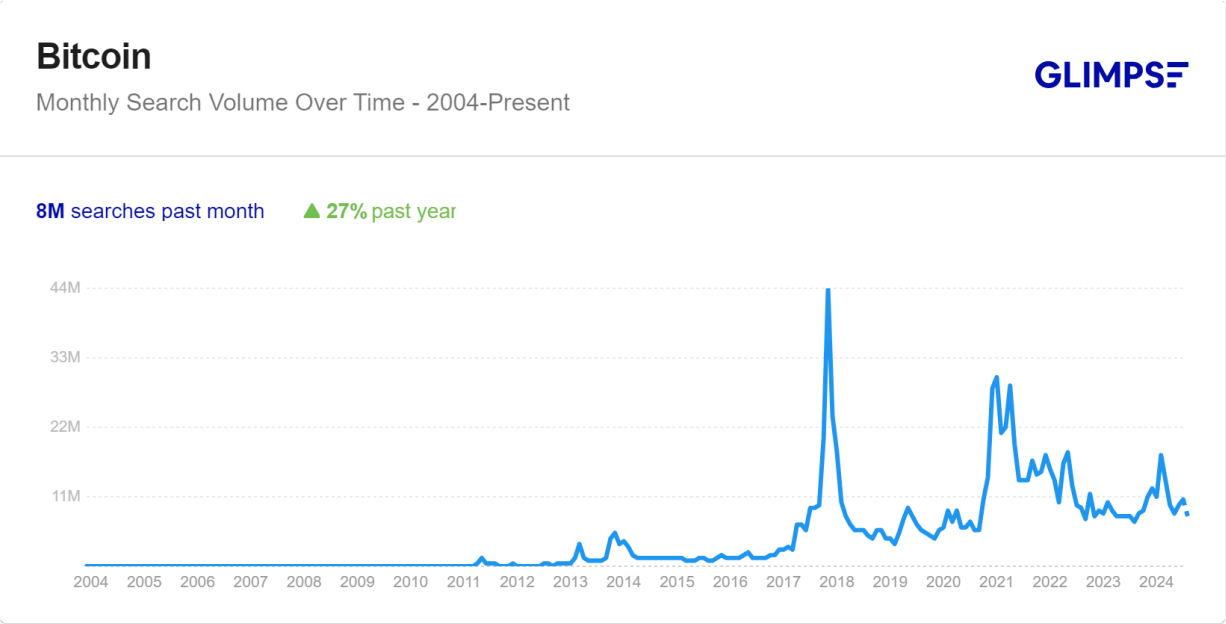

Figure 5, Bitcoin Search Volume in Google

"The popularity of the search term "Bitcoin" among U.S. Google users correlates highly with both Bitcoin exchange rates (80.6 percent) and weekly total transaction volume at the four largest exchanges (89.1 percent)."[Feng Mai et al., *Journal of Management Information Systems*, 2018]. The use of **Figure 3** and the quote suggest the correlation between search volume and Bitcoin price, which is evident in the fact that the social media movement drives the Bitcoin price quite a bit. "...demonstrate that media coverage can act as a driver of Bitcoin returns during bubbles, providing support to Shiller's argument and advancing understandings of the formation of bubbles and influences of media coverage."[Yi Li et al., *The role of media coverage in the bubble formation: Evidence from the Bitcoin market*] Quotes such as the above show the strength mass media coverage has in acting both as an appreciator and depreciator for Bitcoin, best highlighted in the panic sell caused by news outlets reviewing country regulations of Bitcoin. "For example, news media covered the Reserve Bank of India's warning against investment in cryptocurrencies, which on 4 February 2018 coincided with an −11% drop in the Bitcoin market (as seen in the 2018 graph above). Likewise, news reports covered the Bank of Uganda's warning that investors in the cryptocurrency markets had neither investor protection nor regulatory purview. This warning coincided with a −6% fall in Bitcoin price on 22 February 2018." [Coulter, *The Impact of News Media on Bitcoin Prices*, 2022]. This strong prominence of media coverage shows the possibility of media control over Bitcoin rather than its inherent systems.

2. **Government Regulations**

Another fundamental aspect of human interference and a prominent topic in media coverage is government regulations. Control in Bitcoin trading or mining can cause uncertainty in investors, enhancing panic sales. In contrast, authority support and endorsement of the cryptocurrency can give positive feedback on the pricing of Bitcoin. Generally, Bitcoin's value is primarily decreased through added regulations or outright bans. “Aggressive governance regulation (in the form of a potential ban) was also reported concerning China’s crackdown on cryptocurrency. International news articles covered this governance event happening in China. On 19 November 2018, the Bitcoin price fell −15% (seen in the 2018 graph) in response to published articles on a potential ban on cryptocurrency in China, a key economic powerhouse and cryptocurrency mining hotspot.”[Coulter, The Impact of News Media on Bitcoin Prices, 2022] The eventual ban on mineage and possession of Bitcoin in China has further reduced Bitcoin's value, with a sharp decline of nearly $10,000 as Mining farms and investors needed to relocate. It has taken months until Bitcoin has recovered again. “Of all the governance events that appeared to hurt the Bitcoin market, the governance event on 15 January 2018 was the most impactful, with a −17% fall in Bitcoin price the following day (as shown in the 2018 graph above). This event related to regulation in South Korea, in a market response to news media headlines such as ‘South Korea vows to regulate cryptocurrency’.”[Coulter, The Impact of News Media on Bitcoin Prices, 2022] The two major events have both caused falls in the market as the level of opposition is done nation-level, damaging important mining farms and prices as a whole. Positively, the Bitcoin adoption of El Salvador (2021) has shown market optimism and excitement, seen in an immediate increase of $39,000 from $35,000 in a few days of announcement. The following legal passage has allowed Bitcoin to cross $40,000 and ultimately led to an added increase to $52,000 in the days of the law going into effect. U.S. approval of ETFs (particularly ETFs having a direct hold of Bitcoin) is another example of Bitcoin’s positive gains. “An ETF is an investment fund that tracks the performance of an underlying asset. That could be stocks, a basket of currencies, a precious metal like gold, or, in this case, bitcoin. It’s a way for investors to get exposure to the value of the underlying asset without directly owning it.”The underlying strength of government policy measures shows the control and dominance human interference has over Bitcoin.”[CNBC] In January 2024, the approval of 11 spot Bitcoin ETFs by the U.S. Securities and Exchange Commission (SEC) had a significant impact on Bitcoin's price. Following the announcement, Bitcoin's price surged, reaching around $48,000 before settling at approximately $46,211. Marking strong positive feedback to the news has played a role in mainstream acceptance of Bitcoin as well as opening doors for prominent banks such as J.P. Morgan. Aimed to make Bitcoin investing accessible, the trading volume has followed an increase of 30%. A long-awaited finally came true for many Bitcoin investors, estimates made by Bloomberg Intelligence showed the spot Bitcoin ETF growing eventually to $100 Billion, and financial service provider Galaxy gave estimates of the rise of ETF products from $14 billion in the first year to $39 billion within three years. In conclusion, government regulations and endorsements significantly shape Bitcoin's market dynamics, with notable events such as China's crackdown and the adoption by El Salvador, alongside the recent approval of spot Bitcoin ETFs, underscoring the profound impact of regulatory actions on investor sentiment and Bitcoin's price trajectory.

3. **Corporate Investments**

Containing exceedingly large amounts of funds available to invest compared to individual traders, the investments of major financial corporations are a major price driver for Bitcoin. Microstrategy was the first to publicly invest in Bitcoin; since then, major financial institutions have been involved such as Vanguard, Tesla, Block, and previously FTX. FTX Trading Ltd. was known for its trading services of varied cryptocurrencies until 2022. “I want FTX to be a place where you can do anything you want with your next dollar. You can buy bitcoin. You can send money in whatever currency to any friend anywhere in the world. You can buy a banana. You can do anything you want with your money from inside FTX.”[Sam Bankman-Fried, CEO of FTX] Its decline has been caused by a scandal claiming FTX used its customer funds to cover losses of its sister cryptocurrency company, a quantitative trading firm known as Alameda Research. The loss of trust is propelled towards countless money withdrawal requests FTX cannot fulfill, leading to a liquidity crisis and Chapter 11 Bankruptcy for both FTX and Alameda Research. The aftermath effect on Bitcoin was a staggering 25% decrease, from $21,000 to $15,500 around mid-November of 2022, causing the biggest lows Bitcoin has experienced in the year. These collapses highlight Bitcoin’s vulnerability to external shocks from large corporations, underlying the significant role corporal investment has over Bitcoin. However, the positive effects of Bitcoin can be still seen in financial institutions, primarily in Microstrategy. In August 2020, Microstrategy announced its first major Bitcoin purchase with $250 Million; this meant major support of Bitcoin from a corporate perspective. In December 2020, Microstrategy announced their acquisition of $650 Million for a purchase of Bitcoin through senior notes, showing Microstrategy’s devotion to Bitcoin even in debt. The market reaction was positive, seeing the movement from $20,000 to $30,000, being partially responsible for the first Bitcoin Boom of 2021. Additionally, Michael Saylor’s proposal of purchasing another 12,000 BTC on March 11 has shown an immediate increase of 2.7% in price charts. In essence, Bitcoin, especially when commented on by large companies, is shown to have dynamic price fluctuations. “It is through our unique bitcoin strategy and solid track record as an operating company that we now hold 214,400 bitcoins at an average purchase price of $35,180 per bitcoin. In the first quarter, our subscription services revenues and subscription billings both grew again at double-digit growth rates reflecting the continued successful transition of our software business to a cloud-native platform. We are very pleased with the continued global adoption of our cloud platform.”[Phong Le, CEO of MicroStrategy] Highlighted in the quote, Microstrategy has been increasing their share and the company’s overall fortune since their commitment to Bitcoin rooted in their former

CEO, Bitcoin Billionaire Michael Saylor.

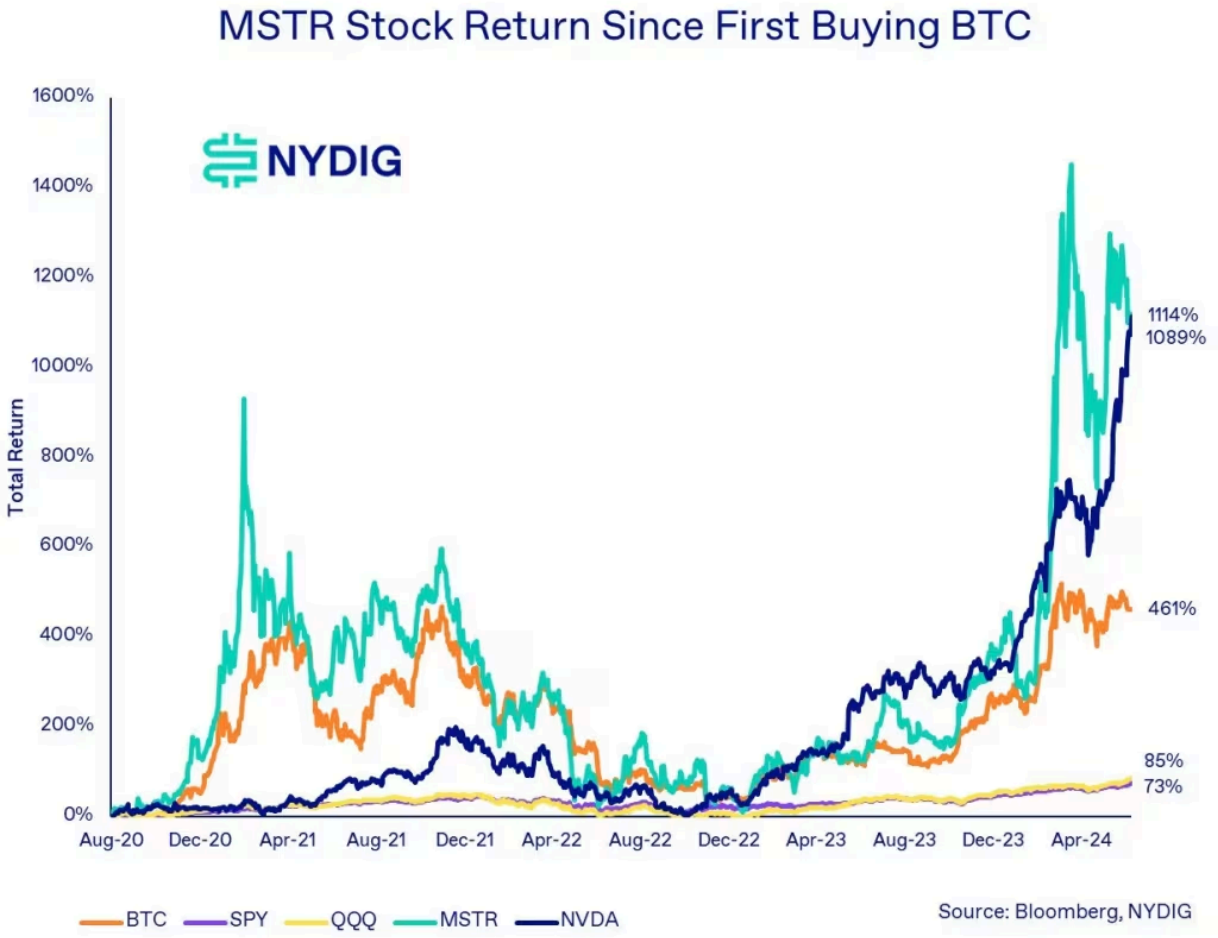

Figure 6 Growth of MicroStrategy

With the current amount of Bitcoin Microstrategy owns, their total profit gained from Bitcoin is equal to $5,396,019,200 or more than 5.3 Billion USD, approximately 65% return. The company's growth is also reflected in its stock performance as an increase of more than 1000%, exemplifying Bitcoin's ability as treasury and the mutualistic influence shared between Microstrategy and Bitcoin. Today, Microstrategy owns the most numbers of Bitcoin and makes the most profit out of the cryptocurrency.

4. **Altcoin Creation and Market Dilution:**

The creation and proliferation of altcoins, alternative cryptocurrencies competing with Bitcoin, is a significant factor in Bitcoin's price movements. Currently thought to have 10,000 different altcoins in circulation, these varied investment options uniquely influence Bitcoin as well as Bitcoin influencing the altcoin for its increased competition. Since Bitcoin's birth, thousands of altcoins, such as Ethereum, Ripple, Litecoin, Solana, and Dogecoin, have been developed. Ethereum, launched in 2015, introduced smart contracts and reached a market cap of around $220 billion by September 2024. Ripple (XRP) focused on cross-border payments,

achieving a peak market cap of approximately $30 billion. Litecoin, created in 2011, has had a market cap exceeding $10 billion at times. Solana, known for its high transaction speeds, saw its market cap rise to over $50 billion in 2021. Meanwhile, Dogecoin, initially a meme coin, gained massive popularity in 2021 due to social media and celebrity support, peaking at a market cap of over $80 billion. While Bitcoin remains the dominant cryptocurrency, these altcoins have diverted investor attention and investments. During speculative phases, such as the late 2017 to early 2018 altcoin boom, Bitcoin's dominance in the crypto market dropped from around 85% in January 2018 to about 32% by January 2019. The rise of new cryptocurrencies with promises of higher returns or innovative technology can lead investors to shift their funds, affecting Bitcoin's price. For example, during the 2020 and 2021 boom in decentralized finance (DeFi) and non-fungible tokens (NFTs), significant capital was diverted from Bitcoin. The case of Dogecoin's explosive price increase, from $0.005 in January 2021 to around $0.74 in May 2021, highlights how meme coins can momentarily overshadow Bitcoin and influence its market dynamics.

Conclusion

Bitcoin's underlying design as well as the social factors driven by humans both decide the pricing of Bitcoin, however, the cryptocurrency's extreme price fluctuations are shown to be driven by human factors. In this newly-built, ever-evolving market, the blockchain technology, limited supply, and decentralized nature of Bitcoin created by Satoshi provide for a highly market-driven economy, distinct from all others. The interplay between both technology and human manipulation is crucial, as events like halving are driven both by the Bitcoin protocol and investor sentiment towards the event. Understanding this duality is key for investors and users alike, as it highlights that while Bitcoin's core value is rooted in its design, its market behavior is significantly shaped by the collective actions and sentiments of its human participants.

Yet, the future of the decentralized cryptocurrency is undetermined. The overpowering of human influence is still not ensured nor is the technological design of bitcoin always present in the market, as the 15 years of data is insufficient to accurately forecast its future. Regulatory changes and laws in Bitcoin management can be made; blockchain technology can continue improving; added adoption of Bitcoin can change the public view of the technology as a circulation currency rather than an investment. Since its birth, Bitcoin has surged to more than 17,000% in the last ten years, engraving its high volatility to small changes. With still so many options and changes available to modify the coin, we cannot for sure prove any theories surrounding Bitcoin, such as Cathie Woods (CEO of Ark Investments) predicting an upside of more than 5000% or continuous regulatory changes and market competition from other investments leading to disengagement/eventual disbandment of the coin itself. Thus, the future of Bitcoin remains speculative, shaped by the dynamic interplay of human intervention, technological evolution, and external market forces, leaving its long-term trajectory uncertain in the volatile and ever-shifting cryptocurrency landscape.

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