



Crypto industry in Review

This study explores the evolution and growth of the crypto industry,
trends and statistics of crypto and blockchain industry
and its future outlook.

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Crypto Industry Evolution and Growth

The Bitcoin foundation was laid out by Satoshi Nakamoto in October 2008 by issuing the Bitcoin whitepaper and later he sent the 1st ever Bitcoin transaction in Jan-2009 to programmer Hal Finney. Bitcoin white paper's first line is read as:

"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."

The main purpose of creating Bitcoin was to use it for peer-to-peer payments but the whole technology behind it is far more than that. It has not only revolutionized digital payments but also providing innovative solutions in every field of life.

BTC Price Growth

In 2010, an unknown person known online as "SmokeTooMuch" auctioned 10,000 BTC for a value of \$50 but could not find any buyer. In the same year, the first-ever bitcoin exchange was launched named BitcoinMarket.com. The initial price was set to \$0.003 only. The path from \$0.003 to \$41,980 hasn't been a straight line but have many ups and downs during its life of 12 years. Bitcoin price in each November since 2010:

2010: \$0.219	2011: \$2.65	2012: \$12.22
2013: \$915.57	2014: \$377.84	2015: \$360.45
2016: \$704.79	2017: \$10,236	2018: \$4,129
2019: \$7,673	2020: \$28,990	2021: \$41,980

Crypto Market Cap Growth

Overall market capitalization still largely depends on the BTC price action. With the BTC price going up, the total market capitalization increases as people tend to invest more in crypto; and at the time of price going down, it decreases as people exit the market to book profits or avoid further losses. As per coinmarketcap.com, the current total crypto market

cap stands above \$1 trillion which was at \$200 billion at the start of the year 2020. This significant growth has led to the BTC price above \$41,000.

Total Market Capitalization



Bitcoin Network Activity

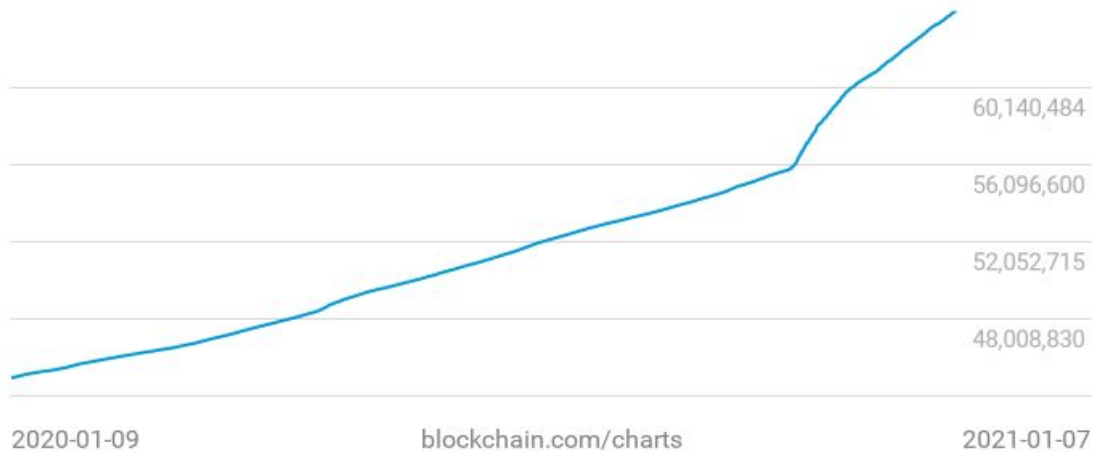
Analysis of Bitcoin network activity further tells us how huge crypto has become and its future potential. Find below some important network activity data gathered from blockchain.com.

New crypto users growth

New users are entering the market every day. Blockchain.com wallet users' growth is a good representation of the steep growth of crypto users. In the last one year, the number of wallets increased from 44 million to 64 million which is a 45% increase in 1 year alone.

Blockchain Wallet Users

64,165,053

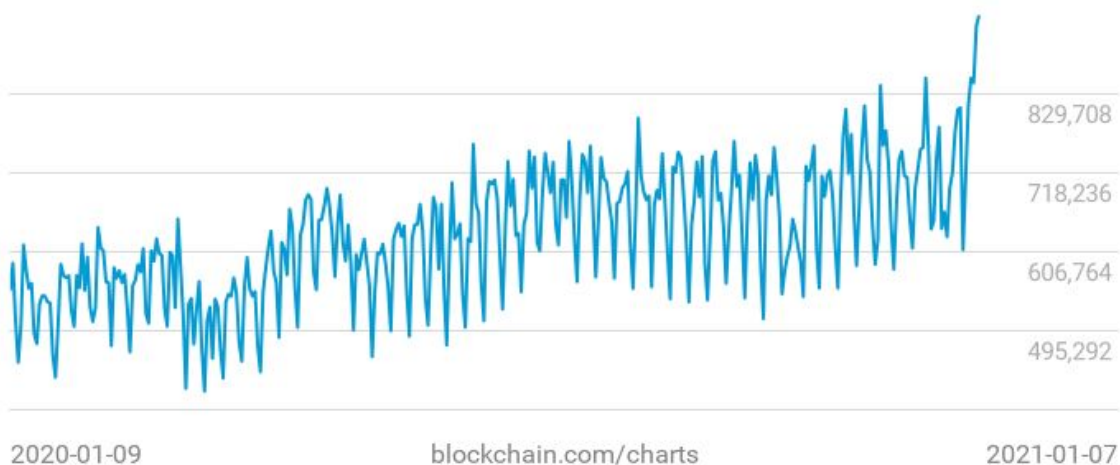


Unique addresses used:

The total number of unique addresses used on blockchain.com is on the boom. At the start of 2020, this figure was around 500k which is now reaching 1 million.

Number Of Unique Addresses Used

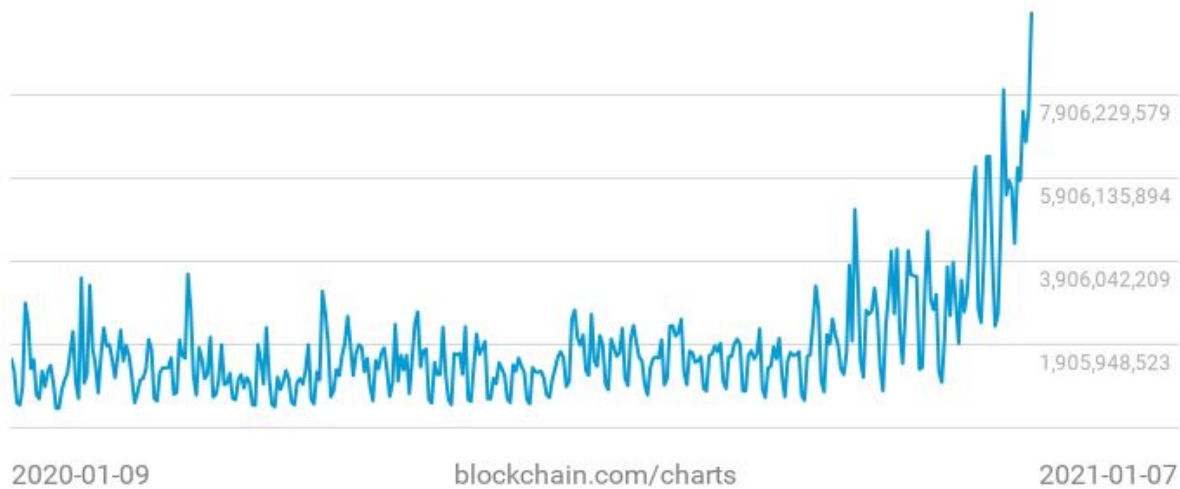
940,647



Estimated Transaction Value (USD):

Estimated transaction value is having a significant growth almost reaching 10 billion dollars per day due to an increase in demand as well as a price increase.

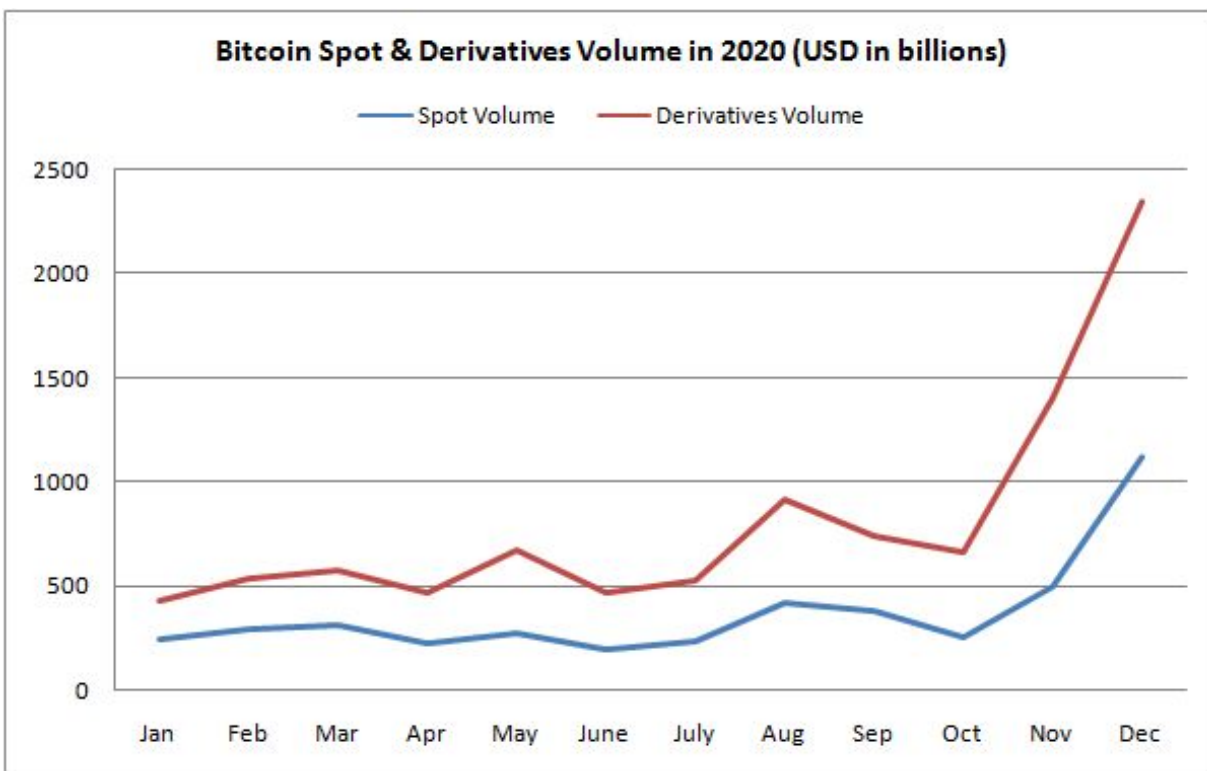
Estimated USD Transaction Value
9,896,769,613



Bitcoin trading volume growth

Bitcoin trading volume is on the rise mainly from the end of 2017 when the Bitcoin price reached the \$20k mark. In 2020, monthly trading volume has significantly increased from \$249 billion in January-20 to \$1120 in December-2020 for spot trading. While for Bitcoin derivatives trading volume increased from \$432 billion in January-2020 to \$2345 billion in December-2020.

Derivatives products such as futures, options and perpetual have made more growth in 2020 in comparison with spot markets due to the introduction of new derivatives products by various crypto exchanges.



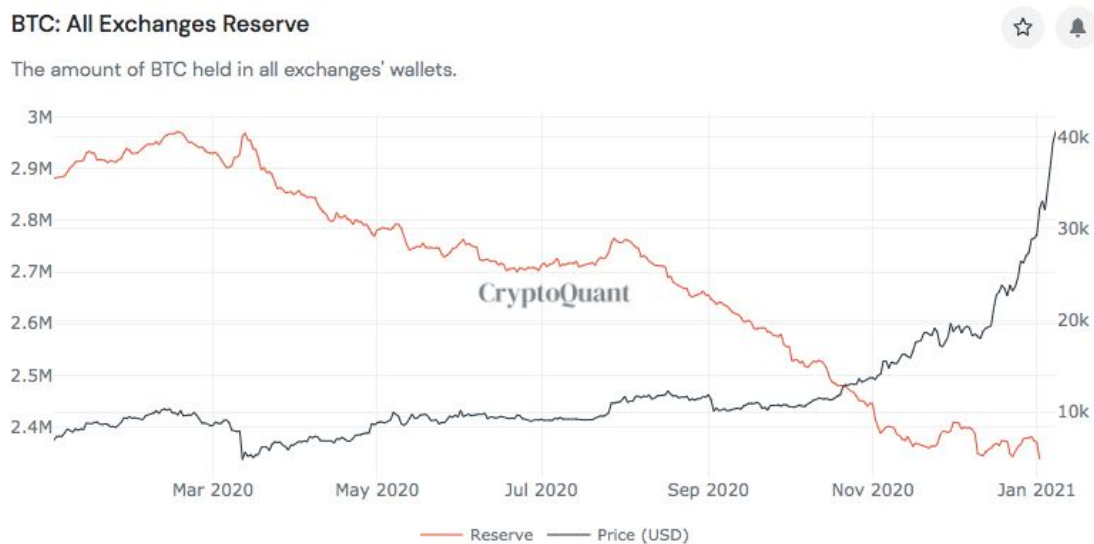
Bitcoin reserves on crypto exchanges

Bitcoin reserves are on a decline on crypto exchanges. After making an all-time high of 300k BTC at the start of the current year Bitcoin balance on exchanges is on a decline.

This decrease can be due to two reasons:

- Institutional investors are buying Bitcoins by making bigger deals with crypto exchanges and buying far higher than the daily supply rate which will keep decreasing the Bitcoin availability in the market while demand keeps increasing. Resulting in a further increase in Bitcoin price.
- The second reason can be the long-term investors moving their Bitcoin out of crypto exchanges to cold storage which is also bullish for Bitcoin price.

Bitcoin price increased by 303% in the last year alone and already increased by 45% in the current year.



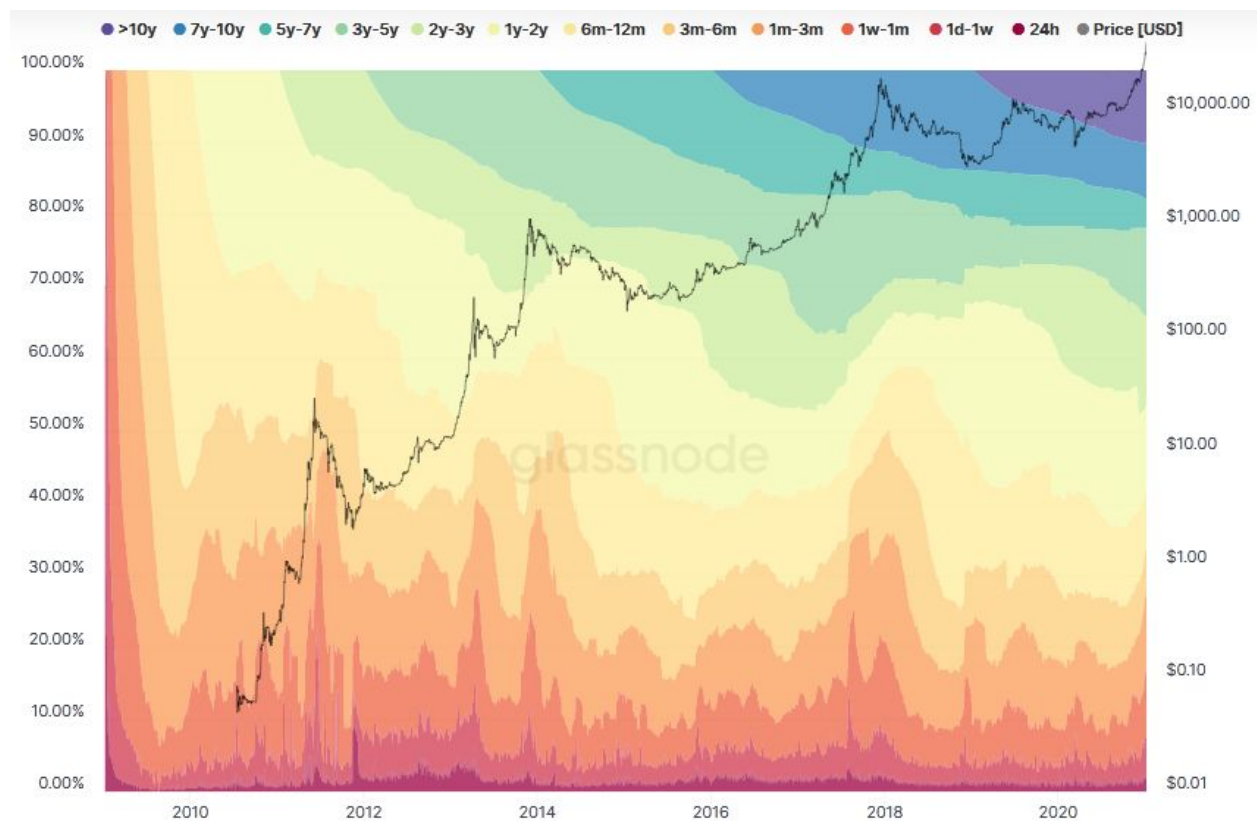
Bitcoin HODL waves

Bitcoin long term HODL gives you an idea of how much bullish Bitcoin holders are. Here is the Bitcoin HODL data from Glassnode explaining the number of years addresses holding Bitcoins supply:

- >10 year - 10.03% supply
- 7-10 years - 7.72% supply
- 5-7 years - 4.15% supply

- 3-5 years - 12.24% supply
- 2-3 years - 12.65%
- 1-2 years - 11.90%
- 6-12 months - 8.25%
- 3-6 months - 6.20%

So more than 58% of the current supply of Bitcoin has not been sold in the last 1 year or more and only the remaining supply is in circulation. Demand keeps increasing and supply is so limited to fill that demand while the bigger percentage of existing supply is even not being sold by the holders. All this helps increase the Bitcoin price.

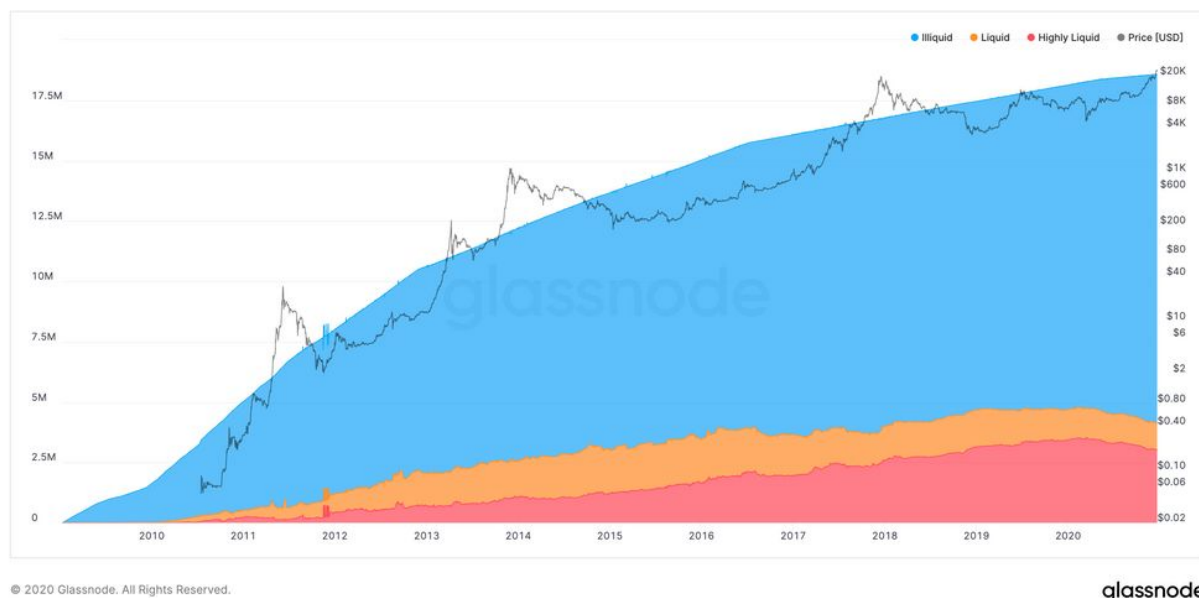


78% of Bitcoin Supply is illiquid:

Glassnode who provides some great insights about the crypto industry has analyzed Bitcoin entities and classified them into one of three liquidity categories: highly liquid, liquid, and illiquid. Their methodology suggests that currently 14.5 million BTC (78% of the circulating Bitcoin supply) is held by illiquid entities.

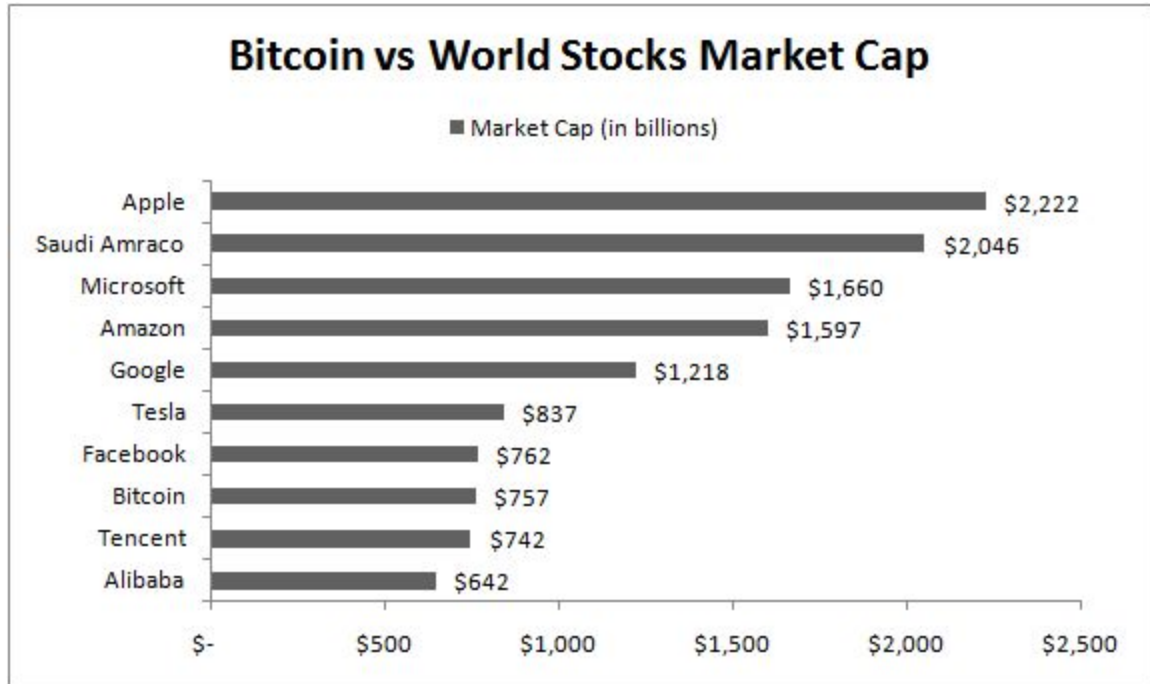
Their analyses show a clear relationship between Bitcoin liquidity and the BTC market and one of the major bullish factors for the increase in Bitcoin price.

Bitcoin: Liquid and Illiquid Supply



Bitcoin vs world-wide stocks market cap:

Bitcoin has raced into the top 10 stocks of world-wide companies in terms of its market capitalization. It is currently placed at the 8th spot right below Tesla. It even broke through to 7th position a couple of days back but Tesla gained to reclaim its 7th position again. It is expected that in the coming year's Bitcoin market cap will be higher than these companies.



Bitcoin vs Gold:

Bitcoin has gained almost 350% in the last 40 days as of 10.01.2020 and its market cap has reached \$757 billion which is 7.14% of the Gold market cap of \$10.6 trillion.

Gold Market Capitalization	\$10.6 trillion
Bitcoin Market Capitalization	\$757 billion
Bitcoin to Gold market cap percentage	7.14%
Price Bitcoin to reach Gold market cap	\$600,000

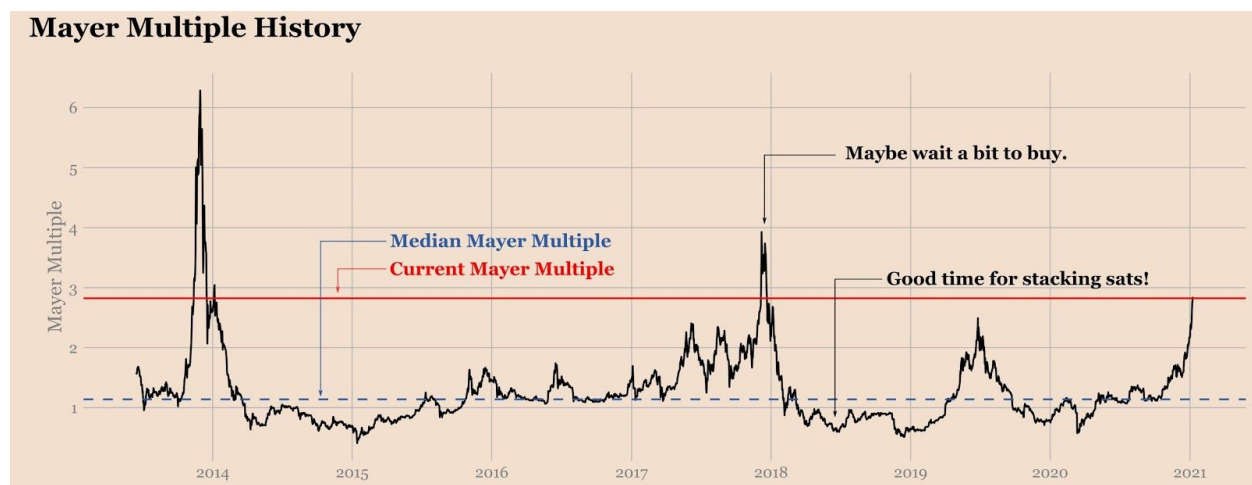
This looks way difficult but this is something on cards and will only see the Bitcoin to Gold market ratio keep increasing.

Bitcoin Mayer Multiple

Ecoinometrics daily updates Bitcoin Mayer multiple on their Twitter which is the ratio of the Bitcoin price to its 200 days moving average. It is a measure of the deviation of the Bitcoin price to its long term trend.

Historically a low value of Mayer multiple suggests that Bitcoin is cheap relative to its long-term trend while a high value suggests it's not a good time to buy.

All-time high Mayer multiple was recorded in 2013 when it went up to 6 and then 2nd highest was recorded in 2017 of 4 when Bitcoin price topped at 20k. Currently, Mayer multiple is 2.82 which suggests that Bitcoin price can go further up.



Bitcoin Price Correlation to Major Asset Classes

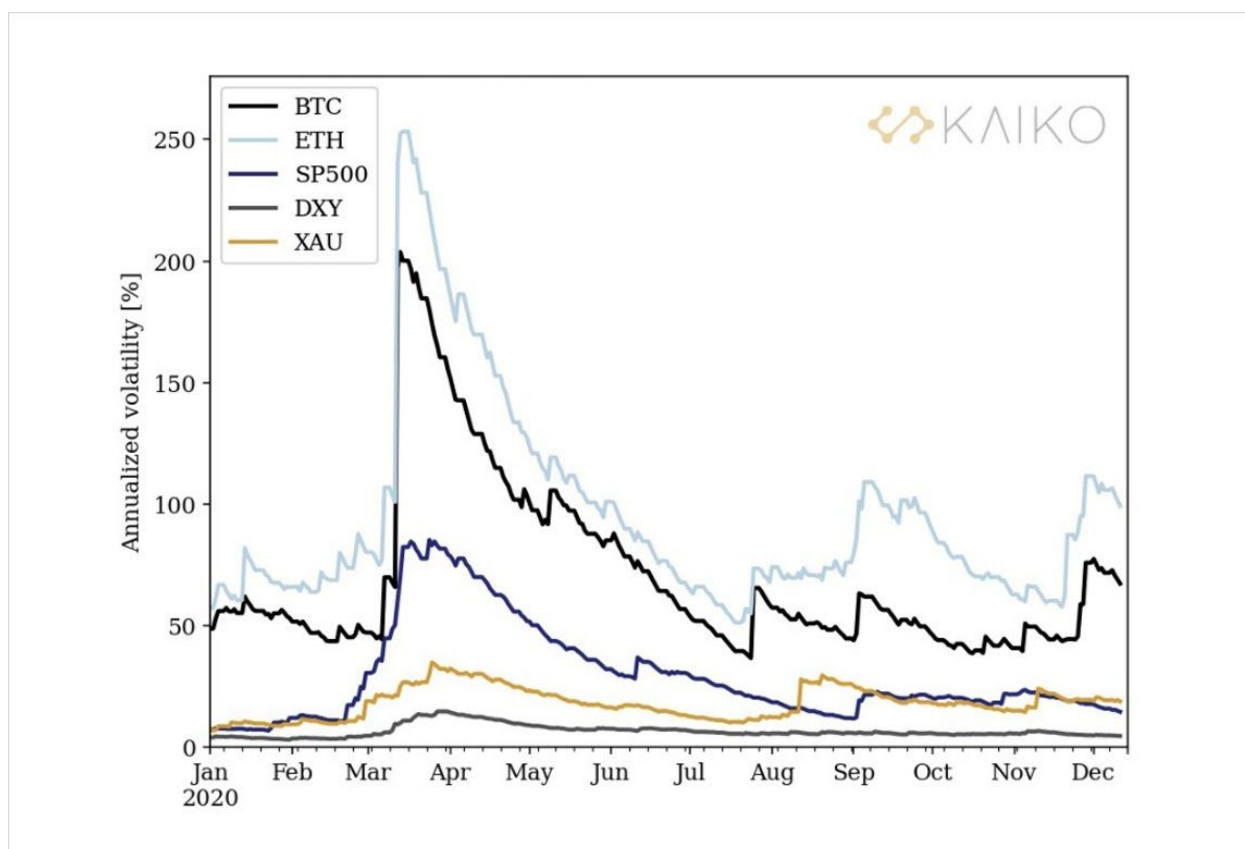
Deribit exchange posted an analysis of Bitcoin's correlation to major asset classes. It is interesting to see in the chart below that during the global market crash when the pandemic started, Bitcoin had a strong correlation with other asset classes ETH, S&P500, DXY and Gold. But after that DXY correlation decreased but S&P500 kept a higher correlation with BTC until November-2020 when BTC started moving up rapidly.

ETH on the other hand remain correlated most of the time with BTC but this correction went to 0.14 on November 24th before the launch of the Beacon Chain to move to Ethereum 2.0



Bitcoin volatility Correlation to Major Asset Classes

The chart below shows the volatility correlation of Bitcoin, Ethereum, SP500, DXY, and XAU. Again Ethereum volatility is highly correlated with Bitcoin. In March all major asset class volatility correlations increased with Bitcoin but later it decreased during the rest of the year. But SP500 volatility is still above the January levels.



Price and volatility correlation for S&P 500 with Bitcoin increased during the last year but the correlation with gold and DXY remained low during the last year. By the close of the year 2020, this correlation decreased due to the bullish outlook of Bitcoin. Bitcoin is already making new highs in the current year and looking to get isolated from other asset classes due to its outstanding features that other assets are not able to deliver.

Crypto market figures:

- There are currently 6,126 crypto assets listed on coingecko.com
- The crypto market has a total market capitalization of over \$1.08 trillion
- Bitcoin makes up 71% of crypto's market value
- The top 10 digital assets make up around 85% of crypto's market value
- The popular stablecoin Tether USD occasionally sees more daily transactions than Bitcoin
- Blockchain startups have raised over \$40 billion

- 48% of all token sales were based in the US, followed by 12.78% in Singapore and 10.5% in the UK
- The majority of ICO tokens are down by more than 95% since their all-time highs
- There are over 419 digital asset exchanges across the globe
- The most popular crypto trading app, Coinbase, has over 35 million users

Crypto market facts:

- Cryptocurrency trading is illegal in some countries and unregulated in most
- A large portion of daily crypto trading takes place using perpetual futures contracts on bitcoin as opposed to spot bitcoin
- OTC (over-the-counter) trading volumes are said to exceed exchange-traded volumes by several multiples
- Early adopters – often referred to as “whales” – are among the biggest market participants in crypto
- Blockchain-powered central bank digital currencies (CBDCs) have become a hot topic
- Over a dozen central banks across the globe are considering issuing central bank digital currencies
- China is the first country to test a CBDC

Blockchain market facts and figures:

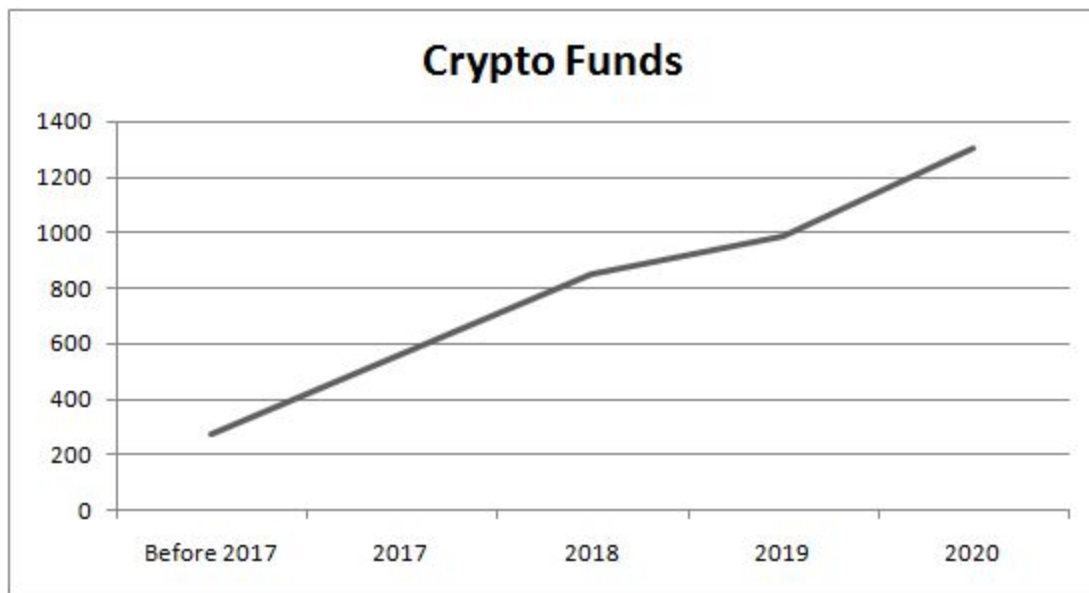
- The global blockchain market is expected to grow to \$60 billion by 2024 (says IBM)
- In 2020, \$4.1 billion was spent on blockchain technology (according to Statista)
- Global spending on blockchain tech is expected to grow from 4.1 billion in 2020 to an estimated 17.9 billion by 2024 (according to Statista)
- There are over a dozen blockchain startups, “unicorns.”
- There are 4,504 Blockchain startups globally (according to Angelist)
- There are 1,130 blockchain angel investors (according to Angelist)
- The “crypto winter” that followed the 2017 “crypto gold rush” caused dozens of startup failures and thousands of layoffs across the globe
- For 53% of corporations, blockchain has become “a critical priority for their organizations,” according to a Deloitte survey



- The financial sector has the most blockchain trials and implementations out of all global industries
- 90% of North American and European banks that have experimented with blockchain (says Thomas Research)
- Blockchain jobs listing tripled between 2017 and 2018 on LinkedIn
- Microsoft and IBM are battling it out to become go-to enterprise blockchain solutions provider
- The Chinese government has declared that it wants to implement blockchain technology at a nationwide level

Institutional Investors and Venture Capitals

According to fidelity digital assets, 47% of the institutional investors surveyed view digital assets as having a place in their portfolio. The world's top institutional investors and venture capital companies have turned to the blockchain and crypto industry considering its future potential. Crypto investment funds growth is significant in the last 3 years. The real boom started in 2017 when 291 crypto funds launched and to date, there are more than 804 cryptocurrency funds available out of which 355 are crypto hedge funds and 425 are venture capital funds. Currently, there are more than 1300 crypto funds.



Let's take a look at some top investment companies showing interest in blockchain and crypto-related projects.

- **Pantera Capital**

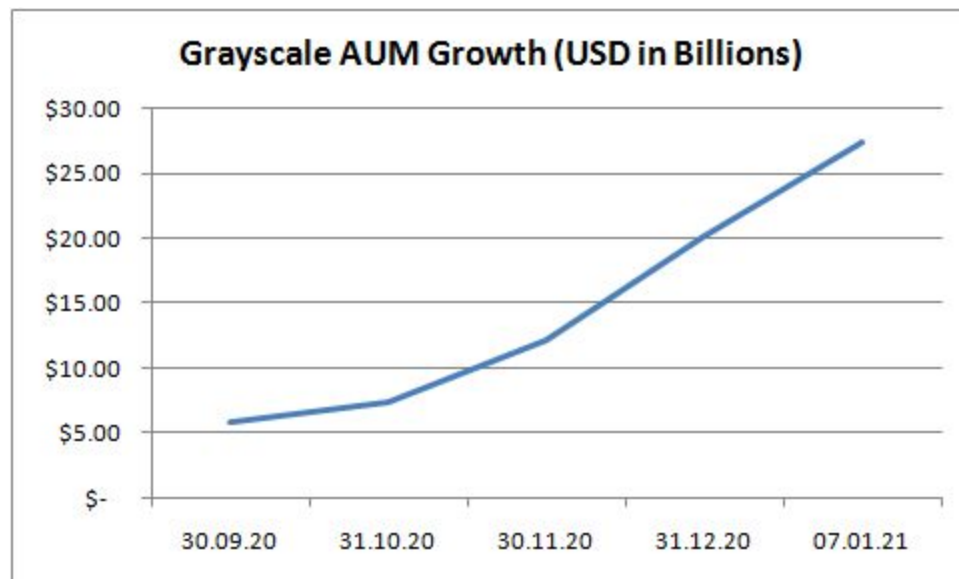
Pantera Capital is the first US-based blockchain investment fund launched in 2013 to act as a catalyst for widespread blockchain adoption and innovation.

Pantera Capital has 35 venture investments and 37 ICO fund investments in the crypto and blockchain industry. Their top invested companies include Bakkt,

Bitstamp, Blockfolio, Circle, Ripple, Xapo, BAT, Ankr, Icon, OmiseGo, Kyber, Wax, and various others.

- **Digital Currency Group**

Digital Currency Group founded in 2015, is an American based institutional investment and trading firm focused on blockchain projects. Their subsidiary company Genesis provides an institutional trading platform for digital currencies and Grayscale makes investments in blockchain-related projects and also provides unparalleled market insight to the institutional investors. Grayscale aum has increased significantly in the last year indicating strong institutional demand for crypto assets. Their AUM was \$5.9 billion at the end of September-2020 which is currently standing at \$27.40: a 364% growth in 4 months.



CoinDesk.com an internationally renowned blockchain and crypto news website is also owned by Digital Currency Group which they acquired for \$500,000.

Digital Currency Group is owned by Barry Silbert. His investments in blockchain projects started back in 2013. The company has invested in over 133 blockchain projects and some of their successful ventures include Coinbase, BitPay, Ripple,

Xapo, Circle, Blockchain.com and Bitwala. Their latest ventures include Bison Trails, TRM Labs, OpenSea, Securitize, Anchorage and Buxx.

- **Galaxy Digital**

Galaxy Digital was founded in January 2018 by Michael Novogratz who is looking to institutionalize the digital assets and blockchain space by investing, digital assets management, trading and advisory services. Galaxy Digital company is listed on the Toronto Stock Exchange.

Since its inception, the company has partnered with various companies to launch an institutional-grade cryptocurrency and blockchain-related products and services. One of their major partnerships was with Block.one in Jan-2018 to create a \$325m fund for the development of the EOS digital ecosystem. Later they partnered with High Fidelity for a virtual reality gaming platform.

In July 2018, Galaxy Digital partnered with BlockFi to launch a crypto-backed lending platform with an investment of \$52.5 million. Despite a \$272.7 million loss in 2018, the company is always looking for new ventures in the blockchain sphere.

Recently in November 2019, they have launched two new Bitcoin investment funds for accredited institutional investors named Galaxy Bitcoin Fund and Galaxy Institutional Bitcoin Fund which require a minimum investment of \$25,000. Michael Novogratz's interest in the crypto and blockchain industry has given confidence to various institutions to be part of this industry.

- **Fidelity Digital Assets**

Fidelity Digital Assets is a subsidiary company of Fidelity investments launched in 1930 which is one of the biggest institutional investors and second-largest mutual-fund provider in the US after Vanguard Group.

In October-2018 they launched an institutional platform for Bitcoin and Ethereum to provide 24/7 trading support along with digital assets custody services. In the

latest development in November 2019, Fidelity announced they are expecting to sign its crypto exchange by the end of this year.

- **Blockchain Capital**

Blockchain Capital founded in October 2013 by Bart Stephens, Bradford Stephens and Brock Pierce, is one of the leading and old venture capital firms in the blockchain industry.

They have launched 4 funds to date and have done 5 unicorn investments. They have invested in more than 80 companies and their top investments include, Coinbase, Ripple, Kraken, Circle and Bitgo.



Interests in Blockchain and Crypto by various Sectors

Several sectors have developed interest over the years in the crypto industry and blockchain technology after considering its worth and the benefit they can take from it.

From financial institutions to institutional investors, fintech companies, technology companies, health care, agriculture and most of the other sectors are exploring blockchain technology as it has the potential to provide state of the art and innovative solutions to the problems they are dealing with.

Let's take a look at how various sectors are taking an interest in crypto and blockchain technology.

Financial Institutions

According to a report published last year, there are more than 200 banks worldwide that have shown interest or using blockchain technology due to the better security, speed, transparency, traceability and low-cost features it provides in comparison with the traditional system. Let's take a look at how major banks and financial service providers are exploring blockchain and crypto.

- **JP Morgan**

JP Morgan was one of the first banks that showed interest in blockchain technology in 2015. JP Morgan has a division dedicated completely to blockchain R&D and they have applied for 6 blockchain-related patents. In Feb-2019, they announced rolling out the first US bank-backed cryptocurrency. They also own Quorum, an Ethereum-based blockchain platform that has been used by firms such as Starbucks Coffee, Louis Vuitton, USSA Insurance VAKT, and others.

JP Morgan has also developed a blockchain-based Interbank named Information Network System (INN) in 2017 and to date, there are more than 250 banks worldwide using this system. JP Morgan's technology budget is \$11.4 billion for 2019 out of which they had assigned a chunk of good amount for blockchain-related technology development.



- **Goldman Sachs**

Goldman Sachs' Circle project is one of their biggest steps towards cryptocurrencies. Goldman Sachs is the first Wall Street bank to offer a Bitcoin trading desk to its customers. They also own n° of patents related to crypto and blockchain, they secured a patent for Crypto Settlement System in July-2018. In June-2019 their CEO told French Newspaper that his company has been “conducting extensive research” into blockchain-based tokenization.

- **Bank of America**

Bank of America had a \$10 billion technology budget for 2019 and is one of the top financial institutions involved in blockchain project development. According to the Business Insider report, Bank of America has applied for 82 blockchain-related patents which are the highest by any financial institution. They are creating a single, blockchain-based network to store banking records as well as automatically authenticate business and personal data.

- **Wells Fargo Bank**

Wells Fargo's interests in blockchain first emerged in October 2016 when Wells Fargo along with ANZ and Swift created a blockchain-based prototype to improve the speed and efficiency of cross-border banking payment settlement and reconciliation. Later in the same month, they announced testing trade finance for a global cotton market in collaboration with Commonwealth bank.

Their big step towards crypto and blockchain technology was the announcement of plans to launch their stablecoin cryptocurrency in 2020. They had also filed for data tokenization patents back in July-2018 to protect sensitive data. Their technology budget for 2020 was \$10 billion.

- **Barclays Bank**

Barclays is one of the top banks in the UK and also has operations worldwide. The bank has been in operation for more than 300 years. It has applied for two blockchain-related patents that are related to paving the way for customers to pay



via digital currencies and for information processing on the blockchain. Barclays was also one of the partner banks of Coinbase crypto exchange.

In June 2015, Barclays signed off on a proof-of-concept with bitcoin exchange Safello to trial bitcoin technology for the financial services sector. In September 2017, they joined the foreign exchange-based blockchain consortium alongside the other members, including JP Morgan Chase, Goldman Sachs, and Bank of China. Their interest in the blockchain sphere is growing fast as in May 2019 they led a \$5.5 million Series A funding round of a blockchain-based B2B payments startup Crowdz.

Fintech Companies Interests

Crypto and blockchain technology can be most beneficial for fintech companies due to their nature of business. Various Fintech companies have shown great interest in blockchain technology and crypto and already started integrating it with their existing technology.

- **Visa Inc.**

Visa Inc. is a US-based multinational financial services company founded in 1958. Visa is one of the biggest fintech companies having a net worth of over \$358 billion as of December 2019. Their system can handle up to 30,000 simultaneous transactions and up to 100 billion computations every second.

According to a research report, Visa Inc. stands at 6 positions when it comes to the ownership of blockchain-related patents and recently they said they are entering \$125 trillion markets using distributed ledger technology where multiple confirmations will be required from various computers on the network to be considered final.

In August 2015, an Indian Visa executive told that Visa is working on blockchain tech research in innovation labs. In Sep. 2015, Visa backed a \$30 million round for blockchain startup Chain and in November 2017, Visa launched the 1st phase of blockchain-based B2B payments. Later in April 2019, Visa collaborated with Coinbase in launching crypto visa debit cards for UK and EU customers, and in June

2019, Visa's blockchain-powered business payment services went live. Blockchain is helping them make payments faster, cheaper and more transparent.

- **Mastercard**

Mastercard, which was founded in 1966 as Interbank Card Association but later in 1979 then changed their name to Mastercard. It is also an American-based multinational financial services company having headquarters in Purchase, New-York. Mastercard's market capitalization stands above \$289.09 billion as of July 2019.

Mastercard is number 4 in terms of ownership of blockchain-related patents worldwide. They are working on multiple blockchain-based projects that include identity verification, fast payments, food visibility, cross-border payments platform and various others. First time in 2016, Mastercard released a set of blockchain-based APIs to give developers a chance to work on blockchain technology. Later they announced that they will use the programs developed to facilitate B2B transactions.

- **Paypal**

Paypal was founded in 1998 under the name of Confinity and later in 2002, it was changed to Paypal. Elon Musk was one of its founding partners and this company changed the concept of payments by allowing people to be no more dependent on banks.

In April 2019, Paypal targeted identity ownership with its first blockchain investment. Before this, in March 2018 Paypal had applied for a blockchain-related patent to speed up the cryptocurrency transaction rate and for an internal employee incentive project. In November 2019 their CEO revealed that he owns Bitcoins. Recently they have allowed US customers to buy cryptocurrencies through their platform which is working as a catalyst for retail crypto adoption.

- **Square**

Square was founded in 2009, is another US-based financial service and mobile payments company and has been traded on the New-York Stock Exchange as a



public limited company since November 2015. As of January 09, 2021, Square net worth is \$106.44 billion.

Square owns patents that will allow companies to monitor transactions before final broadcasting which will solve the problem of slow transaction confirmation on the blockchain. Square has enabled crypto deposits and they have launched Square Crypto to fund bitcoin developers. They hired a team of blockchain developers not to create their cryptocurrency but to make the Bitcoin ecosystem more safe, secure and strong.

- **Western Union**

Western Union is an American-based financial services company founded in 1851 has a network of branches in more than 200 countries worldwide. Currently, Western Union's net worth is \$11.28 billion.

Western Union also owns several blockchain-related patents and has partnered with Ripple in 2015 for a pilot project of real-time settlement. In 2016, they invested in Digital Currency Group which is one of the oldest and biggest digital assets investments groups. In 2018 they confirmed testing Ripple Technology for money transfer and later in 2019 they partnered with Stellar blockchain-based company for mobile wallets transfer. They have also integrated blockchain wallet coins.ph and are looking for new ventures in the blockchain space.

Technology Companies on Crypto and Blockchain

Technology Companies are also very bullish on crypto and blockchain technology. Their developments in this sphere are tremendous.

- **IBM**

IBM is one of the biggest tech giants worldwide based in America. It was founded in 1911 and is incorporated in New-York. As of December 04, 2019, its net worth is \$117.71 billion and its net income for 2018 was \$8.7 billion.



In March 2017 IBM reported a first commercial application of Hyperledger Fabric which is an operating system for IBM blockchain. In the same month, it launched a blockchain platform for Oil Trade Finance. In Oct 2017, they joined the blockchain identity consortium. In April 2018, IBM and ANZ partnered to build a blockchain solution for the insurance sector and in Nov-2018, IBM announced the launch of a couple of blockchain accelerators for startups in collaboration with Columbia University. In March 2019 IBM started crypto custodian services and then later in June 2019, they unveiled their 2.0 version of enterprise blockchain after adding more tools into it. In Aug-2019 they partnered with Seagate for a pilot project related to anti-fraud blockchain tracking systems.

- **Intel Corporation**

Intel corporation is also a USA based multinational technology company and is the world's 2nd largest semiconductor chip manufacturer after Samsung Electronics. It was founded in 1968 and incorporated in Delaware. Their current net worth is 250.82 billion dollars.

After IBM, Intel stands at 2nd position in terms of top holders of blockchain patents. Intel is a founding member of Enterprise Ethereum Alliance (EEA) which is the industry's 1st standard organization to accelerate the adoption of Enterprise Ethereum. Intel is also a member of Hyperledger, an open-source platform to create cross-industry blockchain technologies. They are also a member of the R3-led consortium to develop on Corda, the open-source blockchain platform for businesses.

- **Microsoft**

Microsoft was founded in 1974 by Bill Gates and Paul Allen, is a US-based technology company with headquarters in Washington. Microsoft is ranked n° 30 in Fortune 500 ranking in 2018 and their current net worth is \$100 billion while net income for 2019 stands at \$39.2 billion.

Microsoft is ranked 8th in the ranking of top holders of blockchain patents. In May-2019, they launched their own fully managed blockchain service called Azure blockchain where companies can build and run their blockchain application.

Microsoft is a crypto pro company. Bill Gates, CEO of Microsoft said in a video message that "Digital currencies could empower the world's poorest as they have intellect, labor and assets but don't have financial tools to capitalize on these resources". Back in October 2014, he said that "He has yet to see the benefits Bitcoin brings to global finance". Later in December 2014, they added Bitcoin payments for Xbox games and mobile content on their platform.

In March 2016, Microsoft added Ethereum to their Windows for more than 3 million developers worldwide and then later in May 2016, they developed an identity platform for various blockchains in collaboration with 2 startups Blockstack and ConsenSys. In August 2016, they brought blockchain to Azure and that's where they started building the Azure blockchain platform. In May 2017, Microsoft launched their new framework to speed up the blockchain proof-of-concept process and later in mid-2018, they added new tools for Azure blockchain named scaffolding. Their Azure blockchain upgrade continues as recently, they rolled out proof-of-authority ETH consensus on Azure.

Crypto Exchanges Growth

On 17th March 2010, BitcoinMarket.com started operating as the first bitcoin exchange. Currently, according to coingecko.com, there are more than 373 centralized spot trading platforms, 70 decentralized exchanges but these are only the one that is recognized and numbers are way higher than this. Let's look into the top crypto exchanges and their growth over time.

- **Binance:**

Binance is a cryptocurrency exchange that allows trading of various cryptocurrencies and fiat-to-crypto currency trading as well while maintaining high security and liquidity. It was founded by Changpeng Zhao and Yi He in 2017. It was initially based in China but later moved to Japan and then to Malta due to the ban on cryptocurrency trading by the government. Its headquarter is located in Malta. It is ranked 2000 among websites globally with 26,122,786 monthly website visitors.

Binance started with 200 million Binance coins in July 2017 and raised \$15 million. There are 631 markets available to trade on Binance and 15 tokens are supported in Binance staking. In 2018, it raised \$32 million for a stable coin project, along with three other big exchanges. In 2018, Binance was ranked as the largest cryptocurrency exchange with a \$1.3 billion market cap and was ranked No. 1 on Coinmarketcap.com list of exchanges in 2018.

In October 2018, Zhao announced to open ten new fiat-to-crypto currency exchanges next year. In 2019, Binance announced a partnership with Israel-based payment processing firm; Simplex, which will enable cryptocurrency purchases via debit or credit cards including Visa and MasterCard. The same year it launched trading with 13 fiat-and cryptocurrency-to-cryptocurrency pairs. In January 2020,

Binance has 13 to 15 million users worldwide. Its current 24h spot trading volume is 18.20 billion USD.

- **Coinbase:**



Coinbase is also a cryptocurrency trading platform which is one of the largest companies in the cryptocurrency industry. In June 2012, Brian Armstrong, Fred Ehrsam and Ben Reeves founded Coinbase. Ben Reeves later left Armstrong because of the difference in their ideas on how the Coinbase wallet should operate. Its headquarters is situated in San Francisco, California. For a long time, they only had only top 4 cryptocurrencies on their platform but with the launch of Coinbase Pro, the number of cryptocurrencies listed on their exchange is now 73. Their bitcoin transaction and storage is across 190 countries worldwide.

From Union Square Ventures, the company received U.S. \$5 million investment led by Fred Wilson in May 2013. Same year Andreessen Horowitz, Union Square Ventures and Rabbit Capital invested the U.S. \$25 million in the company.

Within two years after launching, their users grew to one million, which became 30 million in 2018. Coinbase is ranked 1751 among websites globally with its 23,630,566 monthly website visitors. CEO Brian Armstrong said that the company had earned more than \$2 billion in transaction fees since 2012 and the firm is currently valued at \$10 billion.

In August 2017, Coinbase raised \$100 million and became the first “unicorn” of the blockchain industry. Its current 24h spot trading volume is 4.62 billion USD.

- **Huobi:**

Huobi is a global blockchain asset financial service provider company, including exchange, trade, wallet and storage. Leon Li founded Huobi in 2013. It received angel investment from Dai Zhikang and Zhen in 2013. In December 2013, it's trading volumes exceeded 30 billion Yuan, making Huobi China's largest digital asset trading platform at that time.

Huobi raised a \$10 million venture capital investment from Sequoia Capital in 2014. In 2017 bitcoin exchange was banned in China. Therefore it shifted to Korea. Huobi now serves more than 5 million users in 130 countries around the world. Its headquarter is located in Singapore.



In August 2014, Huobi acquired Bitcoin wallet provider Quick Wallet. In 2015, Huobi sponsored a "Digital Asset Research Project", in partnership with Tsinghua University. In 2016, its transaction volume crossed 200 billion Yuan. In the same year, Huobi joined Fintech Digital Asset Alliance along with Fintech Research Institute of China under the guidance of Shenzhen Municipal Government. In 2017, Huobi and OKCoin invested 1 billion Yuan into wealth-management products. In 2018, Huobi announced the launch of Huobi Cloud and in 2019, Huobi US ceased to operate due to regulatory issues. In 2020, Huobi launched a partial liquidation function for Huobi DM.

Huobi is ranked 264,928 among websites globally, with 105,617 monthly website visitors. Its current 24h trading volume is 6.8 billion USD with a total of 558 markets to trade with.

- **Kraken:**

Kraken cryptocurrency platform provides Bitcoin, Ethereum and other cryptocurrency exchanges with several fiat currencies. It was founded in 2011 but launched in 2013 after two years of development and beta testing. It emerged from Max BTC and was co-founded by Jesse Powell. Its headquarters is located in San Francisco, California. It is considered as one of the world's largest Bitcoin exchanges in terms of volume of transactions and liquidity. Kraken was the first company that passed the Proof-of-Reserves cryptographic audit.

In 2014, it raised \$5 million Series A funding. In 2014, Kraken began trading yen against Bitcoin in Japan. In 2016, it acquired American companies Coinsetter and Glidera and Canadian company Cavirtex. In 2017, it bought CryptoWatch trading platform. In 2018, it announced the cease of operation in Japan considering its re-entry in the market later. In 2019, the company gained the UK based Crypto Facilities whose trading volume increased by 500% after being acquired by Kraken.

In 2020, Kraken added 11 more trading pairs creating more exchange options between fiat and cryptocurrency for users and also launched FX trading on its platform allowing its users to expand their horizons. Kraken has more than 4 million users worldwide. Kraken is ranked 13076 globally with 3.41 million total

visitors per month. Its current 24h spot trading volume is 2.1 billion USD with more than 177 trading pairs.

- **Bithumb:**

Bithumb is a South Korea based cryptocurrency exchange trading platform. Javier Sim co-founded it in 2104. At the end of 2017, the average daily liquidity of Bithumb was \$1.3 billion. In 2018, it was the largest platform in South Korea which now offers thirty-one cryptocurrencies and digital tokens. There is no trading of fiat currency on its platform.

In 2019, it launched an over-the-counter cryptocurrency trading desk in Hong Kong. In 2017, it was a victim of a major breach, when an employee's PC was hacked, and customer's information was stolen and bitcoin worth 1 billion KRW was hacked. In 2018, it announced that it would no longer accept accounts from 11 nations due to money laundering concerns.

In March 2019, Bithumb reported that it was hacked again when \$20 million worth of EOS and Ripple tokens were stolen. In February 2020, Bithumb announced the listing of YO digital asset services. Bithumb is ranked 12,605 websites globally, with 4,044,953 monthly website visitors. Bithumb is one of the leading markets of digital assets with 8 million registered users. Its current 24h spot trading volume is 1.59 billion USD.

- **Bitfinex:**

Bitfinex is one of the top cryptocurrency exchanges which is owned and operated by iFinex Inc. Giancarlo Devasini and Raphael Nicolle founded it in 2012. Its headquarter is located in Hong Kong. Bitfinex is closely associated with Tether for senior management. Bitfinex initially started as a peer-to-peer lending platform for Bitcoin and later extended services for more cryptocurrencies. It offers to trade for fiat and cryptocurrency pairs. Bitfinex has 1.6 million users worldwide.

In 2015, the company's customers' exchanges were hacked losing \$400,000. The next year, in 2016, \$73 million were again stolen from the customer's account. Even the customers whose accounts were not broken into, their account balance reduced

by 36%. In June 2016, Bitfinex was fined \$75,000 for offering illegal off-exchange financed commodity transactions. In 2017, it experienced delays in processing USD withdrawal after Wells Fargo cut off its wire transfer. From 2017 to 2018, Noble Bank International of San Juan, Puerto Rico handled banking exchange for Bitfinex, but later this relationship terminated in September 2018 because of specific difficulties. In 2019, Bitfinex announced the launching of a gold-backed stable coin called Tether Gold.

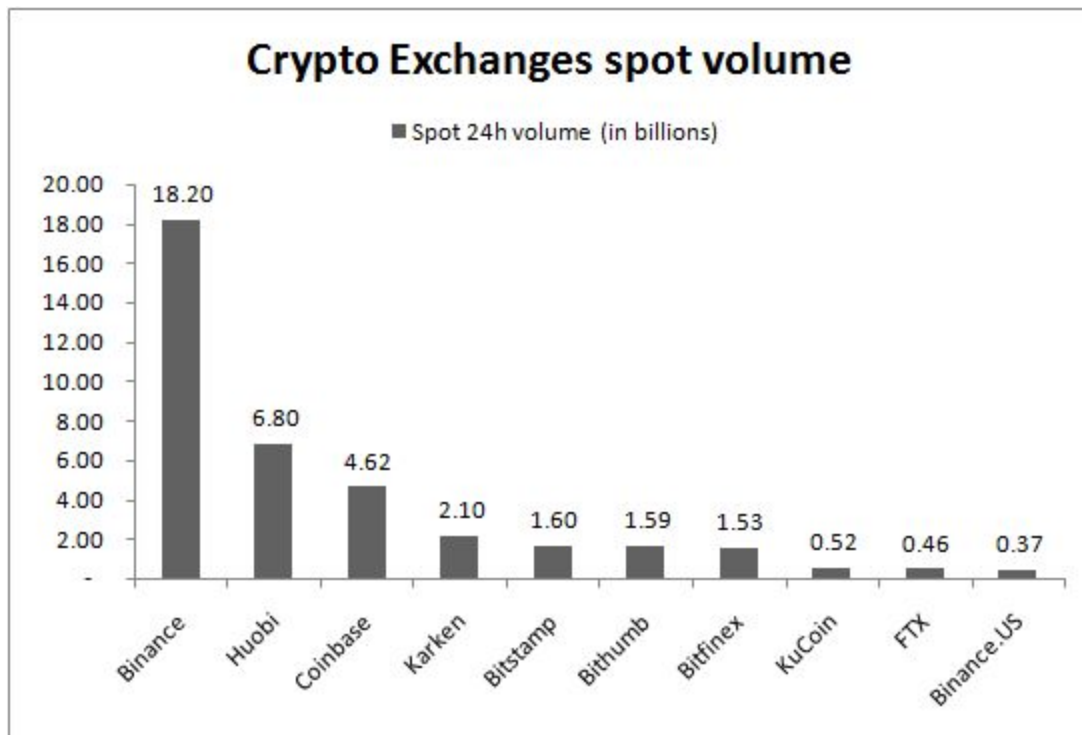
Bitfinex is ranked 22,531 among websites globally, with 2,734,003 monthly website visitors. Its current 24h spot trading volume is 1.53 billion USD with a total of 274 markets to trade with.

- **Bitstamp:**

Bitstamp is a bitcoin exchange based in Luxembourg. It is the first fully licensed cryptocurrency exchange in Europe. Bitstamp offers trading pairs of Euros and Dollars against bitcoin, Ethereum, Ripple, Litecoin and as well as crypto-to-crypto pairs. Bitstamp offers an API to allow their clients to use custom software to access and control their accounts.

It was founded in 2011 by Nejc Kodrič and Damijan Merlak. The company started in Slovenia but later moved to the UK and then to Luxembourg. In the start, it was funded by only €1000 and was operated between a single server and two laptops, in a garage. In 2014, it applied for registration and was recognized by virtual currency exchange in 2016. In 2016, it started a public funding campaign on the website of the BnkToTheFuture investment. In 2016, the Luxembourgish government granted a license to Bitstamp, allowing it to do business in all 28 EU member states.

In 2017, it partnered with Swissquote to launch bitcoin trading. In 2018, Bitstamp joined bitFlyer USA, Bittrex and Gemini to form the Virtual Commodity Association Working Group. In 2018, the company was sold out to NXMH, private equity, and one of the earliest Bitstamp's investors. Bitstamp has 3 million registered accounts with 500,000 active trading accounts. Its current 24h spot trading volume is 1.6 billion USD with 29 trading pairs.



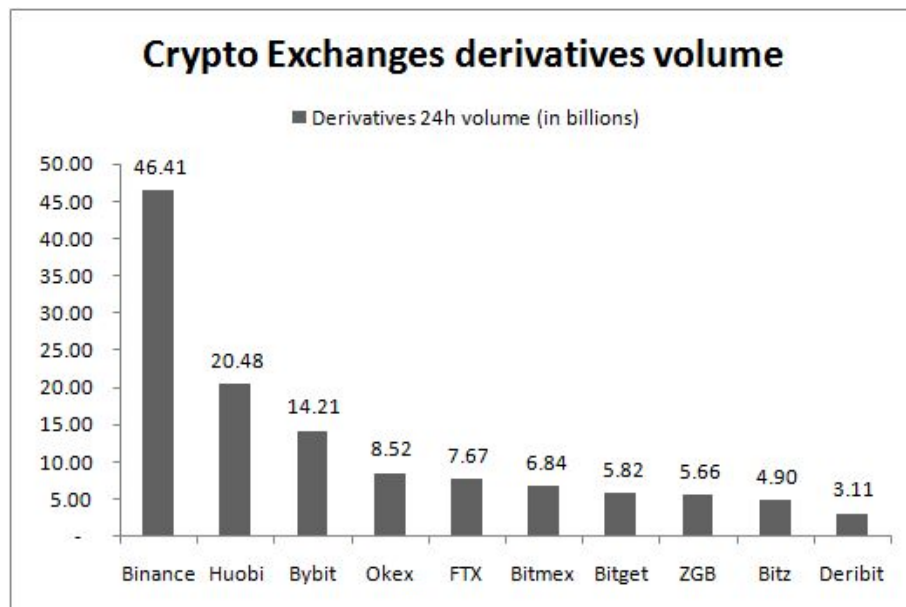
Bitcoin Futures Emergence and Growth

Bitcoin is itself unregulated but with the emergence of Bitcoin Futures on regulated exchanges like Cboe, CME and Bakkt, it opened a new opportunity for Bitcoin acceptability and adaptability worldwide.

At first, bitcoin futures were launched by COBE in December 2017 followed by CME with a difference of 1 week. Bitcoin futures led the way to Bitcoin trading volume increase. An increase in the volume leads to price stability of an asset which leads to an increase in its adoption and regulation. Bitcoin Futures' average daily volume for January 2021 is around \$60 billion and a major chunk of that volume belongs to Binance, Huobi, Bybit and Bitmex. Let's take a look at some exchanges offering Bitcoin Futures.

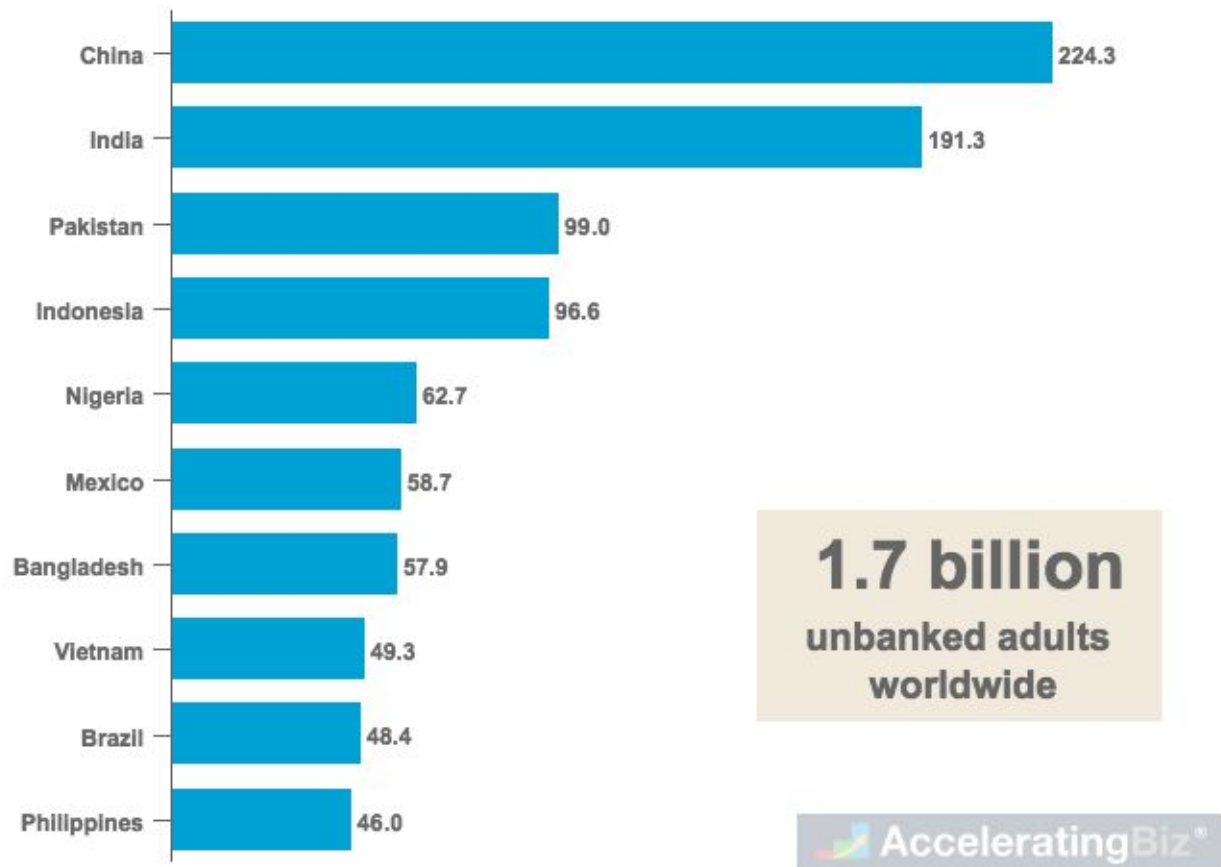
- **CBOE** - The Chicago Options Exchange (CBOE) was the first one to launch Bitcoin Futures on 12/11/2017 with 1 future contract cost equal to 1 BTC but in March 2019 they discontinued Bitcoin Futures product eyeing low volume.

- **CME** - The Chicago Mercantile Exchange (CME) launched Bitcoin Futures 1 week after CBOE on 12/17/2017 with 1 future contract equal to 5 BTC. On January 07, 2021, they had the highest daily trading volume of \$3.7 billion.
- **Bitmex** - Bitmex was launched in 2014 offering various derivatives markets but in 2018 their platform got famous mainly due to low-cost futures contracts where 1 future contract cost is 1 USD. On January 08, 2021, their daily trading volume was \$5.5 billion.
- **Binance** - Binance launched their Bitcoin Futures in September-2019 and quickly gained volume due to their popularity in the crypto community. On January 08, 2021, their daily trading volume was \$46.41 billion.
- **Huobi** - Huobi was launched in September 2013 and is one of the major competitors currently in terms of volume traded on their exchange. On January 08, 2021, their daily trading volume was \$20.48 billion.



Financial Inclusion for Unbanked People

According to the World Bank's report, more than 1.7 billion adults worldwide are unbanked. Most of the unbanked population belongs to Asian and African countries. The situation is worse in sub-Saharan Africa where only 10% of adults own a bank account.



Lack of access to financial services does not allow people to get loans for businesses and education and does not allow people to take part in global commerce. Access to banks or financial services also promotes people to accumulate savings.

Cryptocurrencies can provide finances where banks are not available and can also provide online wallets where they can accumulate savings for better money management for their future.

Cryptocurrencies Projects like BitPesa, MPesa and MicroMoney are already working on resolving this problem by providing individuals remittances and loans in African countries by integrating local mobile applications to send and receive money.

Cryptocurrencies in developing economies

BTC and blockchain technology is proving revolutionary in providing state of the art solutions to the world in almost every field of life but 99% of the development is centered around giving solutions to the problems that are related to developed countries. Although cryptocurrencies are built on the concept of decentralization and easy accessibility worldwide but in developing countries, people still need training, tools and infrastructure to use and benefit from them.

Bill Gates who has a net worth of over \$105 billion said that "Digital currencies could empower the world's poorest as they have intellect, labor and assets but don't have financial tools to capitalize on these resources."

Inflation, Corruption, High-Interest Rate and BTC Volume

It's pretty early to say BTC volume has started dominating the hyperinflationary economies having corrupt governments. But the data given below is showing things have started turning in this direction.

Venezuela is on the top of the list where LocalBitcoin volume increased by 19,000,000% in 2 years, has the highest inflation rate, lowest corruption index and high central bank interest rate. Argentina on the other hand also gave the same outlook with the high inflation rate, high-interest rates and steep growth in the BTC volume.

Sr. No.	Country	Inflation rate (%)	*Corruption Perceptions Index 2019	Central Bank Interest Rate (%)	Increase in LocalBitcoin Volume in 3 years (%)
1	Venezuela	200 k	16	356	356 million
2	Argentina	54.4	45	38	2,468
3	Iran	35.7	26	18	1,159
4	Turkey	15.7	39	17	506

5	Egypt	13.9	35	8	1,529
6	Nigeria	11.3	32	12	779
7	Ukraine	8.7	30	6	901
8	Pakistan	7.3	32	7	588
9	Kazakhstan	5.3	34	9	1,771
10	Russia	4.7	28	4	864

Data Sourcing Method:

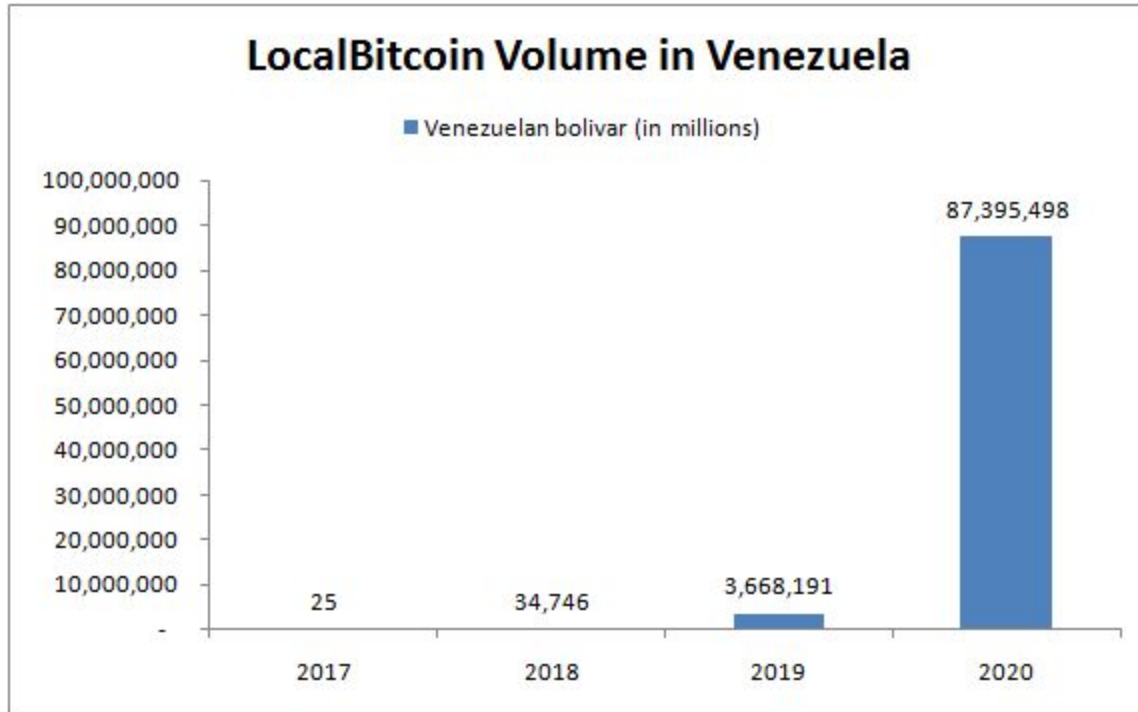
- *Selected 10 countries with high inflation rate having steep growth in LocalBitcoin volume*
- *Inflation rates are taken from imf.org*
- *Added Corruption Index from transparency.org (0 = high corruption & 100= no corruption)*
- *Added current central bank interest rates from tradingeconomics.com*
- *Compared country-wise 2017 LocalBitcoins volume with 2020 to calculate volume growth*

Overall you can see enormous growth in the LocalBitcoins volume in hyperinflationary economies with corrupt governments.

Venezuela's Case

Venezuela is a perfect example of hyperinflation due to corrupt government and bad fiscal policies. Although Venezuela began experiencing inflation in 1983 it got worse after 2012 when Nicolas Maduro got the country's charge. The IMF reported an annual inflation rate of 200,000% in Oct-19 while the actual inflation is several times higher than this. In 2012, 1 USD was equal to 4.29 Venezuelan Bolivar (VEF) while in 2018 you could buy 248,479 VEF with 1 USD. It is roughly a 5,800,000% increase in 7 years. Then in 2018, they issued a new currency called VES and since then it has also been depreciated by 3,328,500% as well. Venezuela's case is considered worse than Zimbabwe in the mid-2000s and Argentina, Brazil, Bolivia, and Peru in the 1980s and 1990s.

To cope up with this hyperinflation, Venezuelan people started using cryptocurrencies a few years back. They are mining bitcoin using cheap electricity and buying items they need online using Bitcoin and other cryptocurrencies like ETH and BCH. Even police raids could not stop them from mining cryptocurrencies because that is a lifesaver for them. Although the number of people using cryptocurrencies is still low but is gaining fast momentum. According to coin.dance, LocalBitcoin volume in Venezuela surged 356 million % in the last one year.



Cryptocurrencies can convert developing economies into developed ones by allowing people to receive remittances, start a business, get loans, access the global e-commerce market and invest money into them. We are already experiencing progress in this regard as MicroMoney has claimed that they have given more than 40,000 loans to the people in Cambodia, Indonesia, Myanmar and Sri Lanka via its blockchain system. On the other hand, MPesa which is especially known for its services in the African countries has more than 20 million users from Kenya alone.

Crypto backed Loans

Crypto lending is on the boom due to easy accessibility. In the traditional banking system, you need to go through a cumbersome process to apply for a loan as there is huge paperwork involved in it. Then you need a credit score and credit history to qualify for a loan. Apart from that, bank application processing charges are an extra expense that you have to pay whether your application gets accepted or not.

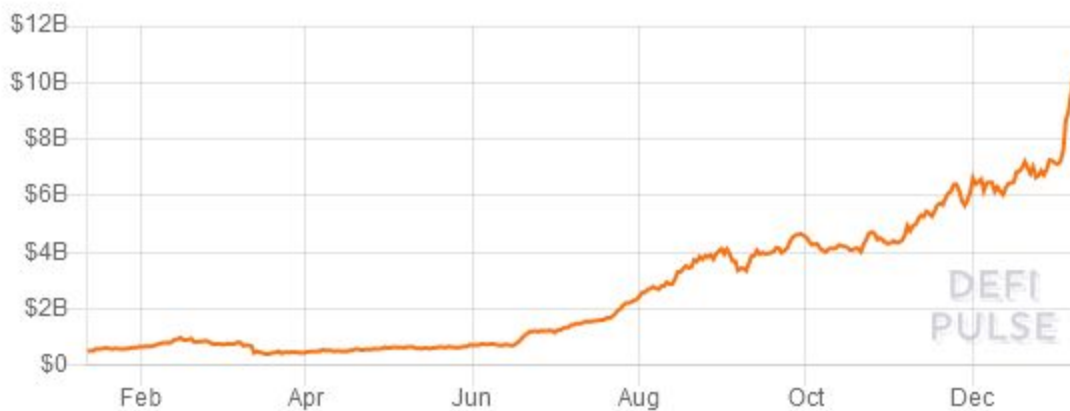
In crypto-backed loans, you do not need any credit score or credit history to get a loan. You simply go to a crypto lending platform and deposit your collateral cryptocurrencies and most of the platforms immediately approve the loan without any paperwork. You will only be required to do a basic KYC on the traditional crypto lending platforms. Terms and conditions of crypto-backed loans are also not strict as the traditional loans which give them a competitive advantage over the traditional ones.

According to defipulse.com, the total value locked on lending platforms has surpassed \$10 billion at the moment which was only \$500 million one year ago.

Total Value Locked (USD) in Lending

TVL (USD) | ETH | BTC

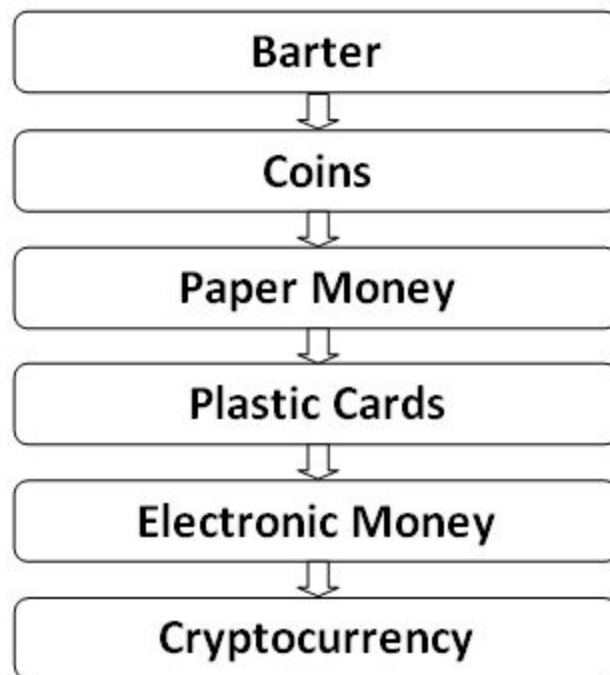
All | 1 Year | 90 Day | 30 Day



The Evolution of Money in History

Money has been a necessary part of human history for more than 3000 years. It is a journey started from the barter system to its latest form of digital currencies launched in recent years which can be shortly said as a journey of barter to the bit. The structure money has taken has been firmly associated with the innovative improvements in the economy and technology.

The Barter system was the first of its form that people started using in 9000 BC for trading purposes. Later in 1200 BC, people started using cowry shells. In 600 BC the first official currency was minted by King Alyattes of Lydia in modern-day Turkey to use as a standardized coin across the Mediterranean world for trade. Paper money was implemented in Europe in the 17th century while gold and silver were adopted as a standard for issuing the currency in the 18th century. Later in 1946 credit cards became the new form of money and mobile payments solution introduced in the early years of 2000 AD. Cryptocurrencies are the latest form of currency which is digital and mined on computer systems and recorded on blockchain technology.



In our present era, despite enormous growth in the usage of cheques, credit cards, digital banking, mobile banking and digital currencies, cash is still king. Cash has consistently been essential to individuals and the economy as a survey result shows that more than 40% of the European population thinks that cash will never be eliminated. As straightforward economies developed into increasingly muddled economies and cash has constantly adjusted to the diverse monetary conditions. Blockchain technology is the most important innovation of the current century that has laid the foundation of digital currencies starting from Bitcoin in 2008. It is facing criticism like every form of money had to bear when those were issued and various researches show that these digital currencies will be a necessary part of the economy in the next 10 years.

Barter System

Before cash developed, trade was done through bargain, which included the direct trade of one good/product/thing for another good/item/thing with no middleman or base price to meet the double coincidence of mutual needs and wants. For example, in a barter deal, a cow might be traded for 20 chickens or 5 goats, or a speaker's two-hour lecture might be traded for 1 goat. It tends to be fruitful primarily in regions where individuals produce products for survival.

History of bartering dates to 9000 BC. The system is said to be introduced by Mesopotamian tribes and later Phoenician tribes used it for international trade. After that, for exchanging services and goods such as teas, weapons, spices and slaves the Babylonian empire adopted the barter system. Later, Romans were the ones that used this system on a large scale to pay in goods like salt against the services of soldiers. The Barter System faced many limitations like lack of double coincidence of wants, common measure of value, the indivisibility of some goods, difficulty in storing value and the difficulty in making deferred payment.

Coins

Coins were invented around 1000 BC for the first time in the region of China and India when they shifted away from exchanging weapons and started using bronze and copper replicas of weapons for payment. Later, Gold and silver coins came into the market around the area of the Aegean Sea with the denomination stamped on them. In 600 BC a coin

named Lydia minted by King Alyattes of Lydia was the first official coin that started being used as currency for trading purposes in the Mediterranean region. Western Hemisphere later copied it and started using its refined version. Lydia was created using electrum, which is a mixture of silver & gold and its scarce & durable feature made it the first choice to mint coins.

The introduction of coins not only facilitated the people for a store of value more easily but also helped the masses to buy, trade, and move money anywhere in the world more conveniently. It was the first time when the size and weight of the currency were decoupled from its value and one can just use it based on the value mentioned on the coin which was a revolutionary step in moving the world's economy. People were able to fix the prices of their goods and services more easily and coinage removed the major limitations of the barter system like lack of double coincidence of wants and common measure of value.

Paper Money

On account of every one of these advancements, goldsmiths, who were believed to be dependable, were given the duty by numerous people to save their gold for them. When individuals gave their gold to them, the goldsmiths thus gave them receipts to demonstrate they had their gold with them. These people keeping their gold with the goldsmith could give the receipts to individuals who offered things to them and these dealers could thus take those receipts to the goldsmiths to redeem the value of those receipts. Therefore, these receipts became substitutes as cash. This cash was supported by gold and could be exchanged for gold upon the request of the vendor.

This paved way for paper currency and China again took the lead by introducing the first known paper note during the Tang Dynasty 618-907 AD era. To avoid the heavy coins in big commercial transactions, merchants, and wholesalers during the Tang Dynasty started using these notes on a large scale. Later Mongol Empire adopted banknotes in the Yuan dynasty. Europe, on the other hand, was still using coins until the 16th century as the concept of banknotes was introduced by travelers like Marco Polo in the 13th century and Sweden was the first country in Europe to issue the banknote in 1661 AD.

Paper money evolved. At first, it was issued by the central banks against the gold or silver of the same value but later in the start of the 19th century, Europe and the US both eliminated the gold standard and started issuing fiat currency which is only backed by the trust that people put in the governments and monetary institutions.

Like coins had benefits over the barter system, paper money also had benefits over the coins as notes were easy to carry around and made it easier to perform transactions of a bigger amount. Store of value also became more convenient as notes take less space than coins and paper money is said to be the main catalyst in the growth of the American economy as it was way easy to transfer money through the Atlantic Ocean.

At the start of the 19th century, most of the US and UK cities and towns had local banks issuing their banknotes. But later national currencies emerged to have a countrywide standard and acceptance. The US dollar which came into prominence after World War I is the most used currency to date with its worldwide acceptance and played a huge role in reshaping world economics.

Cheques

The cheque is also a kind of paper money which has a history starting from the 1st century BC in ancient Romans and was adopted in the modern era in the 17th century. Cheques were first called drawn notes, as they give the ability to customers to draw funds from the bank.

These were handwritten at the start with one of the earliest handwritten cheques dated 16 February 1659 drawn at the bank available in the city of London. Later in 1717, the Bank of England issued the first pre-printed cheque that was printed on a specific cheque paper to avoid frauds. The later suppression of banknotes in the 18th century further promoted the use of cheques in England.

The first banker's clearinghouse was established in the city of London in 1770 where all bank clerks visited daily to exchange cheques and their settlements. This practice is still being used in various underdeveloped countries where digital banking has not been established at a large scale. In 1811, the Commercial Bank of Scotland was the first bank to personalize the cheques with account holders' names written on them and later in 1959, machine-readable characters (MICR) were patented in the USA to use on cheques which

paved the way for automated clearing of cheques. The late 20th century saw billions of amounts transferred through cheques which later decreased due to the adoption of digital banking after the 1990s era.

Plastic Cards

Credit and debit cards were the next form of money after cheques that made payments easier for an individual as well as for businesses. Edward Bellamy first gave the idea of using cards for purchases in 1887 in his utopian novel *Looking Backward*. In 1950, the diners club issued cards to their members which could be used for payment of entertainment and travel expenses. It took more than 10 years for the diners club to gain ten thousand members and after ten years of card issuance diners club members had the luxury to visit twenty-eight restaurants and two hotels in NYC without money. Diners Club cards became the status symbol and made significant growth.

In 1958, American Express launched the first credit card named BankAmericard in Fresno California. This card laid the foundation of bank-issued credit cards. Slowly other banks licensed to issue cards as well and later in 1976 all licensees united under the Visa brand. On the other hand, a group of banks joined to form an Interbank Card Association to compete with the BankAmericard, which later evolved into Mastercard. Visa and Mastercard are still the two major systems that banks join to launch their card. There is not much difference between both but Visa enjoys a better reputation and acceptance than Mastercard.

Credit card usage became very common in the late 1990s and still, its usage is growing mainly because you no longer need to carry the money and can remotely make payments worldwide. Credit card demand also increased after the US Internal Revenue Service asked individuals and businesses to provide detailed expenses records. Plastic money is another revolutionary step to grow the world's economy to the next level as without these credit cards millions of companies using this payment method would not be in existence even.

Mobile Payments

In our current era, cash usage is decreasing and electronic money usage is increasing. It is estimated that 92% of dollars supply in circulation are being circulated digitally via credit/debit cards and digital banking. Digital money promoted the usage of mobile



phones to make payments digitally in combination with plastic cards, electronic wallets and bank accounts.

Mobile payments started back in the early 2000s and have played a great role to bank the unbanked people worldwide. In some African places, people still don't have the luxury of banks and using mobile payments services to make online payments for goods and services. Alipay, Apple Pay, Google Pay and Samsung Pay are some of the major mobile payment solutions that are being adopted worldwide. Alipay is the biggest mobile payments solution having more than 700 million customers.

Mobile payments users growth



Source: statista.com

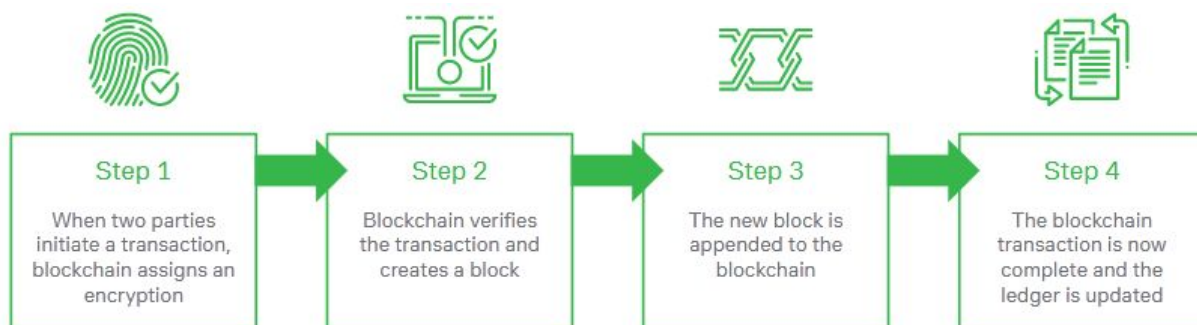
At first, you were required to make payments by selecting the vendor in the list but later mobile payments even added the facility to make payments by scanning a barcode. Mobile payments further allowed making payments more conveniently as you even don't have to carry paper money or even credit cards to make payments. You always have your mobile phone with you and can easily make payments by using the digital banking facility via the internet on a mobile phone.

Cryptocurrency

Cryptocurrency, which is also a kind of electronic money, was first invented in 2008 by a developer using the pseudonym of Satoshi Nakamoto called Bitcoin. It not only laid the foundation of new currency but also became an entirely new asset class. Bitcoin solved the problem of double-spending and showed to the world how digital money can have the feature of being scarce.

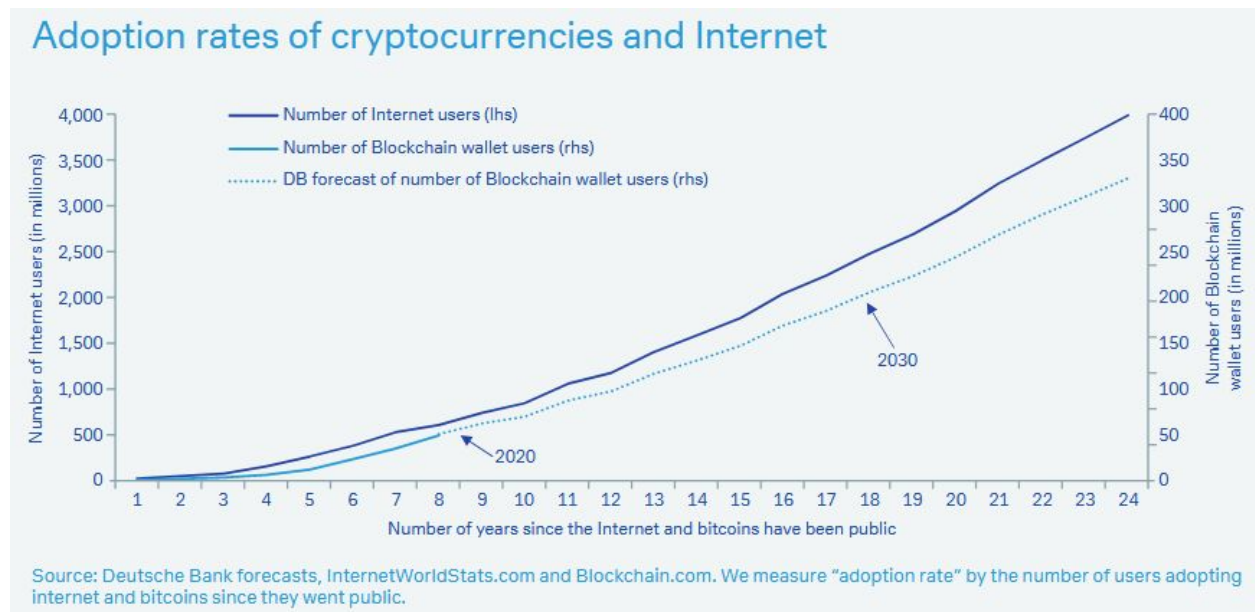
Cryptocurrencies are mined on computer systems and recorded on the blockchain which is one of the most innovative technologies of the century. Blockchain technology offers greater transparency, increased efficiency, better security and improved traceability that not only increases the level of automation but also can evade fraud and corruption. When a transaction is initiated on a blockchain, it is assigned encryption at the first step. In the next step after verification, a new block is created and that block is added to the chain of blocks. Once a block is added to the blockchain it becomes almost impossible to temper the block data which promotes transparency and better security.

Creating a blockchain transaction



Bitcoin gained attention mainly in 2013 when its price increased dramatically and later other major cryptocurrencies Litecoin, Ripple and Ethereum came into existence. Currently, Coinmarketcap has more than 4000 cryptocurrencies listed on their site and each coin is promising to solve a particular problem apart from being a way to make payments using blockchain technology.

The cryptocurrency adoption rate is increasing at a rapid pace. Blockchain.com, a widely used wallet by Bitcoin users, has seen a new user growth of more than 500% in the last 4 years while the transaction growth on their platform is 260% during the same period. A study by Deutsche Bank compared the adoption rate of cryptocurrencies with the internet adoption rate and expected cryptocurrencies growth to be more or less equal to the internet users growth in the coming years.



Cryptocurrencies volume is still a very small percentage of the total world's GDP but it is expected that in the next ten years its growth will be exponential.

How Cryptocurrencies are different from other currencies

There are some special features that cryptocurrencies enjoy over the other money types that give them a competitive advantage over them.

- **Programmable money**

Cryptocurrencies are programmable money as you can program it in a way that would increase or remove its encryption over blockchain and also you can program in a way that transaction only gets executed if certain criteria were met. This paved

the way for smart contracts that have improved the transparency, security and safety of transactions significantly.

- **Micropayments feature**

With the traditional payment systems even via cards and other digital banking methods, it's uneconomical to make small payments. You might end up paying more transaction charges than the actual payment. But Cryptocurrencies have solved this issue, as a recent experiment on lightning network showed that it is possible to conduct a millistoshi payment with a value of \$0.00000003 by building a second layer on top of the Bitcoin blockchain.

- **Improved Traceability**

Improved traceability is another competitive feature of cryptocurrencies built on blockchain technology. With this decentralized ledger technology, each time a transaction is performed its audit trail becomes available to trace its origination and ending point which not only helps in improving the transaction security but also in preventing fraud.

- **Limited Supply**

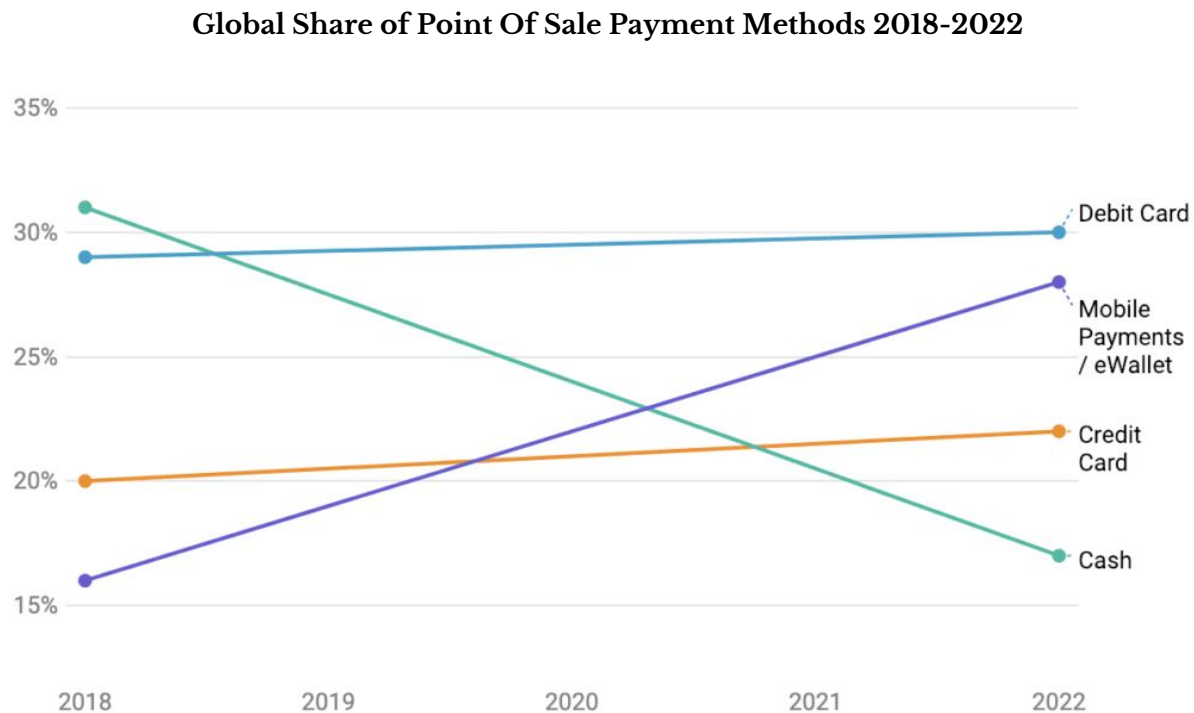
Fiat currencies issued by banks like dollars and euros have an unlimited supply. Central banks keep issuing them as they need more which results in the currency losing its value over time and causing inflation. But cryptocurrencies like Bitcoin have limited supply and can result in a better store of value due to their scarce nature. Due to their limited supply, their inflation rate decreases when new Bitcoin is mined and added to the blockchain. In May 2020, after halving Bitcoin's inflation rate went below 2% for the first time which is an inflation target adopted by most of the banks worldwide.

Improvement in technology results in the issuance of more efficient digital currencies which paves the way for ease of business by fast transactions and worldwide expansion. Without an improvement in technology, businesses would still be confined to the place where they belong to but technology has allowed them to have customers from all over the world. Digitalization, IoT and AI are already influencing the world economy at a large



scale and cryptocurrencies are a new addition to the digital world that will play a vital role in the growth of the world's economy.

The world is moving towards digitalization at a great pace and it is expected that cash usage will keep decreasing over time. The chart below shows how digital payment solutions growth is increasing while cash usage is decreasing.



Source: Worldpay's Global Payment Report

Money is constantly evolving as we always keep looking for the best solution for making payments to increase the ease, speed, reliability, traceability of the transactions. Electronic money brought the most revolutionary feature live of remote payments that promoted the e-commerce business concept and removed the boundaries by allowing cross border payments.

All the digital and old payment methods and currencies are being issued, regulated and controlled by the central authorities which is not the case with cryptocurrencies.

Cryptocurrencies are decentralized in nature and someone can only control that much he or she owns. The benefits that cryptocurrencies offer are far higher than the traditional payment methods but most governments are not in favor of cryptocurrencies as they know if they allowed their usage on a large scale, they will lose control over the country's economy.

Crypto Personalities that making a difference

The crypto industry is only 11 years old and has already made a huge impact on not only the world's financial system but also in other areas due to its state of the art decentralized technology to make things more easy and transparent at the same time. There are hundreds of people related to this industry that are helping to grow this industry at a phenomenal pace. We would like to discuss a few of them along with their contributions who are working as a catalyst for the development of this industry.

Satoshi Nakamoto

Satoshi Nakamoto, the creator of Bitcoin is the man who put the foundation of the blockchain industry. Although it is still unknown whether Satoshi Nakamoto is just a pseudonym or even if he is an individual or a group of people, the person who developed the first version of the Bitcoin software and released the Bitcoin paper is known with this name. Few people claimed they are the real Satoshi Nakamoto in the past 11 years and others have been rumored to be him but it is yet to know who is the real person behind the creation of this disruptive technology. It is expected it will always remain a mystery but the technology he has given to this world is unmatched and can be used in every sphere of life to make things easy and transparent.

Vitalik Buterin

Vitalik Buterin, a Russian-Canadian programmer, is the co-founder of Bitcoin Magazine and Ethereum cryptocurrency which has the biggest market cap after Bitcoin. Ethereum is the world's most popular smart contract platform to build Dapps. He dropped out from the University of Waterloo but the University of Basel gave him an honorary doctorate in 2018. He has worked as a developer intern at Next Thought, LLC. He also worked on the position of the editorial board of Ledger (peer-reviewed journals that publish research-based articles on cryptocurrency and blockchain technology). Vitalik Buterin again played a major role in the launch of ETH2.0.

Changpeng Zhao

Changpeng Zhao (CZ) from China-the founder and CEO of Binance-the world's largest cryptocurrency exchange by trading volume. Zhao was working at McDonald's while studying computer science at McGill University. He is the founder of Fusion Systems and



Bijie Tech as well. He also remained chief technology officer at OKCoin. In 2019, Zhaos' company, Binance launched the decentralized exchange (DEX). Binance is considering this year as the year of adoption and has aimed to enable fiat-to-crypto for more than 180 fiat currencies. He has bought various crypto businesses across the world and has made a great contribution in promoting cryptocurrencies all over the world.

Charlie Lee

Born in Ivory Coast and then moved to the US- Charlie Lee is the creator of Litecoin. He earned his bachelor's and master's degree in computer science from the Massachusetts Institute of Technology. Lee had worked for Google and also as Director of Engineering at Coinbase. He had written on blockchain technology on Bitcoin in his spare time while working at Google. Now Lee is working full time with Litecoin Foundation. Litecoin is the 6th largest cryptocurrency by market cap. His company has integrated MimbleWimble to enhance the privacy of Litecoin transactions. Litecoin has recently launched the Litecoin Core 0.18.1, the latest version with various new features.

Jack Dorsey

Jack Dorsey from America –the CEO of Twitter and the founder and CEO of Square, is also a longtime advocate of Bitcoin. He attended the University of Missouri-Rolla and then dropped out, from New York University. In 2000, he started a company in Oakland to book the couriers, taxis, and emergency services from the Web. In 2019, Jack's company Square launched Cash App for bitcoin. Recently Jack has integrated an icon for cryptocurrency on Twitter. This year, his company Square won a U.S patent for fiat-to-crypto payments. Now Jack is working on a kit that can help integrate the Lightning network to bitcoin wallets.

Brian Armstrong

Brian Armstrong from the United States- is the co-founder and CEO of Coinbase-the world's leading digital currency exchange. Armstrong earned a bachelor's and a master's degree in Computer science and a bachelor's degree in Economics from Rice University. He worked as a Developer at IBM and Consultant at Deloitte. Armstrong has worked as a software engineer at Airbnb as well. This year Armstrong has invested in the project To Bridge Bitcoin and Ethereum. He has also launched a venture capital company named

Coinbase Ventures to invest and raise capital for crypto and other technology startups. In April 2020, Coinbase launched a price oracle-a signed price feed that anyone can publish on-chain.

Brad Garlinghouse

Brad Garlinghouse from the U.S. is the CEO and Chairman of technology company Ripple. Ripple's net platform is being used by hundreds of banks worldwide now and is a serious threat to the SWIFT banking system. He did B.A. from Kansas University and MBA from Harvard Business School. He was the former president of consumer application at AOL and Senior V.P. at Yahoo. Brad is an active investor in more than 40 companies, including Diffbot. Coin XRP of his Ripple company is now the third-largest cryptocurrency by market cap. This year Ripple's Net ODL service tripled in transaction volume. Recently Ripple and Azmio have announced their partnership to use XRP in cross-border payments. His company-Ripple has designed a new private payment system for XRP ledger to enhance security from third parties.

Jihan Wu

Jihan Wu from China is the co-founder and CEO of Bitmain-the world's largest computer chip manufacturing company for cryptocurrencies mining. He earned dual degrees in economics and psychology from Peking University. He was a financial analyst at a private equity firm and investor in Kaomao. In 2019, his company-Bitmain introduced its most popular Antminer models: Antminer 17 series. Recently, his company has launched a new firmware to support Antminer E3, which allows the miner to use E3 even after March 2020. Bitmain has also launched Antminer S19 and S19 Pro in March 2020, with a magnificent performance.

Jed McCaleb

Jed McCaleb from America is the co-founder and the CTO of Stellar-an an open-source protocol for digital currency to fiat money. He attended the University of California, Berkeley, but eventually dropped out. He is the founder and CTO of MetaMachine. McCaleb also founded Code Collective and Ripple.com. He has served as an advisor at Machine Intelligence Research Institute. Recently his company Stellar Enterprise Funds

invested \$5M in Crypto App Abra Ahead of Blockchain Integration. In 2021 Stellar XLM based Akoin is going to be integrated into Kenyan tech city.

Barry Silbert

Barry Silbert from New York is the Founder and CEO of Digital Currency Group. This company helps to build the foundation of the digital currency and blockchain technology industry by launching, incubating and investing in groundbreaking companies. He graduated from Emory University Goizueta Business School. Silbert is an angel investor and fund provider for many earliest bitcoin companies including Coinbase and Ripple. He is the founder and former CEO of Second Market, Inc. He also served as CEO at Restricted Stock Partners. Barry also created Bitcoin Investment Trust (BIT) a private, open-ended trust and its stocks are the first listed securities that are entirely dependent on the value of Bitcoin.

Michael Arrington

Michael Arrington from California is the founder of Arrington XRP Capital which is the digital assets management firm in the blockchain-based capital. Michael is also the founder and former co-editor of TechCrunch. Time magazine selected him as one of the most influential persons in the world. Forbes and Wired magazines have also named him one of the most powerful people on the internet. He graduated in economics from Claremont McKenna College. Arrington worked on several projects such as Crunchpad and CrunchFund. His company Arrington XRP Capital has recently invested in Blockfi which is its first equity investment.

Charles Hoskinson

Charles Hoskinson from America is a cryptocurrency specialist and known as CEO and founder of IOHK, the company which provides financial services and also the founder of Cardano, which is considered to be a third-generation blockchain. He attended the Metropolitan state university of Denver and the University of Colorado at Boulder to study number theory and mathematical logic. Hoskinson is also the director of a Bitcoin education project. In 2013 he established the cryptocurrency research group. He was the former CEO and co-founder of Ethereum. Currently, he has aimed to focus on the

education of cryptocurrency topics, evangelism of decentralization, and making the cryptographic tool easier to use for the mainstream.

Jeremy Allaire

Jeremy Allaire from America is the founder, chairman and CEO of Circle-a finance company that aims to bring Bitcoin and other cryptocurrencies to the mainstream. He graduated from Macalester College where he received a double –major degree in political science and philosophy. He was an entrepreneur at General Catalyst Partners. He also served as CTO at Macromedia which later merged with Allaire Corporation. Allaire is also the founder and former CEO and CTO of Brightcove- an online video platform used by many top media and marketing organizations worldwide. Recently Allaire's company Circle has announced Circle wallets and market places API that allows embedding global digital wallets into products or services.

Peter Smith

Peter Smith from the U.K. is the co-founder and CEO of Blockchain.com - the world's most popular online crypto wallet company. Initially, in 2011, they only created a blockchain explorer but later added various other services like wallet, exchange, custody services and lending desk. He did his Masters in Business Administration from Oxford Brookes University. Peter is a 2016 World Economic Forum Technology Pioneer and a thought leader in the FinTech space. He has worked as the Director of Board Members of U.K. Finance. His company Blockchain launched Blockchain Principal Strategies that helps the investor to gain more knowledge and exposure about cryptocurrency. In April 2020, Peter's company Blockchain launched its monthly newsletter with the intention of original insight that Blockchain is capable of providing.

Joseph Lubin

A Canadian-American- Joseph Lubin is the co-founder of Ethereum and the founder of ConsenSys, a leading blockchain company solving real-world problems with the use of Ethereum based blockchain solutions. He earned a degree in electrical engineering and computer science from Princeton University. He was the former research scientist and software engineer at Allston, MA, and Manhattan, NY respectively. He remained Director of Blacksmith Technologies at the New York office. Lubin is personally involved in

governance issues of the Blockchain industry. In May 2018, ConsenSys and Microsoft joined hands together to bring Ethereum to enterprise with the Pegasys Ethereum suite.

Brendan Blumer

Brendan Blumer from America is the CEO of Block.one; the tech company behind the EOS.IO distributed ledger software. He graduated from Linn-Mar High School, Marion, IA. He has been building disruptive technology companies since 2001. At the age of 15, he founded Gamecliff which was a company selling avatars. Later on, Blumer founded The Account Network and Okay.com. Brendan Blumer is also the founder and former CEO of ii5. Recently his company Block.one has updated the community on EOS Network Performance. In this year, Blumer's company Block.one has planned to begin EOS voting to expand public engagement in Blockchain.

Gavin Andresen

Gavin Andresen from the United States was the Bitcoin lead developer declared by Satoshi Nakamoto. He is the founder of the Bitcoin Foundation. Andresen graduated in computer science from Princeton University. He started his career by working on 3D graphics software at Silicon Graphics Computer Systems. He also worked as Head of Engineering at Resounding Technology. In 2014, he left the role of Bitcoin core lead developer to work on the strategic development of the underlying technology. He created a website The Bitcoin Faucet, which gave away bitcoin. He also worked on Clear Coin, which is an Escrow style service.

Chris Larsen

Chris Larsen from America is the co-founder of Ripple, and now he is Executive Chairman of Ripple. He did his MBA at Stanford Graduate School of Business. He used to work at a mortgage ledger. He also served as CEO at an E-loan company. During his tenure, the E-loan company became the first to provide consumers with FICO credit scores freely. Chris Larsen was also the co-founder and CEO of Prosper Marketplace, a peer to peer marketplace. Larsen and Ripple gifted \$25 M to San Francisco State University. Ripple's growth rate is tremendous and currently, they are working with 100s of banks worldwide in providing them with fast and secure cross-border payment services.



Tyler Winklevoss

Tyler Winklevoss from America is an Olympic rower and co-founder of Winklevoss Capital Management-a blockchain venture capital firm and next-generation cryptocurrency exchange Gemini. He graduated in Economics from Harvard University. He did an MBA from the University of Oxford. He is the co-founder of Connectu.com. Winklevoss has been a strong advocate of bitcoin and cryptocurrencies and buying a huge amount of bitcoins. Winklevoss Bitcoin Trust has launched WinkDex; a BTC price index that will price the ETF. The mogul has tried to get approved the Bitcoin ETF but got rejected.

Erik Voorhees

Erik Voorhees from Switzerland is the CEO of ShapeShift- a company that offers global trading of different digital assets via mobile and web platforms. He graduated from the University of Puget Sound. He served as a communication manager at Better Homes and project manager at Podium Group. He served as head of marketing at BitInstant. Erik is also co-founder of Coinapult. He was also the owner of SatoshiDICE. His company has announced its favorite 10 Defi projects, the majority of which is based on Ethereum, helping people to take control of their finances. In April 2020, ShapeShift announced its acquisition of Portis- a startup that builds leading Web3 wallet SDK for developers of crypto applications.

Bobby Lee

Bobby Lee from California is an entrepreneur in the cryptocurrency industry. Recently he founded his second startup in 2019, which aims to drive global adoption of Bitcoin and cryptocurrency. He was co-founder and CEO of BTCC, the first bitcoin exchange in China and a leading Bitcoin financial platform worldwide. He earned his master's degree in computer science from Stanford University. Lee started his career as a software engineer at Yahoo. Lee served as VP of technology for Walmart's e-commerce business. He also served as director of software engineering at EMC's China center of excellence. Currently, he serves on the board of Bitcoin Foundation, a non-profit organization that fosters the adoption of Bitcoin globally.

Dan Morehead

Dan Morehead from America is the founder and CEO of Pantera Capital Management- an investment firm focused exclusively on Bitcoin and other digital currencies and companies utilizing blockchain technology. Morehead received his BS degree in civil engineering from Princeton University. He worked as a chief financial officer and head of macro trading at Tiger management. Morehead is the co-founder and former CEO of Atriaux, which is an electronic foreign exchange platform. He is chairman at Bitstamp which is the fourth largest bitcoin exchange. He is on the board of directors at BitPesa, which is a Nairobi based startup focusing on remittances. Recently his company Pantera Capital Management along with other investors, have invested in a Hong Kong-based crypto trading firm Amber at a \$100M valuation.

Jean-Louis van der Velde

Jean-Louis van der Velde from the Netherlands is the CEO and co-founder of Bitfinex- one of the world's largest crypto exchanges. He graduated from National Taiwan Normal University. He worked as a managing director at Amos Ltd. Jean is co-founder and CSO of Tuxia GmbH. He is the CEO of Tether, a new frictionless payment clearing system. Currently, he is also working as a lecturer at the National Taiwan University of Science and Technology and as a guest lecturer at Taiwan University as well for Blockchain and Regulation related lectures. Recently his company has launched Bitfinex Pulse, a social networking platform that enables customers to connect and get a trading edge.

Cameron Winklevoss

Cameron Winklevoss from America is the brother, rowing teammate, and the business partner of Tyler Winklevoss- co-founder of Winklevoss Capital Management and Gemini. He graduated in Economics from Harvard University. He did an MBA from the University of Oxford. In 2008 he was named to the United States Olympic team. He is the co-founder of ConnectU.com, along with Tyler. He is an advocate of Bitcoin and cryptocurrency. Currently, he is serving as President of Gemini. Winklevoss brothers and Gemini purchased the Nifty Gateway, a platform for non-fungible cryptocurrencies. Their efforts in promoting the crypto industry are very remarkable.

Yuzo Kano



Yuzo Kano from Japan is the co-founder and CEO of bitFlyer, the longest-running cryptocurrency exchange in Japan. He earned a master's degree in Engineering from The University of Tokyo. He has worked as an Analyst Developer at Goldman Sach. He also remains an equity derivatives trader at Goldman Sach and BNP Paribas. Currently, he is a Representative Director of the Japan Blockchain Association. Kano is also a member of the BC system Evaluation Audit Review Committee. He is also working with the Japanese Bankers Association so that he can explore more about Blockchain technology for the financial sector.

Kelly Loeffler

Kelly Loeffler from the United States is the former CEO of Bakkt, a subsidiary of Intercontinental Exchange, which is focused on increasing access to digital assets. At the end of 2019, she became the first Republican women senator for Georgia State. She earned her degree in MBA from DePaul University's Kellstadt Graduate School of Business. Kelly is the co-owner of the Atlanta Dream in the WNBA. She was a member of the Board of Directors of Georgia Power Company. She remained an employee of International Exchange for 15 years and played a big role in the successful launch of Bakkt Bitcoin Future in 2019 as its volume reached \$37M within the first month of launch.

Roger Ver

Roger Ver from California is executive chairman at Bitcoin.com and an early investor of Bitcoin and Bitcoin-related startups. He is known as "Bitcoin Jesus" for his promotion of Bitcoin but now he supports Bitcoin Cash instead of Bitcoin and is considered to be the co-founder of Bitcoin Cash. He attended De Anza College but dropped out later to pursue his business interest. He is also one of the founding members of the Bitcoin Foundation. He invested over a million dollars into bitcoin-related startups, including Ripple, Blockchain.info, Kraken and Bitpay.

Adam Back

Adam Back from the UK is a highly skilled cryptographer and the co-founder of Blockstream, which is the global leader in Bitcoin and blockchain technologies. He earned a Ph.D. degree in Computer science from the University of Exeter. He invented Hashcash, the proof-of-work used by anti-spam systems. His company not only provides funds for

the Bitcoin Core but also for the GitHub repository for the development of the Bitcoin ecosystem. In January 2020, Adam's Company Blockstream announced Liquid support for BTCPay Server through which merchants can self-host and have control over funds.

Kris Marszalek

Kris Marszalek from Hong Kong is the co-founder and CEO of Crypto.com, a crypto wallet that provides a powerful alternative to traditional financial services. He was the co-founder and Senior VP at Starline Polska Sp.z.o.o. Kris is also the co-founder and CEO of YIYI Hong Kong Limited and BEECRAZY. He also served as CEO at Ensogo. In 2019 his company, Crypto.com added LTC as collateral to secure a loan in crypto instantly. This year Kris's company Crypto.com has added XTZ to the platform to earn returns. Recently Crypto.com has announced a partnership with Oveit to integrate Crypto.com Pay on the Oveit payment platform. Crypto.com's debit card is getting good exposure these days and can prove to be a great product in the coming years.

Brock Pierce

Brock Pierce from Minnesota U.S is the Partner at Blockchain Capital, Chairman of the Board at Bitcoin Foundation and co-founder and Board member at EOS Alliance. He studied at the University of Southern California but dropped out. Pierce worked as a child actor in Disney films, The mighty duck and the First kid. He has worked as Advisor in various companies, including Shyft Network, Metronome Token, Bloq Inc. and Paybook, etc. Pierce co-founded Block.one, which sold \$4 billion tokens in EOS crowd sale, making it the largest ICO. Pierce led the fundraising and the launch of EOS through Blockchain Capital and Block. One.

N.G. Zhang

N.G. Zhang from Beijing, China, is the CEO and founder of Canaan-the world's second-largest bitcoin mining rig manufacturer. Zhang received a doctorate from Beihang University. He is the next generation of CEO from China who combines the best technology and philosophies from China and the rest of the world. He invented the first blockchain hardware mining tech by embedding software algorithms into FPGA hardware and branding the products, Icarus and Lancelot. N.G created the first ASIC blockchain mining product line, the Avalon. Zhang's influence has made Canaan a strongly growing

company bringing innovations to the world. His company Canaan is now listed on Nasdaq after raising \$90 million in IPO.

Vinny Lingham

Vinny Lingham a start of Shark Tank from South Africa is the co-founder and CEO of Civic –a blockchain digital identity management startup. He attended the University of Capetown but dropped out later on. Vinny was co-founder and board member at The Silicon Cape Initiative. He was co-founder and CEO at Gyft and the advisory board member at Catch.com. He is a board member of the Bitcoin Foundation. In 2019 his company Civic launched the Civic's new wallet in collaboration with BitGo's. This year in March, Civic and CoinCover announced the first of its kind crypto wallet with a \$1M protection guarantee.

Stephen Pair

Stephen Pair from Georgia is the CEO and co-founder of BitPay-a bitcoin payment service provider. He studied computer science at the Georgia Institute of technology. He joined IBM and served as a senior software engineer and development manager there. Pair has a high level of experience in creating software systems for the financial and telecommunication industries. Before BitPay, he has served as architect, manager, team lead, and developer. In 2019 his company expanded the cryptocurrencies by the addition of ETH and XRP and three stable coins. Pair's company-BitPay considering this year as the year of growth has recently announced its partnership with Binance, which will bring BUSD to BitPay's global merchants.

Gavin Wood

Gavin Wood from the UK is the founder of Parity Technologies- a company that develops core infrastructure for Ethereum, Bitcoin, Zcash, and Polkadots protocol, bringing innovations to institutional services. He received a degree in software engineering from the University of York. Wood has worked as a Consultant at Quick Pro Code and director of technology at OxLegal. He is also co-founder and CTO of Ethereum. Wood is the founder of the Web3 Foundation and serves as president also. Recently his company Parity technology announced substrate delivery partners, a team that will provide advanced blockchain solutions based on Parity's substrate blockchain framework.

Nejc Kodrič

Nejc Kodrič from Slovenia- entrepreneur and cryptocurrency enthusiast is co-founder and CEO of Bitstamp, one of the top crypto exchanges in the world. He earned a degree in Information science from Fakulteta za organizacijske vede. He started his career as co-founder and marketing director of computer hardware and IT consulting firm, GSracunalniki. He earned the award for the best virtual currency startup at The Europas in 2014. Recently his company Bitstamp became the first exchange on Fireblocks network to support cryptocurrency transactions with just one confirmation, enabling traders to move assets more quickly and efficiently.



DeFi: Past, Present and Future

Cryptocurrency is a digital asset designed to work as a medium of exchange where all records are stored in a digital ledger using strong cryptography, which secures transaction records and verifies the ownership of coins. Cryptocurrencies are decentralized, which means these are not under the control of one person or government, leaving behind traditional finance and banking. DeFi, which is an abbreviation of decentralized finance, is a step ahead, giving people full control and access to their financial assets.

Traditional Finance

Traditional finance is an extensive infrastructure giving face-to-face attention to its customers and centralized as it is under the control of a few people. This system makes some laws and provides a license to financial institutes i-e banks, on which people trust with their money. Cryptocurrency has revolutionized finance because traditional finance made people suffer in many ways. People get charged for keeping their money in the banks, and banks invest that money, earn interest, and give people a minimal amount of that interest.

Traditional banks are proved ineffective in securing people's assets as targeted by cyber-crimes. Users may face many issues because their data other than money can be hacked. This system is also not accessible by everyone, such as in remote areas; people cannot get essential financial services. Sometimes the government makes few requirements and regulations which make transactions difficult. These days banks offer online transactions, but they are not translucent about transfer and money management, and there is a limit for transactions. One of the major disadvantages of traditional banking, when compared to decentralized finance, is that you always have to go to the office if you want any help or you want to do any financial activity. Sometimes the ATM system doesn't work well, as there are few in a city and have low cash issues.

This system helped a lot in the past before the internet and technology advancement. With the development of computers and technology, cyber-crimes increased, and the bank



remained no more safe place also. In this situation, DeFi has emerged as a winner to help the people in building their trust and satisfaction using cryptocurrency and decentralized ledgers, ensuring security and control.

What is DeFi?

DeFi (Decentralized Finance), is an open, borderless, permissionless and uncensored financial system that leverages the infrastructure of the decentralized ledger technology to provide various financial services such as payments, lending, borrowing and trading using transparent protocols that run without intermediaries.

DeFi technology has brought innovation to the present financial system using blockchain; there is no need to rely on banks anymore. It includes smart contracts, treaties, and decentralized applications that are built on Ethereum and other blockchains. It has been designed to give people easy access to financial services. These services are not bounded by borders and permissions and offer much more financial transparency.

Ethereum blockchain is the backbone of DeFi because Ethereum-based blockchain is used to run smart contracts and decentralized applications. The Ethereum blockchain has competitive advantages over others because it offers comfort and advantages to the developers, individuals, and blockchain-related institutions that others can't. It is a type of blockchain-based technology that can be modified according to users' demands. DeFi uses tokens, which are essential for it. There are many DeFi programmable tokens. DeFi has been making a mark since 2018 when many Ethereum based programs were launched together to strengthen the blockchain world.

Benefits of DeFi

What makes the DeFi different from traditional finance are its competitive benefits. Let's take a look at a few of those.

- **Accessibility**

DeFi is a type of financial system where you don't have to ask the banks for everything. It enables access to financial services for everyone. One out every five people in the world doesn't have access to banks and financial services because of



their lack of interest in documentation by banks and not having access to banks being in remote areas, which left millions of people unbanked. DeFi has made it easy for such people. Now they can take part in the financial system having Ethereum to use through one of the most popular DeFi DApp known as MakerDAO. It allows depositing ETH to Maker's smart contract without any fee. It breaks down all the differences of wealth and status, giving access to everyone. People living in remote areas can also take part in their mobile phones with an internet connection. This reason left the traditional banks behind.

- **Autonomy**

The most significant benefit of DeFi is that you can control your finances. When you deposit your money in the Dharma or Compound Dapp, your money turns out to be a smart contract composed of lines of codes, which pays you interest on it as well. No government has the right to freeze your account or take your money away from Dapps. For DeFi codes, all are equal without any discrimination. You can invest and earn interest anywhere and anytime on the DeFi platform. It offers to customize the duration and cost of the loan the way you want. No centralized financial system provides this benefit. DeFi opts out the third party interference, and you are your boss.

- **Improved Security**

A centralized system can be hacked more easily, thereby increasing the rate of cyber-crimes affecting people's privacy. DeFi has made the finances more secure. It is a system in the form of lines of codes and controlled by many computers, so there is minimal risk of hacking. In past years, cyber-attacks defamed the banks and increased the acceptance of a decentralized financial system. It built trust in DeFi.

- **Transparency**

Transparency is another major hallmark of decentralized finance as all the data is available publically and you can see how your service provider is moving funds and data. It enables you to keep an eye on the reserves of your service provider and you can trace the transaction of anyone which promotes transparency at its best.

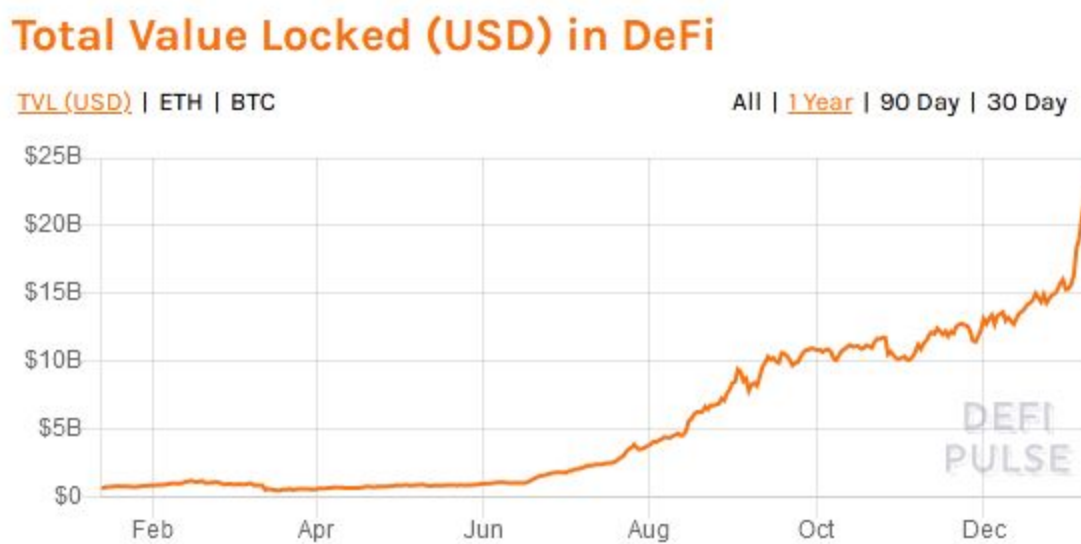


- **Earn more interest**

Banks use people's money by investing it in different areas and, in return, earn interest. But people get only a small amount of that interest. Whereas, through DeFi, people can earn more interest on their money. DeFi offers Dapps such as Compound and Dharma that allows users to put their money to work by lending it to the borrowers. Moreover, Dharma and Compound are considered to be of high-interest saving accounts. People living in areas such as North America can earn higher interest rates. In America, these Dapps offer an interest of almost 4%, leaving behind the traditional banking that offers only 0.09% interest on average.

DeFi current state and use case

DeFi is on the boom these days as we are seeing several new decentralized finance-related projects gaining public interest. According to DeFiPulse, the cumulative value of the amount locked in DeFi applications has surged from \$700.0 million in Jan-20 to \$24 billion in Jan-21 - a growth of more than 292%. This sudden growth is mainly due to the launch of two new DeFi coins, Compound (COMP) and Balancer (BAL) and many others.

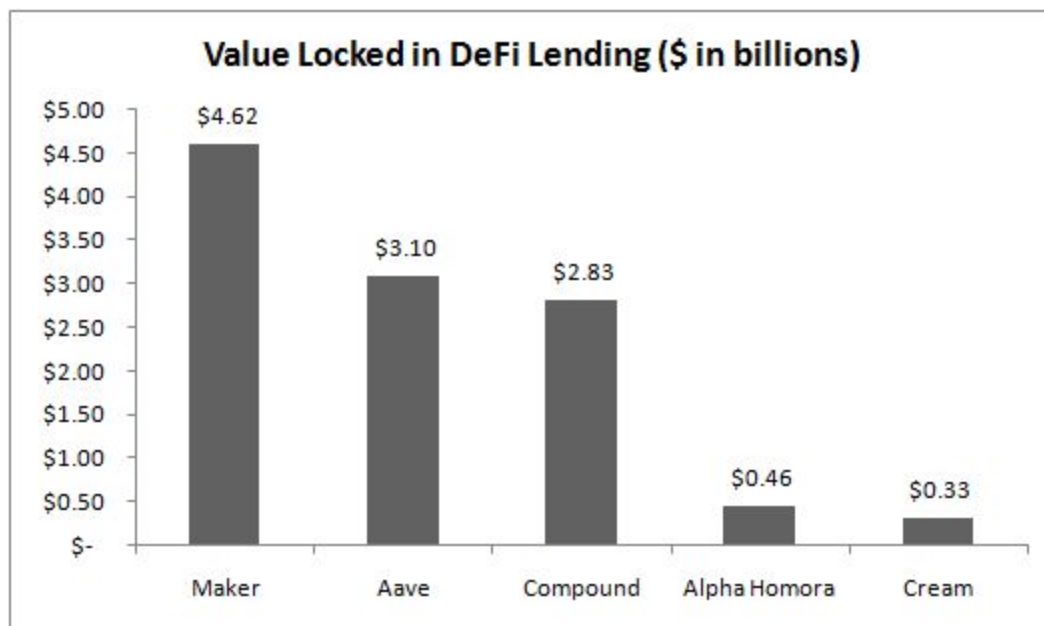


DeFi has a use case in every financial sector. Let's take a look at a few of them and the DeFi projects supporting those sectors.

Lending and Borrowing

DeFi lending and borrowing platforms are one of the most popular types of DeFi applications. It allows users to take loans in a trustless way because it doesn't require any information about the other person whom you are lending. While the lending protocols will enable participants to get interested in stablecoins, anyone having appropriate crypto-assets can lend or borrow loans. It is beneficial in the sense that there is a difference in prices in different markets. DeFi lending offers transparency in contracts and is much easier for users to access. This process is flexible and fast also.

Important DeFi platforms for lending and borrowing and their locked value are as follow:



- **MakerDao**

MakerDao is another decentralized platform based on the Ethereum blockchain that allows lending, saving and borrowing money using smart contracts technology. They launched their stable coin DAI in 2017 and they got the main boost in 2018 after getting a \$15 million investment from renowned venture capital firm Andreessen Horowitz. MakerDao has been playing a major role in building the foundation of the decentralized finance system. It would be correct to say that they are the trendsetter in this industry. They have developed a fair lending system

where they liquidate the user to pay the creditors if a borrower could not maintain a particular ratio of funds in their account.

- **Aave**

Aave is also another decentralized lending and borrowing platform built on the Ethereum blockchain. Aave is a non-custodial protocol that mints ERC20-compliant aTokens to lenders at a 1:1 ratio. Aave offers flash loans which are trustless and uncollateralized where borrowing and payment of loans occur in the same transaction. Security is the top priority of Aave, which is continuously improving. Users can control their wallets. It is regulated and auditable by code.

- **Compound**

The Compound is an Ethereum blockchain-based platform where borrowers can take loans and lenders to provide loans against locking their assets on the platform using smart contracts. Like a traditional bank account, you can store your assets here and earn interest on your money but you always have control over your money and can move anytime any amount of money out of the platform. Recently they have got a huge boost and funds locked on their platform have crossed Maker Dao as well who are considered to be the market leader in decentralized financing. You can use your crypto assets as collateral to borrow more crypto assets.

- **Alpha Homora**

Alpha Homora, a product by Alpha Finance Lab, is a protocol for leveraging your position in yield farming and liquidity providing pools. ETH lenders can earn high interest on ETH. Yield farmers can get even higher farming APY and liquidity providers can get higher trading fees APY from taking on leveraged positions.

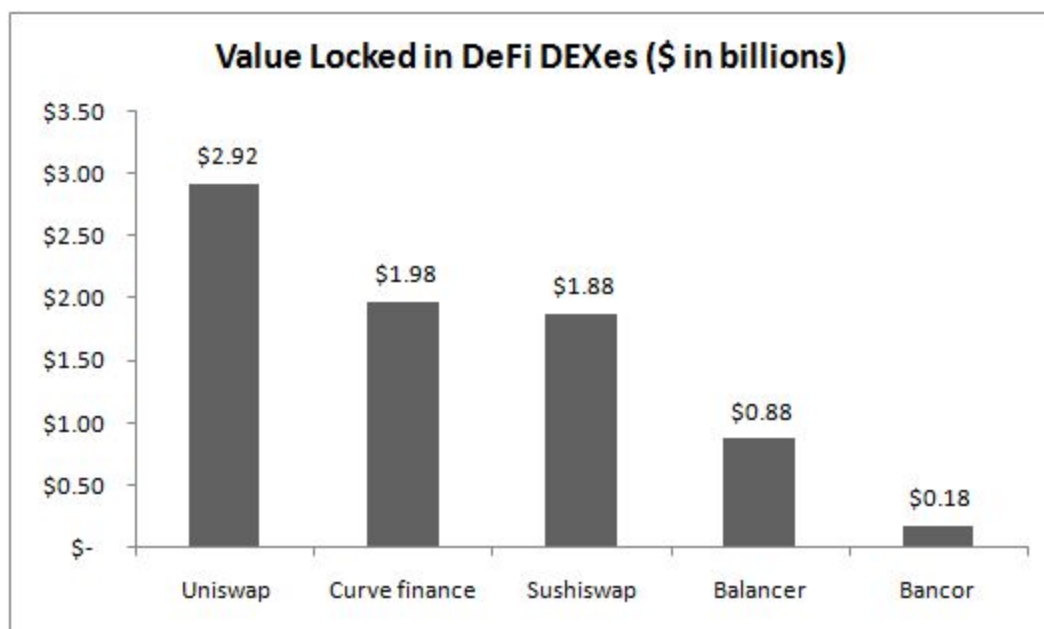
Alpha Homora will borrow ETH to yield farm or provide liquidity on leverage for you when taking on leveraged positions. Liquidation can take place when your position value (in ETH) falls below a certain threshold. This can happen when the price of another token (e.g. WBTC for WBTC/ETH pool) significantly drops compared to ETH or ETH price increases compared to another token.

Decentralized Exchanges (DEXes)



DEXes emulate centralized exchange services in a decentralized manner. It manages user funds through a series of elaborate smart contracts. Users can control their assets using DEXes. It offers optimized usability and deeper liquidity. It is automated trading as long there is sufficient liquidity. This trading has a small fee and doesn't require sign-ups, and users can connect a wallet of their choice to start trading. DEXs are trustworthy, but you must keep your private keys in check. Transaction on DEXs charges some fee in the form of ETH. These are most exciting in the DeFi ecosystem. In recent years DEXes have made improvements making it able to compete with future challenges.

Important DeFi platforms for DEXes and their locked value are as follow:



- **Uniswap**

Uniswap is a decentralized exchange based on smart contracts hosted on the Ethereum blockchain. It's an on-chain-built platform that allows the swapping of ETH and ERC20 tokens. It uses liquidity pools instead of order books. Anyone can contribute to those liquidity pools to earn commissions. It eliminates trusted intermediaries and unnecessary forms of rent extraction, allowing fast and secure trading. Its priorities are security and censorship resistance.

- **Curve Finance**

Curve Finance is a liquidity aggregator that is designed for extremely efficient stablecoin trading. Launched in January 2020 and founded by NuCypher, Curve Finance is a decentralized exchange that allows users to trade with stablecoins with a low-fee algorithm designed specifically for stablecoins. Curve Finance has earned its place and rapidly become one of the largest protocols in the DeFi ecosystem, especially after it recently launched its governance token this August 2020. It acts as a medium to earn returns on cryptocurrency and to trade certain altcoins in a manner that promotes the creation of liquidity.

- **Sushiswap**

Sushiswap is a fully decentralized on-chain protocol for exchanging tokens through a process of automated market-making (AMM) which uses 'liquidity pools' rather than an order book. This innovative system lets anyone make a liquidity pool for their token by providing ETH and an ERC20 of their choice, and ensures automatic price discovery.

SushiSwap is community-run through voting on project governance issues, and fees collected by SushiSwap are shared between the \$SUSHI token holders and liquidity providers (LPs).

- **Bancor**

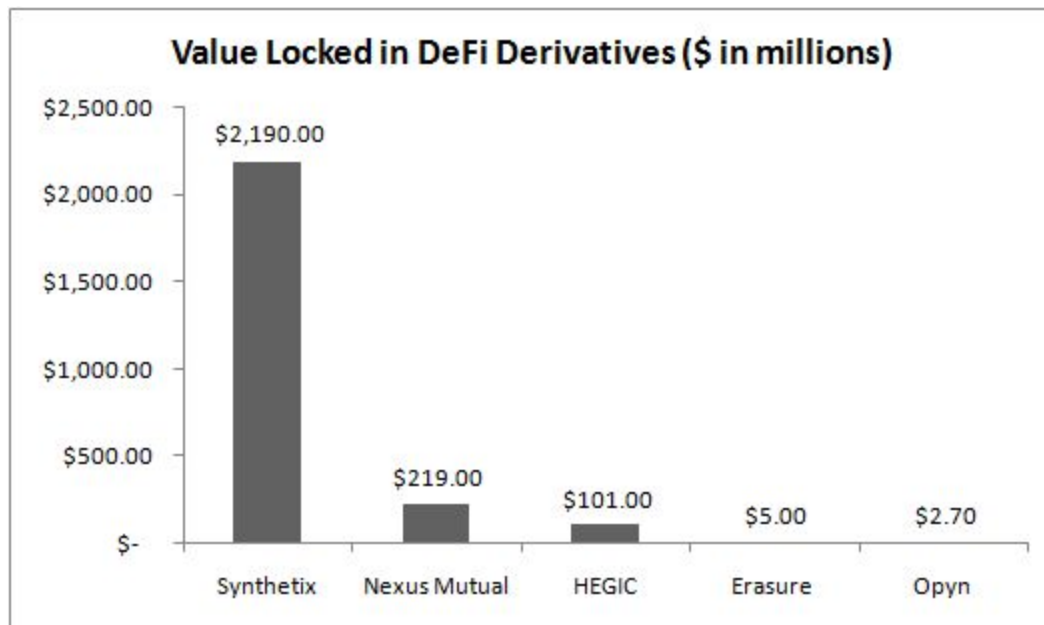
Bancor is another decentralized exchange built on the Ethereum blockchain that uses smart contracts to execute a trade. Like a traditional exchange, it doesn't need matching orders to execute a trade. In this way, an exchange would never be short of liquidity, as a transaction is completed by a single party using a smart contract. This also allows users to enjoy no slippage and no spread facility that they usually have to deal with while trading on a centralized exchange.

DeFi Derivatives

DeFi derivatives are a type of financial contract between two parties, which derives their value from an underlying asset. These play an important role in the long-term stability of the digital asset ecosystem. It provides the foundation to gain exposure through cryptocurrencies. All derivatives are over collateralized. These can be purchased and

issued using Ether. The primary purpose of derivatives includes protection from price fluctuation in the future. Types of DeFi derivatives are future, forward, option, and swap.

Important DeFi platforms for derivatives and their locked value are as follow:



- **Synthetix**

Synthetix is a decentralized platform that specializes in creating synthetic tokens. They have been revolutionizing the world by offering tokenized real-world assets such as gold, Brent oil, and AAPL within the Ethereum blockchain. Like Dai stable coin is synchronized with the US dollar in the same way you can mint tokens for all stocks which are considered to be derivatives. Synthetix also has its stablecoins USD which works in the same way as Dai of MakerDao. It allows exchange between a wide variety of synthetic assets. Trade assets are backed by a distributed pool of crypto collateral- censorship-resistant.

- **Erasure**

Erasure protocol developed by Numerai is a decentralized data marketplace where you can post your predictions and can earn money from those predictions. A

unique platform for making money by selling competitive information. A buyer, on the other hand, can pay to get access to the encrypted prediction feed. You can use the Erasure platform on erasurequant.com which is used for stock predictions and erasurebay.org to buy or sell information.

- **OPYN**

Opyn is the insurance layer for decentralized finance. It allows users to protect their DeFi deposits and hedge ETH risk. It is non-custodial as all funds are stored in a wallet accessible by the user only.

Asset Management Tools –DeFi Wallets

Asset management has made it so easy and transparent if managed by decentralized assets management tools. Traditionally, you keep your funds with your banks or even in some centralized exchange that uses your funds to make money. But in DeFi, you and you only are a custodian of your funds and assets. DeFi offers the best and friendly wallets, apps, and dashboards for managing cryptocurrencies and assets. These provide full control to users and are accessible around the world. These tools have made it easy for users to set up wallets and control all working. In recent years, there have been a lot of improvements in wallets and other asset management tools.

There are various DeFi asset management tools. Let's take a look at a few.

- **MyEtherWallet (MEW)**

MyEtherWallet is an open-source wallet that can be used for storing, sending and receiving Ethereum and other ERC20 tokens hosted on the Ethereum blockchain. It is the most popular Ethereum wallet released in July 2015. MEW wallet gives you an address that can be perceived as your bank account number where you can receive the coins from others. If you want to send coins to someone else from your wallet then you need to generate a private key which is randomly generated by the platform. Keep this private key secure like a password of your bank account. Also, you can use the wallet to access your coins stored on hardware wallets such as Ledger Nano S and Trezor.

- **ABRA**



Abra is the world's first global investment app that enables investors to invest in hundreds of cryptocurrencies. It combines a safe cryptocurrency wallet and exchange in an easy-to-use experience. You can add money to your wallet using a bank account and then can exchange it for any available cryptocurrencies.

- **Coinbase Wallet**

Coinbase wallet is the number one mobile crypto wallet and WEB 3.0 Dapp browser. Users can securely store, send and receive cryptocurrencies. Users are in control of their private keys. Crypto payments can be sent to anyone in the world. It also offers backup and restores the wallet using standard 12-word BIP39 recovery phrases. It allows an overview of the current price of assets in your wallet in local currency.

- **ARGENT**

Argent is the most simple and secure smart crypto wallet. It offers high protection; auto blocks large transfers, lock and unlock your wallet and recover without a seed phrase. It is a non-custodial crypto wallet. Only users can access their assets, not anyone else.

- **Gnosis Safe**

The most secure way to manage crypto funds is Gnosis safe. It provides the highest level of security combined with a great user experience for anyone holding Ether or ERC20 tokens. It is the first smart contract-based Ethereum wallet on mobile with a wide range of functionalities that are not possible with traditional crypto and blockchain wallets.

DeFi Payments

This system is to create an open finance ecosystem to facilitate institutions and the underbanked & unbanked populations. DeFi payments offer secure transactions that are powered by programmable smart contracts.

Examples of DeFi payments and their locked values are as follow:

- **Lightning network**



Lightning network is one step ahead of the curve to promote the cryptocurrencies by allowing the fast settlement of transactions off-chain without making the users wait for the transaction confirmation for a long time. Lightning Network is a Layer 2 protocol built on top of Bitcoin which opens a channel between two or more people and allows settlement of transactions off-chain up to the amount deposited and when the channel is closed, it publishes all the transactions to the real Bitcoin blockchain.

- **xDai**

The xDai chain is an Ethereum side chain with 5-second block times, low gas prices, and a native token that is also called xDai. xDai token is analogous to ETH on the Ethereum blockchain. Users can convert Dai to xDai via the POA network's token bridge, which connects Ethereum and the xDai chain. The best way to use xDai is the popular Burner Wallet, which makes it easy to get some xDai for spending.

- **Connex**

The Connex also allows the off-chain settlement of transactions on the Ethereum blockchain to make the transactions fast and keeping the cost for promoting the micropayments concept of blockchain technology. Connex gives the Dai Card to its users and they can make instant payments and receive from other Dai cardholder users.

DeFi Insurance

Insurance provides a guarantee of compensation against a loss and creates peace of mind that your assets are protected. In recent years, crypto hacking caused a loss of billions in investor capital. DeFi insurance protocols allow users to take out insurance policies on smart contracts, funds, or other digital assets. There are few DeFi platforms offering insurance, but it will increase in the future according to its need.

- **Nexus Mutual**

Nexus Mutual is a blockchain-based insurance solution that allows people to share the risk without any insurance company by using smart contracts hosted on the Ethereum blockchain. Token holders vote to give a decision on each claim. Nexus'

focus is on the security failures of smart contracts on the Ethereum blockchain which has been a big issue as many hacks have been done causing millions of dollars loss. Their motto is to make people trust the others they don't know even by trusting the code.

- **VouchForMe**

VouchForMe, a blockchain-based platform that allows the users to ask their friends to vouch for them. It is an online platform for gathering guarantee that cuts insurance premium costs. It is a global blockchain-based platform, enabling proofing to be conducted in numerous ways across different industries.

- **Etherisc**

Etherisc is a decentralized insurance protocol that is used to collectively build risk transfer solutions. It offers automatic payouts and is almost instant. It is designed for low-income individuals and small business owners. It provides protection against theft and hackers on the smart wallet contract.

The future potential of DeFi

Finance has been part of our life since the inception of human civilization. DeFi is the latest form of finance and it is the future as well because the future is all about being digital not only in finance but also in every aspect of life. We are going to see all the old fiat systems being transformed into a digital one and DeFi has to play a major role in this transformation.

This industry still requires a lot of improvements—the main challenge faced by a lending platform is over collateralized. One of the other challenges faced by DeFi is that every transaction is irreversible on the blockchain. It needs the initiatives to improve debt-collection techniques DeFi and blockchain platforms need to overcome these barriers, understanding the public needs. Once it has overcome the obstacles of improving user experience and trust of the public, DeFi can be seen as a crucial part of the internet and expected to gain traction in the future. DeFi platforms such as Abra have aimed to reach remote parts of the world by combining traditional instruments such as equity with tokens. This system will provide opportunities for entrepreneurs to bring the financial market

closer and increase transparency. DeFi has a bright future as shortly favored decentralized digital assets and services will become a new standard.

Blockchain & Crypto: what to expect in 2021?

If we call 2020 the year of unpredictability and instability worldwide, it would be right to do so. Such years occur after centuries when the dimensions of everything around you change. The way people deal with these times changes everything altogether. The predicted trends become volatile and nothing can be said with a degree of certainty. The Pandemic COVID-19 has not only been a nail in the coffin for many struggling businesses. It has also pushed huge business empires to the edge of bankruptcy. However, some sections of the market have seen immense growth too and as a result, ended up being huge players in the market.

Here, we will be examining the effects this year had on the blockchain and crypto industry. We will go through the biggest trends in the market of the past and build an analysis of what should be expected from 2021 and years beyond.

Blockchain market to grow exponentially

Many businesses had decided to invest and jump into this emerging market in the preceding year and hence the industry saw an unprecedented boom. From 3.0 Billion USD, the industry is predicted to become a giant 39.7 Billion USD with an effective compound Annual Growth Rate (CGAR) of 67.3 % in the years 2020-2025. This can be greatly attributed to the fact that many businesses had to seek digitization and therefore digital means of financial transactions to ensure operations in the pandemic environment because otherwise the strict government policies and uncertain lockdowns would have taken the business by storm. Therefore, investment and trade in the blockchain market was more suitable for businesses seeking a safer route through the chaos

The year 2021 is said to be a very positive year for the industry, it is estimated that “at least 25 % of the Forbes Global 2000 will use blockchain as a foundation for digital trust at scale “

Covid-19 to cause more blockchain transitions



As the business has grown there have been numerous problems and deficiencies of the blockchain system which have been identified by customers. These have pushed the experts to predict that almost around 90 % of the blockchain projects are expected to seek a new approach or be replaced altogether.

A few of these reasons are that the projects had neglected features like tokenization, decentralized consensus, and smart contracts. To ensure transaction safety and transparency.

The pandemic has caused the industry to look into more realistic approaches to the programs which make the industry more viable. Especially the fact that most transactions are day-to-day to business-oriented needs to be catered to ensure growth. The segments of the industry which have already tailored to the requirements are set to see a gigantic growth in the upcoming year. The Industry has also seen some new players who are bidding to ease the hassle for day-to-day businesses and thereby exploit the vacuum that is observable in the market due to the pandemic.

Rapidly digitizing global economic market

Transforming into the digital domain is no longer an option available to the business community it has become a necessity. As the business community has learned through lockdown months that if the business does not have a strong digital footprint, the business would always be a threat by either the governments or natural calamities. Many have experienced new horizons for their businesses if they were to adopt the digital environment of operating their business. Blockchain technology is experiencing the most rapid and decisive change. The way businesses work during the upcoming years would be revolutionized using this new environment. Blockchain is being looked at as the most useful tool in the years to come.

A 30 % increase in the blockchain products

It is estimated that around 30 % of new blockchain projects would jump into production. The rise in the number of products is significant compared to the past, not only has the number increased but also that the products have diversified with it. Technology is becoming increasingly mature every day. To quote Gartner we have more than 40 % of the corporates which had been surveyed earlier who are now running a pilot project. The

majority of the networks that undergo a transition into the production stage will be run on private enterprise platforms.

China to be the quickest to meet the change

China has been leading the blockchain market around the globe and is likely to continue to win globally at least till 2021. Blockchain is transforming the Chinese market altogether which at present is far ahead of the global market players. The “ New Infrastructure “ initiative, the state service network backing blockchain aims at making blockchain integral to the digital infrastructure of the country. The next thing China aims at is to provide the global infrastructure through this network. The next big thing in mind is digital yuan, which is almost ready to be issued.

Permissioned blockchain to dominate

Another idea in the pipeline is the emergence of private entities in the market which are expected to become huge contributors to the market. These are to occupy the most market space in 2020. These businesses would engage the day-to-day businesses by providing everyday solutions and increasing the ease of business for these segments of the market.

Central Bank Digital Currency in the making

There is a great deal of buzz that the central banks around the globe might just be on the verge of getting into the business. The BIS reports that around 80 % of the central banks around the globe are researching if such an idea is feasible. The research is said to be pushed further in the year 2021. China has already gone through the testing phase and has now stepped into the practical market reaction stage. They have executed many experiments testing the currency in the local market. Hence one thing is for sure, the paper is almost on the verge of replacement.

Regulations coming in

The biggest and the most worrisome trend in the year 2021 is the fact that as more governments step in there is a growing concern for tighter regulations. Since the beginning of the cryptocurrency, it has been favored by many to be safe from world policies and being independent of nationality. However, governments around the globe are now

implementing a pyramid of regulations. As the day-to-day transactions shift to the digital world the concerns over regulations grow and now many believe it is time that the market gets regulated.

Markets are dominated by the banking and financial sector:

The covid-19 pandemic affected all industries and sectors of the world but the sector that's hit the hardest is the financial and banking sector. The world is digitizing exponentially and hence the increasing demand from the users is forcing the bank to digitize themselves to cope up with their sinking profits and tightening margins. The best scheme or concept to adopt in such a situation can be fintech or blockchain technology. By adopting such technology banks can bring modernization in their operations and hence bring stability to it. This will bring a revolution in terms of contactless transactions in this new pandemic that hit the world and will redesign the concept of financial services. Blockchain adoption is the most successful concept in the market expected to show exponential growth in the banking and financial sector, in near future. The global adoption of blockchain will be proved to help these sectors to hold a major share in market size.

The rise in Distributed Ledger Technology (DLT) offers:

COVID-19 introduced another latest and rather popular trend getting its popularity due to non-traditional financial institutions. It mainly attracts the exponentially increasing corporate sector and also the consumers who are getting more and more interested in the online transactions and financial service model that is based on a blockchain concept. Such groups are working on fully decentralizing financial (DEFI) services by providing consumers and industries with non-banking opportunities provided by different institutions including cryptocurrency led banks and non-bank lenders.

New popular Trends: DEFI

Decentralized finance (DeFi) can be a forthcoming trend in 2021 that will gain popularity and will be accepted by the consumers and the firms. DeFi can be considered next to the concept of acceptance of tokenization being expected. The acceptance of tokenization can be explained as the digital version of storage for your assets on a blockchain. The DeFi covers one of the major missing points in the blockchain concept that is how it can be used for financial use cases. It can be considered so far as the best alternative in the fintech

solution of the economy for financing a firm. It represents a smart contract for financial services.

Newer heights for Cryptocurrencies:

Seeing turnout for cryptocurrency in 2020, 2021 can also be considered to be another successful year for Bitcoin and other cryptocurrencies. In a COVID-19 pandemic hot year cryptocurrency came out to be a safe platform for investors to invest their assets into. Taking the example of Bitcoin which has proved itself to be digital gold, due to uncertain conditions and frequently changing government policies helping it to prove as the strongest candidate in the world of digital currencies. Now in the year 2021, may it be the social distancing or the cashless transactions it all has become a new normal for us hence it sets a new stage full of opportunities for cryptocurrencies. But the rapid fluctuations in the crypto world may lead us to altogether a different conclusion.

The year 2020 has proved itself to be the year of cryptocurrencies in the financial domain, but it also led to scams and fraud in cryptocurrencies often referred to as crypto fraud. Globally Cryptocurrency exchanges have been affected by high-level profile hacks such as hack in DeFi projects have accounted for up to 20% of the total volume of theft in the year 2020. This scan in the crypto world is expected to be continued in the year 2021.

With the increasing adoption and demand of cryptocurrencies, various central banks are looking to issue central bank digital currency (CBDC) but those will not be a true form of cryptocurrencies due to their centralized control. Although cryptocurrency seems to have all the capabilities to take the world's economy to the next level, there is always room available for further improvement as no solution is considered optimal to keep striving for the better one.

Crypto hype is at its top level as the year started and we are seeing its coverage on leading media centers which is helping a great deal to spread the word. Most of the institutional investors have already jumped in but most of them have not said a word about it in public yet. Retail investors also looked hyped as there is a strong increase in the search volume of Bitcoin on search engines and social media. Bitcoin market cap is already among the top 10

stocks market cap and things are only warming up yet as the supply of Bitcoin is only going to get dried up while demand is increasing which will boost the price further.

In the coming years, crypto will become a multi-trillion dollar industry and it will become a dream for new retail investors to buy a whole one Bitcoin. The blockchain industry, on the other hand, is expected to have a massive growth from \$3 billion to \$39 billion in the next 5 years as the decentralized ledger technology adoption is on a massive rise due to its premium features that traditional technology lack to offer. Companies have only started to realize the advantages of blockchain and turning towards it to digitize their business at its best using this technology of the century.