Cryptocurrency Research Report

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CRYPTOCURRENCY

A cryptocurrency is an encrypted data string that denotes a unit of currency. It is monitored and organized by a peer-to-peer network called a blockchain, which also serves as a secure ledger of transactions, e.g., buying, selling, and transferring. Unlike physical money, cryptocurrencies are decentralized, which means they are not issued by governments or other financial institutions.

EVOLUTION

The cryptocurrency entered public utilization with the surge of Bitcoin in 2008—a protocol geared toward permitting a network of related peer-to-peer digital communications infrastructure. To supply digital tokens and securing systems through cryptography.The core idea behind cryptocurrency was to create a secure and anonymous way to transfer currency from one person to another, and since then its value has skyrocketed and it's been heralded as 'digital goldThe term 'cryptocurrency', however, quickly received traction in online chatter and print media.

THE POSITION OF CRYPTOGRAPHY IN EARLY CRYPTOCURRENCIES

Cryptography is the use of codes and ciphers to protect secrets, began thousands of years ago.

The phrase "crypto" within the term cryptocurrency means the "anonymous coins and other untraceable fee systems" as a permitting characteristic. Bitcoin's mission of using "cryptographic proof instead of trust" resonates with the preliminary. The accurate protocol specifications of Bitcoin is summarised in Scheuermann and Tschorsch (2016). Cryptography enters its structure in various methods. It would seem justified by means of the reality that cryptography performs a miles more vital function for Bitcoin than it does for national currencies.

THE FUNCTION OF CRYPTOGRAPHY IN TODAY'S CRYPTOCURRENCIES

We can classify the underlying framework of cryptocurrency structures along with the measurement “public” vs. “non-public” and “permissioned” vs. “permissionless”. In public-permissionless systems, every participant inside the network (node) can study transactions and write others to the ledger. For public-permissioned systems, the most effective authorised nodes can write. In non-public permissioned structures, eventually, even reading is confined to authorized nodes. The more “personal” and “permissioned” in its underlying infrastructure a machine is, the similar it is from the cypherpunk imaginative and prescient

An example of a recent improvement fashion preserving true to the purpose of changing consider with the aid of cryptographic proof found in archetypal cryptocurrencies (examine Nakamoto, 2008; and Genkin et al., 2018) are so-referred to as privateness-maintaining cryptocurrencies or ‘privacy coins’ (e.g., Zcash, n.d.; Monero, n.d.).
They're intently associated with archetypal cryptocurrencies and mirror their public-permissionless setup of rights to examine and write. As “alternative cryptocurrencies designed to present more potent privateness than Bitcoin”, (Genkin et al., 2018) they even boom the usage of cryptography to make certain anonymity. Resulting from their awareness of privateness, but, they may be main to rising issues with admiration to anti-money-laundering and law enforcement.

POPULAR CRYPTOCURRENCIES

Bitcoin (BTC): Market Value: Over $821 billion
Bitcoin is the original blockchain-based cryptocurrency. Created in 2009 by the pseudonymous Satoshi Nakomoto, bitcoin has since fascinated millions of investors, becoming the largest cryptocurrency by market cap. Because additions to the distributed ledgers must be corroborated by unravelling a cryptographic riddle, a process called proof of work, Bitcoin is kept secure and safe from fraudsters.

(Source: Bitcoin growth chart tradingview, till 1st October, 2021)

Ethereum (ETH) :Market Value: Over $353 billion
The creators of Ethereum are Vitalik Buterin, a Russian-Canadian programmer, and Gavin wooden, an English pc scientist who thereafter contributed to different cryptocurrency projects. The Ether foreign money is constructed on the pinnacle of the Ethereum blockchain, which operates clever contracts. Ethereum has additionally skilled brilliant increases. In just 5 years, its charge went from about $11 to almost $3,000, increasing more than 27,000%.

(Source: Ethereum growth chart-tradingview, till 1st October, 2021)

Tether (USDT) Market Value: Over $68 billion
Founded in July 2014 by Brock Pierce, Craig Sellars, and Reeve Collins, Tether (USDT), originally known as "RealcoinUnlike some different types of cryptocurrency, Tether is a stable coin, meaning it's subsidized by fiat currencies like U.S. greenbacks and the Euro, and hypothetically continues a price similar to one of those denominations. In idea, this indicates Tether's fee is supposed to have greater consistency than different cryptocurrencies, and it is preferred by means of traders who are wary of the extreme volatility of other cash.

(Source: Tether growth chart, tradingview, till 1st October, 2021)

Binance Coin (BNB): Market Value: Over $64 billion
Binance coin was created by Changpeng Zhao, CEO and founder of Binance, a main global trade for purchasing and promoting cryptocurrency. The BNB token was created with the goal of facilitating transactions at the Binance network, permitting customers to pay their buying and selling expenses and access other services and products, which include Binance's decentralized change.

(Source: Binance coin growth chart,tradingview, till 1st October, 2021)

MONETARY TRAITS OF RECENT CRYPTOCURRENCIES

Early cryptocurrencies had the declared rationale of creating 'virtual cash' or currency , but the creation of crypto token forms have destabilised how this is conceptualised.
First-layer tokens (e.g. Ether) that underlie clever agreement platforms 6 (e.g. Ethereum), and informally even 2nd-layer tokens (tokens strolling on the respective platform) are called cryptocurrencies.

Also 'general motive' tokens are marked by using modifications. A reaction to the inherent instability in prices of archetypal cryptocurrency was the arrival of 'stablecoins', which attempt to clear up the difficulty of excessive volatility in buying power of Bitcoin . Stablecoins are attached to fiat currencies, or 'subsidized' in a few manners with the property that has fiat foreign money expenses. They're consequently not 'blank' empty signifiers, and comprise a few reference points that are simpler to estimate and communicate. There are very exceptional types of stablecoins, and these days several structures have tried to unify and summary existing stabilisation schemes (e.g., Bullmann et al., 2019; Pernice et al., 2019; Moin et al., 2020; Sidorenko, 2019; Clark et al., 2020). National forex can be 'tokenized' by issuing a digital promise for it on a blockchain gadget, and such tokenized budget would possibly indeed be classified as a "new shape of electronic money" (Blandin et al., 2019) decreasing the separate rules for e-cash, anti-cash laundering and counter-terrorist financing rules. This might make sure "moneyness" is a minimum from a felony viewpoint. With extra complicated stablecoin designs the legal case isn't always usually clean, but from a financial perspective, their balance in buying strength would possibly contribute to the growth of their adoption as cash within the destiny. Stablecoins, for now, nevertheless, haven't seen mainstream acceptance in retail markets.

EVOLUTION & GROWTH

Even though Bitcoin is considered as the first established cryptocurrency, many attempts were made between 1998 and 2009 at creating online cryptocurrencies with ledgers secured by encryption. The two main examples were B-Money and Bit Gold but they were never fully developed. After the paper 'Bitcoin: A Peer-to-Peer Electronic Cash System' in 2008 was published, the Bitcoin Software was made available to the public and the mining process to create new Bitcoins began. In 2010, Bitcoin coins were traded for the first time. Someone decided to sell 10,000 units for two pizzas. The coin is believed to be worth around $0.00001 when it was first minted.

With the increase in popularity, rival cryptocurrencies emerged. These alternate cryptocurrencies (also referred to as altcoins) were launched to improve the original Bitcoin design in areas such as privacy, transaction speed, DNS resolution, proof-of-stake, among many others. Similarly, Bitcoin Classic and Bitcoin Cash were created by manipulating the existing bitcoin code to reduce confirmation times and transaction costs, or correct scalability issues. Namecoin, Litecoin and SwiftCoin were the first altcoins to launch in 2011.

Since the crypto market is unregulated, it has proven to be an attractive and lucrative target for fraudsters. For instance, between 2015 to 2017, Bitcoin rose by almost 3000 % and seeing this increasing acceptance of Bitcoin, Dr Ruja Ignatovo created her cryptocurrency called 'OneCoin'.
She declared that OneCoin's blockchain is better and safer than Bitcoin's. Although, in reality, it was a fake coin, no one knew that. Eventually, people believed her and the price of OneCoin skyrocketed. At its peak, there was $15B worth of OneCoin in circulation. She promised an exchange where people could sell OneCoin but the exchange was never released. Ignatova disappeared with all the money and is yet to be found. This is one of the biggest crypto scams to date.

However, despite scams and thefts, the buzz around cryptocurrency did not die away. Today some of the most popular alternate cryptocurrencies are Ethereum, Ripple, Zcash, Litecoin, Monero, and Dash. There are currently more than 1,500 cryptocurrencies available online.
The emergence of Initial Coin Offerings (ICO) made it easier to launch cryptocurrencies. These are fundraising platforms that provide investors the prospect to trade what are often essentially stocks or shares in startup ventures, in the same manner, they can invest in cryptocurrencies. The first ICO was held in 2013 by Mastercoin.

The year 2017 saw continued growth in the popularity of cryptocurrency. The market cap of all crypto coins rose from $11bn to $300bn. Many banks including CitiBank, Barclays began investigating ways to work with Bitcoin.

Even in India, cryptocurrency investments grew from approximately $923 million in April 2020 to a huge $6.6 billion in May 2021. According to a report prepared by blockchain data platform Chainalysis, India ranks 11th out of 154 nations in terms of cryptocurrency adoption. This growth of cryptocurrency in India is due to the depreciation in traditional currencies, stocks and bonds during the Covid-19 pandemic in 2020. Younger Indians between the age bracket of 18 and 35 years find cryptocurrency a far better option compared to gold.

Cryptocurrency and also the technology behind cryptocurrency, blockchain, has revolutionized the fintech industry in different ways.

GOVERNMENT POLICIES

The monetary system has evolved through many stages from the barter system to paper money. For millennia, currency had an intrinsic value. A long time ago, gold was the main form of money. Later, paper money such as cheques and currency were used. The coins and currencies which are used in most economies today are called Fiat money. It has no intrinsic value and is declared as legal tender. Fiat currencies are not backed by any tangential assets and have value because the governments say they do. Central banks control the fiat currency through their various monetary policies. Bitcoin, on the other hand, was created for transactions without any central authority or middlemen. This absence of central authority is the prime reason governments are afraid of cryptocurrency. If cryptocurrencies become widely adopted as a digital currency, the entire banking system would become extraneous. Banks provide various services including assistance in transferring assets, a technical issue with payment etc. In the absence of a regulatory framework, Bitcoin can be used for circumventing capital controls, tax evasions and other illegal purchases. These illegal activities including drug trafficking, money laundering etc., will rise due to untraceable financial transactions. Thus, one cannot deny the importance of regulators to avoid tax evasions and other illegal activities.

The legal status of cryptocurrencies differs from country to country. At present, many countries do not accept cryptocurrency as a legal tender or have banned cryptocurrency trading. Bolivia was the first country to ban cryptocurrency and all forms of currency that were not regulated by the government in June 2014. Many other countries including China, Turkey, Nepal, Vietnam, Columbia and Algeria banned the use of Bitcoin and all other cryptocurrencies. North Macedonia is the only European country so far to have an official ban on cryptocurrencies in place, however, recently the United Kingdom banned the world's largest cryptocurrency exchange that deals with bitcoins.

Source: The Economics Times

In India, the government is yet to pass a bill for the future of cryptocurrency. In 2019, SC Garg Committee had suggested the government not to permit private cryptocurrencies in India. Earlier this year, there were talks regarding a bill to ban cryptocurrencies that would criminalise the possession, issuance, mining, trading and transferring of crypto assets. However, there is no official bill outlawing cryptocurrencies in India. According to recent reports, the Indian government is planning to tax cryptocurrency trades and ecosystems in the country. The cryptocurrency bill will define crypto assets and is expected to shed light on the tax treatment of these digital assets. The working of the regulatory framework will become clearer once the bill is approved. India is also planning to come out with its digital currency, Central Bank Digital Currency (CBDC). It is a form of virtual currency issued by a central bank as an alternative to its currency. These are digital coins supported by sovereign reserves and the worth of these coins is not subject to market fluctuations.

Despite qualms from various governmental organisations, some countries have shown a propensity towards cryptocurrency. Some believe that Bitcoin and other cryptocurrencies when regulated would benefit to a larger extent. Countries, where Bitcoin is a legal cryptocurrency, include the United States of America, Canada, Australia and the European Union. In these countries, Bitcoin is recognized as a commodity as it can be bought, sold or otherwise exchanged. It is seen as another asset class and cryptocurrency exchanges are regulated similarly to that of financial firms. In the United States and Australia, cryptocurrencies are taxable whereas cryptocurrencies are exempted from taxes in Canada and the European Union. However, even in these countries, cryptocurrency is not equivalent to fiat or government-issued currency.

The first country in the world to accept Bitcoin as legal tender is El Salvador

In June 2021, the country's Congress approved a proposal to adopt Bitcoin as a form of payment to buy goods and services, settle debts or meet any financial obligation in the country. With the widespread use of Bitcoin within the country, the government of El Salvador hopes to revive its Covid-19 hit economy and hold more of its money through an entirely different channel.

TRENDS & FORECAST OF CRYPTOCURRENCY

In the last decade alone, cryptocurrency has proven to be one of the most intriguing investment opportunities. Throughout 2021, the buzz around cryptocurrency didn't die away. It is one of the most fluctuating and volatile topics in the world. How does the price of cryptocurrency change in the market? It has been very difficult to measure the cryptocurrency price movement. Since cryptocurrency is not controlled by the government, supply and demand is the most important determinant of crypto market prices. Many factors are affecting the price movement of cryptocurrency. Some of these include:

Utility of coins- Any cryptocurrency should have some utility to encourage people to hold the coins. The greater the use of the cryptocurrency more would be the demand and thus higher would be the crypto market price.

Scarcity- If there is a constant supply of any item, the price of that item increases in the long term as it is based on the assumption that the demand would also rise in the future. This leads to scarcity as there are only a few coins in circulation.

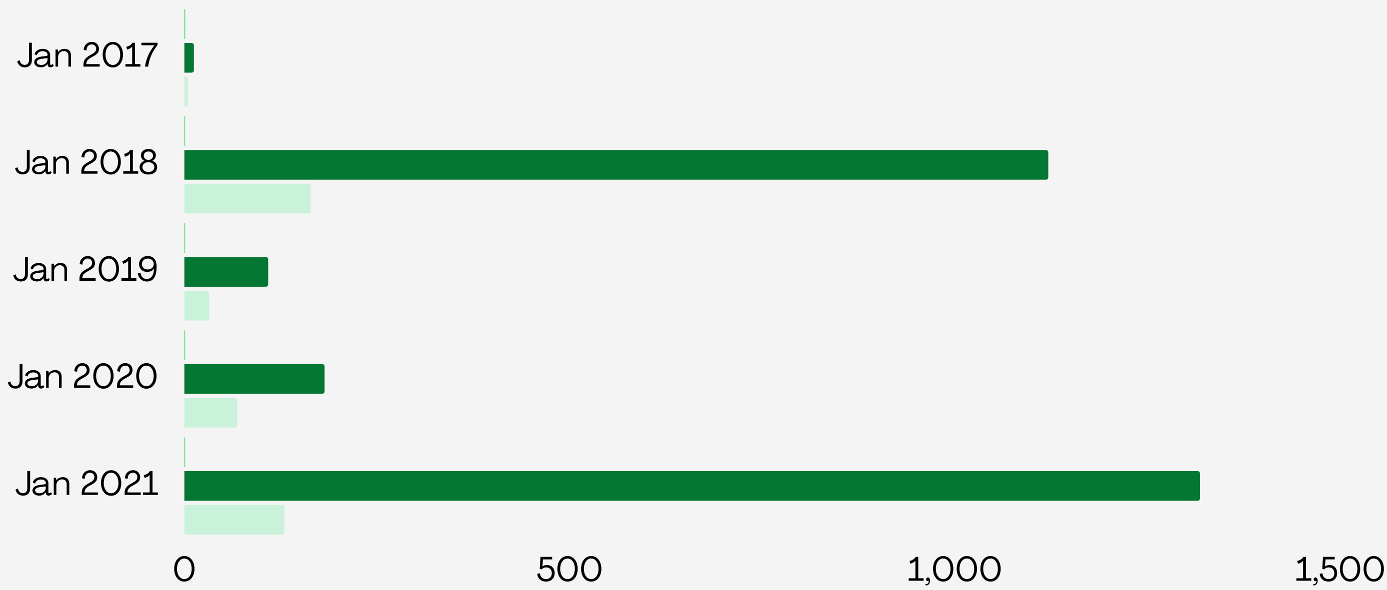
Inflation of Fiat currency- There exists an inverse relationship between the price of fiat currency and cryptocurrency. For instance, when the price of fiat currency decreases, the price of cryptocurrency increases with respect to that currency. This is because more fiat currencies can be bought with fewer cryptocurrencies.

Mass Adoption- The more is the demand for any product, the greater would be its cost. Thus, crypto market prices go up with greater adoption of crypto in the market.

Whales- These are Bitcoin wallets that have around $1 billion in them. A 'whale' begins selling crypto at a lower rate than the market. This causes a panic situation in the market and small traders start selling their holdings. This leads to a decline in prices of crypto and as the price reaches the lowest, the whale buys more cryptocurrencies. This is also one of the reasons that affect crypto price movements.

The cryptocurrency is still at a nascent stage. The market still is yet to find its logical use and purpose. As a result of this, the crypto market is highly volatile. It is majorly driven by the influence of powerful investors and organisations. For instance, the influence of Elon Musk's tweets on cryptocurrencies, especially on Bitcoin and Dogecoin cause the prices to rise or fall.

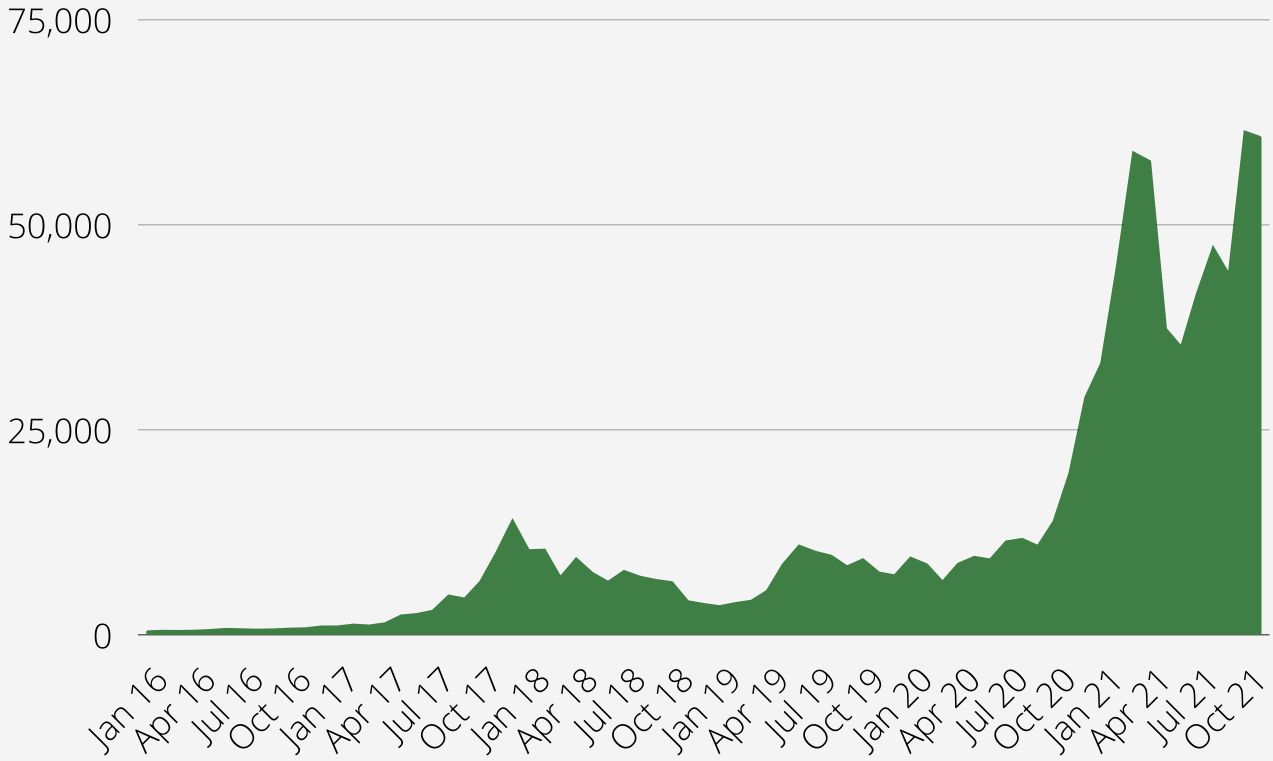
Graphical Representation of prices of cryptocurrency: Ethereum, Litecoin, Tether



USD	Ethereum	Tether	Litecoin
Jan 2017	10.73	1	4.08
Jan 2018	1,118.31	0.9903	163.35
Jan 2019	107.06	1.0065	31.65
Jan 2020	180.16	1.0006	67.88
Jan 2021	1,314.99	1.0008	129.57

Price History of Bitcoin

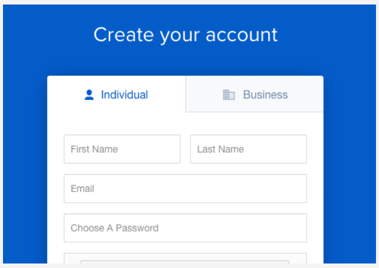
Since the introduction of Bitcoin, its price has gone through multiple bubbles for the past thirteen years. The first instance occurred in 2011 when the prices of Bitcoin jumped from $1 to $32 in June and this was followed by a sharp drop in the crypto market where Bitcoin price plummeted to $2 in November. The fifth price bubble occurred in 2017. After a period of brief decline, the price remarkably increased from around $1000 in March to around $20,000 in December. This upsurge placed Bitcoin in the spotlight. Many governments took notice and began developing digital currencies. Investors and analysts made estimates about its future. The prices of Bitcoin went in another direction for the next two years. However, in 2020, when the economy fell due to the Covid-19 pandemic, Bitcoin's prices began to rise again and by April of 2021, bitcoin eventually reached a peak of more than $64,000. However, the price of Bitcoin plunged to the level of $30,000. This fall in price was caused by Elon Musk's announcement of Tesla's rejection of Bitcoin as a form of payment due to environmental concerns regarding the mining of cryptocurrency.



HOW TO INVEST

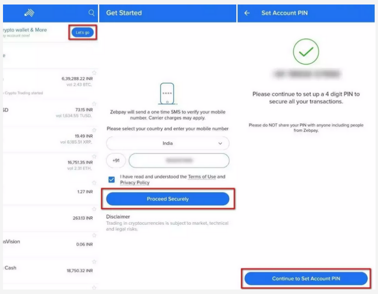
1. Find the right crypto exchange

Since there may be no set-up structure for buying and selling in cryptocurrency, crypto exchanges are the structures where people should buy and sell their virtual assets. In India, some of the greater famous exchanges are WazirX, CoinDCX, and CoinSwitch Kuber.



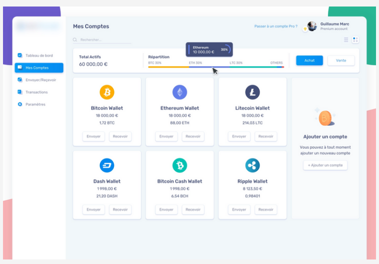
2. Create an account

After selecting the crypto change for buying and selling, create your account on the platform. After developing an account, decide the amount that you are willing to invest, know what you are seeking to invest and study all guidelines of the platform cautiously. The platform will ask for the submission of documents as proof in an effort to prevent any fraudulent activities.



3. Put up the account for trading

There has to be money in the account before buying cryptocurrencies. The money can be sent from one's bank account to a particular exchange account. Upon transferring funds, make sure that both accounts are connected.



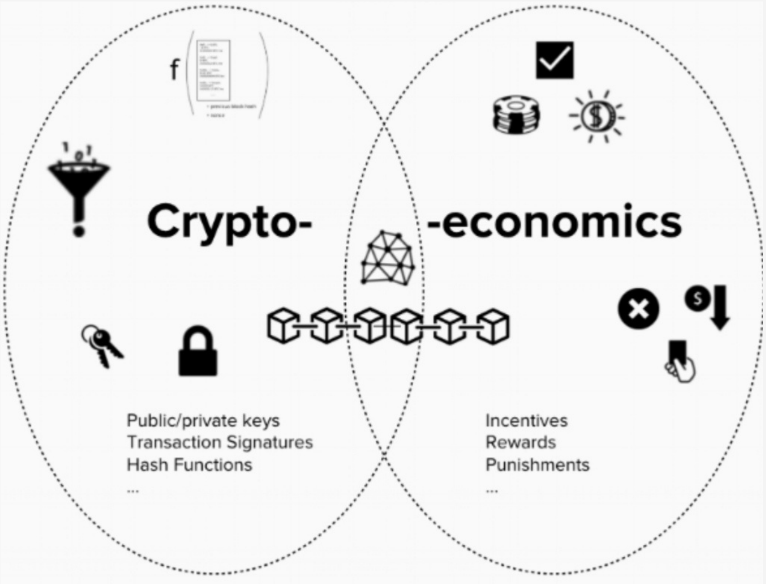
4. Making the investment

After the bills are connected and the crypto alternate account has cash, one needs to pick which coin they want to invest in. The arena's largest and most famous cryptocurrency is Bitcoin, followed by ethereum . Other leading coins consist of Tether, Dogecoin, XRP, Cardano and Binance coins. After purchasing, make certain you keep the codes to the account, to protect it from the risk of hacking. Experts endorse storing the coins purchased in a crypto wallet.

CRYPTOECONOMICS

Cryptoeconomics describes an interdisciplinary, emergent and experimental field that pulls on ideas and ideas from economics, scientific theory and related disciplines within the design of peer-to-peer cryptographic systems. Cryptoeconomic systems try and guarantee certain types of information security properties using incentives and/or penalties to manage the distribution of efforts, goods and services in new digital economies.Cryptoeconomics is an embryonic field at this time and might be taken to incorporate several areas of focus: information security engineering, mechanism design, token engineering and market design. This portmanteau of cryptography and economics raises questions regarding the epistemic novelty of cryptoeconomics, as distinct from its constituent components.Cryptoeconomics was co-founded by the Ethereum network .

Economics research so far has provided little insight into the economic relevance of cryptocurrencies. Most existing models of cryptocurrencies are built by computer scientists who mainly focus on the feasibility and security of these systems. Crucial issues such as the incentives of participants to cheat and the endogenous nature of some key variables such as the real value of a cryptocurrency in exchange have been largely ignored. Such considerations, however, are pivotal for understanding the optimal design and, hence, the economic value of cryptocurrency as a means of payment.



Examples contains the incentive alignment among participants in unauthorized networks and constructing other realistic approaches to spread consensus without evidence of overall performance, also known as blockchain mining. In this sense, cryptoeconomics (or crypto-economics) which includes the mixing of cryptography with economics raises an interesting question concerning the decline of the epidemic.

EVOLUTION

Over time there has been a widening inside the scope of what can be taken into consideration when it comes to cryptoeconomics because the sort of consensus structures and token types has proliferated. The distinctive techniques to cryptoeconomics are starting to settle into distinct layers of a cryptoeconomic 'stack': 'layer 1' referring to the facts protection of a network protocol along with evidence-of-work and evidence-of-stake; and 'layer 2' referring to the token, marketplace or mechanism capacities supplied via emerging cryptoeconomic systems.

Mechanism layout: wherein the point of interest is mainly on the usage of incentives for behavioural engineering of rational sellers in a recreation theoretical setting.

Token engineering: wherein the primary cognizance is at the capability and homes exhibited through tokens used in a device. Tokens might for example provide token holders with particular rights (consisting of provider get entry to or voting privileges as generally encountered with the ERC-20 pseudo-well-known), be fungible or non-fungible together with NFTs, be generated and disbursed through mining, or thru airdrops. distinct token designs are understood to inspire special types of behaviours and organisational homes.

Market layout: where the focal point is on employing blockchain protocols and tokens with the purpose to experiment with new types of markets that generate precise types of outcomes. For instance, bonding curves decide the fee of tokens relying on the supply or different elements, with the purpose to persuade the behaviour of buyers**.**

RELATED ISSUES

Cryptoeconomics is generally understood to mix cryptographic techniques and economics. however, tons of the sector of cryptoeconomics "shows an interesting but additionally alarming characteristic: its underlying economics is remarkably traditional and conservative. Quote a revealing tweet from the influential Nick Szabo: "An economist or programmer who hasn't studied lots of computer science, along with cryptography, but guesses about it, can't design or build a successful cryptocurrency".

Latest characterisations of cryptoeconomics take a broader societal outlook, for example focusing on the economics of new organisational forms , or on the monetary and financial design that attracts on mutual debit/ credit systems .

One of the current challenges encountered in cryptoeconomics is inherent to mechanism framework and marketplace economics . specifically the contradiction between the promise of deterministic results in theory ,and the complicated behaviours and outcomes of the structures in real time. On the other hand, the marketplace design method in cryptoeconomics promises to deliver precise properties (statistics safety or behavioural outcomes). However, the simple policies of the systems frameworks creates complexity and unintended outcomes .

RECOMMENDATIONS & CONCLUSION

Over the past few years, the cryptocurrency phenomenon has become extremely popular in the world. Free from government regulations, cryptocurrency was supposed to be the currency of the future. Some people consider it to be a lucrative asset. There is no doubt that one might become rich by investing in cryptocurrency. For instance, the Winklevoss twins who were sons to a rich Mogul bought $11M worth of Bitcoin for $8 a piece and they are now worth over $6B. The billionaire twins are known as the pioneers of cryptocurrency. However, investing in cryptocurrency is not entirely safe. It is a highly volatile market. Cryptocurrency exchanges are more vulnerable to being hacked and becoming targets of criminal activity than stock exchanges. Even though there are countries where crypto trading is legal, many government organisations are against the crypto industry. Warren Buffet also considers crypto to be a risky "investment" as it is not a productive asset and has no quantifiable intrinsic value attached to it. He believes that the price of Bitcoin depends on a greater fool's theory as most investors buy BTC with the hope of selling it at a higher price. Many do believe that investing in crypto diversifies one's portfolio. What the future holds for crypto is not known. The success of cryptocurrency is unsure, if a cryptocurrency project achieves its goal, then investors will earn profits over the long term.
On the other hand, Blockchain which is the technology that enables cryptocurrency has transformed the world. It has a wide range of applications. It is a record of transactions ranging from a purchase of a good or the assignment of government ID. Blockchain technology has the potential to replace central authorities including banks or government as the transactions are verified by multiple users. It has reformed the fintech industry.

Thank you!

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