

# Cryptocurrency

A cryptocurrency is a digital currency that is secured and maintained by a decentralized system using cryptography rather than by a centralized authority like a central bank. Cryptocurrencies allow for secure online payments that are made by means of virtual tokens, and the innate nature of a cryptocurrency being secured by cryptography – the practice of encoding and decoding data – means a cryptocurrency is nearly impossible to counterfeit or double spend.

Cryptocurrencies are software, as they are created by algorithms that rely on cryptography, and every function, including how transactions are recorded and how data is stored, is dictated by code. The main database for these currencies is blockchain, and blockchain-based cryptocurrencies rely on cryptography to maintain security and reliability. All transactions for a specific cryptocurrency relate back to unique codes that secure the currency's network. Because of their decentralized systems, cryptocurrencies are essentially immune from government interference.

## What is Bitcoin?

### ▶ Key Points

- Bitcoin was designed to create a digital currency through advanced cryptography. Unlike traditional currencies, Bitcoin operates without central authority or banks and is not backed by any government.
- Think of Bitcoin like “digital gold.”
- There is nothing fundamentally underpinning the value of Bitcoin other than the belief among some people that space on the network is valuable.
- Bitcoin is the most widely recognized, valuable, and popular cryptocurrency, and there are now thousands of alternative cryptocurrencies with various specifications and purposes.

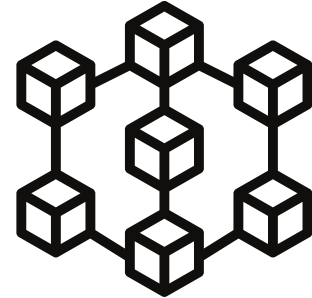


The first blockchain-based cryptocurrency was Bitcoin, which was launched in 2009 by a group or individual known as Satoshi Nakamoto, and the identity of the creator(s) still remains unknown. Bitcoin's history as a store of value has been turbulent; it has gone through several cycles of boom and bust over its relatively short lifespan. As the earliest virtual currency to meet widespread popularity and success, Bitcoin has inspired a host of other cryptocurrencies in its wake. Most cryptocurrencies are clones or pivots of Bitcoin, built upon the same basic framework as the original crypto, but each system can differ from its peers, as all cryptocurrencies are created to be self-supporting. All cryptocurrencies aside from Bitcoin are known as “altcoins” or “alternative coins,” and stablecoins are a subset of altcoins whose value is pegged to another asset to reduce volatility.

# Blockchain

## ▶ Key Points

- Blockchain is like a big, decentralized spreadsheet, and a coin represents a space on it.
- Blockchain has a limit to how many transactions the network can process, known as the blocksize. Limited transaction capacity is a trade-off for decentralization.
- The primary goal of a blockchain is to allow digital information to be recorded and distributed but not edited, which makes the blockchain system a perfect fit for cryptocurrency needs.



Essential to the appeal and functionality of cryptocurrencies is blockchain technology, the record-keeping system behind Bitcoin and most cryptocurrencies. A blockchain is a type of database, meaning it is a collection of information that is stored electronically and can be easily accessed by many different users at once. A variety of information can be stored on a blockchain, and with cryptocurrencies, the most common use is for the blockchain to be used as a ledger for transactions. In cryptocurrencies like Bitcoin, blockchain technology is used in a decentralized way, meaning that no individual or group has control in favor of all users collectively retaining control.

## What is Mining?

Mining creates a supply of new Bitcoins. Bitcoins are mined using computer algorithms that solve a series of calculations, and these time-consuming computations verify Bitcoins and allow for the creation of new ones. By mining, you can earn cryptocurrency without having to put down money for it. You need either a GPU (graphics processing unit) or an application-specific integrated circuit (ASIC) in order to set up a mining rig. Mining is a costly endeavor, and the average cost of mining a Bitcoin is around \$34,000. Only 21 million Bitcoins can be mined, and they become more time-consuming to create as the supply grows; so far, almost 19 million have been found.

## What about Ethereum?

Ethereum is based on the belief that blockchain can go well beyond exclusively being a money database. The vision for Ethereum includes serving as a repository for identities, decentralized file storage, and financial derivatives, among others things, including possibilities within decentralized financial services and Non-Fungible Tokens (NFTs).

## Why Crypto?

### ▶ Key Points

- Think of crypto as following one of two paths:
  - 1) Being something to buy and hold like Bitcoin, or
  - 2) Being a technology to actually do something, like Ethereum.

The main point of cryptocurrencies is to offer an alternative to traditional currencies by putting the power and responsibility in the currency holders' hands. There is no central authority, government, or corporation that has access to a user's funds or personal information. Any person can purchase cryptocurrencies through exchanges that offer the buying and selling of cryptocurrencies. Overall, crypto seeks to undermine the traditional way of dealing with money because people want a currency that is separate from the government.

## Taxation of Crypto

Although the name "cryptocurrency" implies it is a form of money, the IRS considers it a financial asset or property. If you reap capital gains in selling or trading it, the government wants a piece of the profits. You are required to report gains and losses on each transaction or if you are paid in cryptocurrency, even if the gain or loss is not material. The IRS holds you responsible for reporting all income and transactions whether you receive a tax form from a crypto exchange or not. Taxation is constantly evolving with a lot of moving parts.

## Government Regulations

Crypto has grown rapidly, and the government has not been able to keep up. The SEC, CFTC, IRS, FinCEN, and Congress all want a piece of crypto oversight, and clearer regulations are needed. In 2021, the Treasury announced a proposal that would require taxpayers to report any cryptocurrency transaction of \$10,000 to the IRS, and further crypto regulations and oversight are expected on the horizon.

## Crypto Best Practices

- It's not a game!
- Limit your crypto investments to less than 10% of your investable assets.
- It's a high-risk, very volatile investment - invest what you can afford to lose.
- Maintain records of your transactions - your trades in taxable accounts are reportable to the IRS.
- Do real research - taking the advice of a friend is not research.
- Keep an eye on transaction costs.
- Conduct your due diligence on cybersecurity.
- Don't be afraid to take profits or cut your losses!

