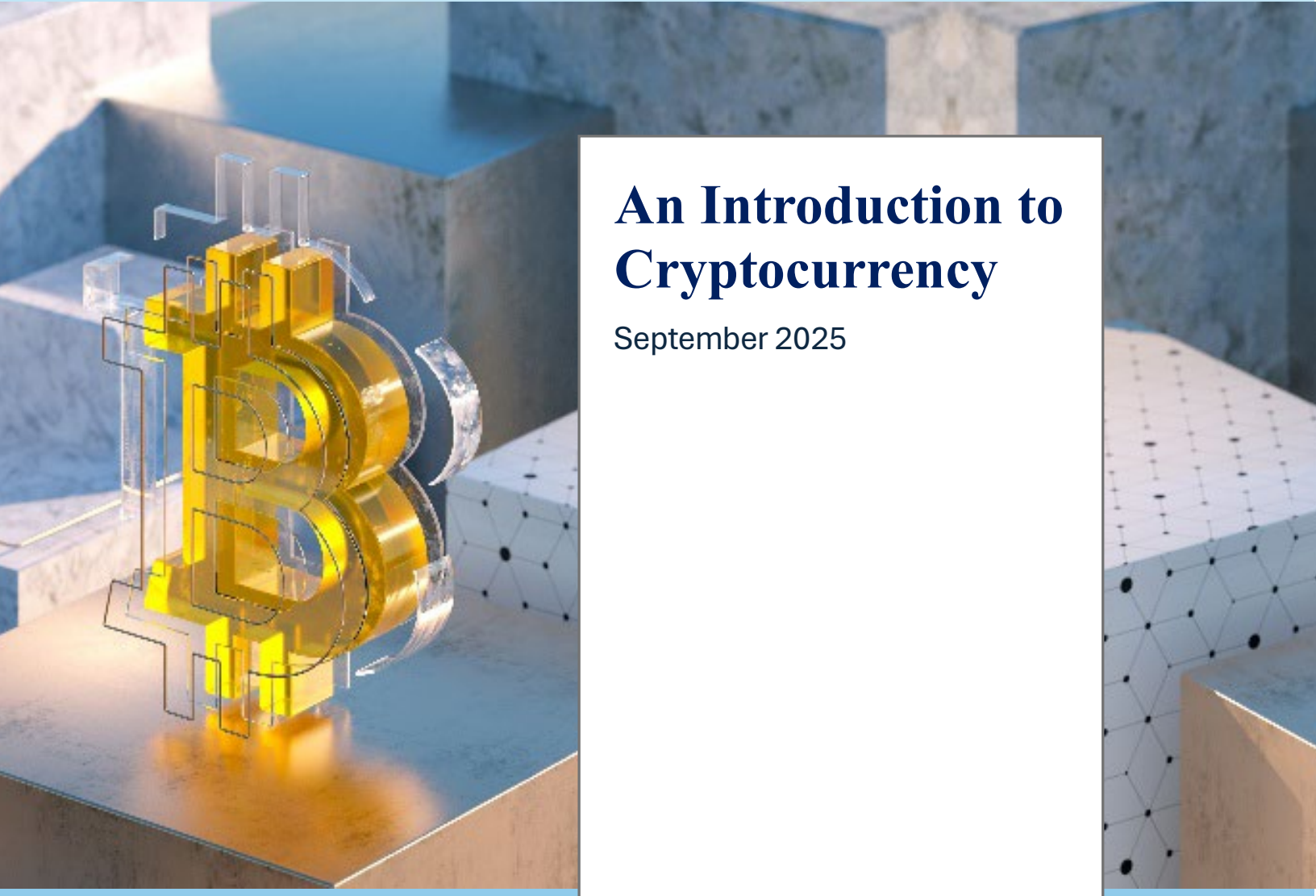

An Introduction to Cryptocurrency

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PROSPER HILL™
WEALTH MANAGEMENT

Trust & Technology

For centuries, money has been shaped by trust and technology. People once carried gold and silver coins, certain that their weight held value. Then came paper money—lighter and easier to use, but at first many doubted its worth without precious metals behind it. Over time, faith shifted from the metal in our hands to the governments that issued the bills. A similar change happened again in the mid-20th century with the rise of credit cards. Paying with a plastic rectangle instead of cash felt strange, even risky, but it gradually became second nature.

Cryptocurrency is the latest step in this long evolution. Introduced in 2009 with Bitcoin, crypto is money that exists only in digital form, secured not by gold or government, but by a decentralized network of computers that verify every transaction. Just as paper money and credit cards once seemed unfamiliar, cryptocurrency may feel puzzling today. Yet history shows us that each leap begins with skepticism, and over time, becomes part of everyday life.

What is Cryptocurrency?

Cryptocurrency is essentially digital money that is accessed using an online account, a digital wallet, or even on a flash drive. Crypto is considered decentralized, meaning there is no one institution that manages the currency; rather, the rules of the currency are laid out at its inception. These rules are then enforced and maintained by a network of computers around the world. Those computers help maintain the currencies "blockchain", which acts as its ledger and rule book.

Traditional currencies, like the United States Dollar (USD), are centralized because they are managed by a singular institution. Many refer to the USD as a "fiat" currency because it is both centralized and not backed by a physical commodity; rather, it is backed by the sovereign nation itself. It is important to note that all currencies have the value and stability that the public assigns to them, even gold. Despite being fiat, the USD is the most prominent currency in the world, its trust and wide range of use has led to its stability and intrinsic value.

Unlike the US dollar, crypto is much more volatile due to the uncertainty surrounding the assets' value, risk of future adoption, and potential competitors taking market share. With more adoption, users, and trust, crypto can become more stable and widely accepted.

Key Traits of Cryptocurrency

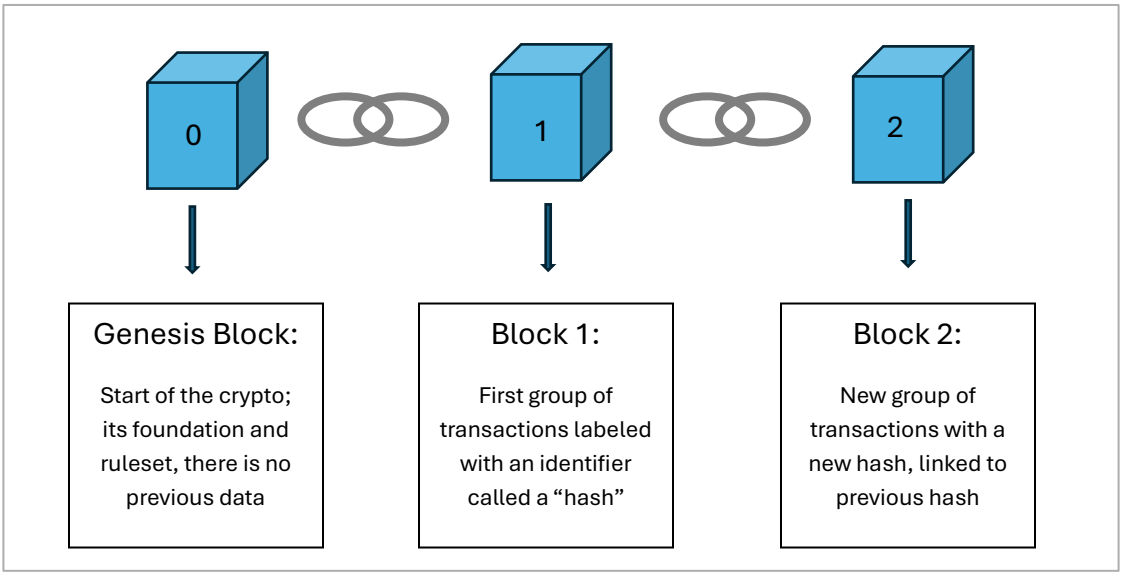
- **Decentralization**: Operates on a network of computers, where there is no single authority or governing the system.
- **Blockchain**: All transactions are logged onto a tamper-resistant ledger, referred to as the blockchain, which is often not viewable by participants or the public
- **Cryptography:** The science of using complex mathematical algorithms and puzzles to secure and verify transactions. This helps prevent counterfeiting, fraud, and double spending.
- **Scarcity**: Many cryptocurrencies have capped supplies to limit the number of units in circulation, trying to combat currency devaluation
- **Borderless**: Enables global transfers without traditional banking fees, delays, and other limitations.

What is a Blockchain and How Does It Work?

Blockchain is the foundational underlying technology for crypto. A blockchain is often referred to as a crypto ledger, which holds the information and accounts for all transactions that have taken place. When a new series of crypto transactions are made, they are verified and grouped together into a "block." This block will then be added onto the end of a long "chain" of previously created blocks, creating a "block-chain". So simply put, blockchains are groups of financial transactions, linked together in chronological order.

Maintaining this blockchain is a community effort that compensates the participants who can help perpetuate this ledger. Many participants compete to create the next block in the blockchain, and the one who helps continue the blockchain is then compensated with the cryptocurrency. This is done through either Proof-of-Work or Proof-of-Stake. Proof-of-Work has participants compete to complete puzzles (or complex calculations) which require a lot of energy and computing power. In Proof-of-Stake environments, validators put their own crypto up as collateral to continue the blockchain. If they try to disrupt the chain, they will lose their assets and will not be compensated.

These methods of blockchain continuity help protect against bad actors. Some people have unsuccessfully tried to "trick" the blockchain to create fake transactions, spend a coin twice, or change past records. Proof-of-Work or Proof-of-Stake methods in a competitive environment make it extremely difficult and expensive to attempt fraud, and other participants helping continue the blockchain will be able to contradict fraudulent transactions.



What is Cryptology?

Cryptology is the scientific study of safeguarding information using complex mathematical principles; meaning long sequences of numbers, or codes, are used to identify and protect cryptocurrency, accounts, and transactions. Cryptocurrency units, like a singular Bitcoin, are just a set of code, and the protection of this code is paramount to the stability of the system. The code is very complex and prevents reverse engineering, keeping the currency secure.

Additionally, each Bitcoin user is given two codes, a private code and a public code. These two codes are mathematically linked so the corresponding transactions and users can be monitored by the Bitcoin system (but not by people using the system). The public code can be thought of as a bank routing number; it is used in the transfer of Bitcoin and identifies a specific individual. While the private code is like a bank account password; it is known only to the user and is used to access funds. These layers of code within the decentralized system prevent theft and other foul play.

Real-Life Uses

- **Payments**: Companies such as Microsoft, Home Depot, PayPal, and Whole Foods accept Bitcoin as a form of payment. Some credit cards can be paid for with crypto and even earn crypto rewards with purchases.
- **Cross Border Transfers & Remittances:** Crypto is being used for easier transactions across international borders. Utilizing crypto bypasses many of the expenses and regulations associated with international transfers because traditional intermediaries, like banks and governments, are not involved.
- **Currency Stability:** People can exchange their currency for a stablecoin, which is a crypto that ties its value to a stable asset (like 1:1 to the US dollar). This can help prevent the negative impacts of fluctuating currency prices. People in developing countries, or countries with unstable economies, often hold stablecoins instead of their national currency to prevent depreciation of their cash.
- **Decentralized Applications:** Often referred to as dApps, these are like the apps we use on our phones, but instead of being controlled by one entity (like Twitter or Amazon), they function using a public blockchain. This way, no single entity controls the app, thus increasing accessibility and reducing private information collection. It has already been used for gaming applications, non-fungible token (NFT) art, and Decentralized Finance.

An Introduction to Bitcoin

Launched in 2009 by an anonymous inventor (or group) known as Satoshi Nakamoto, Bitcoin was the first cryptocurrency. It was created to enable peer-to-peer electronic cash transfers, independent of central authorities. It is often called “digital gold” due to its limited supply of 21 million coins. Bitcoin entered the market with no set price per unit, but early pricing reached $0.30 by 2010. This has grown over the years and currently trades at over $100,000 per unit. It is important to note that this extreme volatility can lead to large price fluctuations over short periods of time, both to the upside and downside. Over time, Bitcoin has paved the way for other cryptocurrencies to grow, and it continues to do so with its increased adoption.

Largest Monthly Bitcoin Gains/Losses				
Month	**Year**	**Gain/Loss**	**Price Before**	**Price After**
June	2011	-99%	$32	$0.01
April	2013	42%	$98	$150
May	2021	-53%	$64,000	$34,000
February	2021	27%	$38,871	$46,448

Other Popular Cryptocurrencies and Their Value Propositions

- **Ethereum**

  Ethereum (ETH) introduced smart contracts, which are self-executing agreements embedded in code. This helps enable decentralized applications (dApps) and decentralized finance (DeFi) platforms.

- **Litecoin**

  Litecoin (LTC) processes transactions significantly more quickly than Bitcoin, typically within 2.5 minutes per block, with most fees under $0.05, making it ideal for daily purchases like buying coffee.

- **Tether**

  As a stablecoin pegged to the U.S. dollar, Tether (USDT) allows users in volatile markets, like crypto or emerging country currencies, to move their capital into a less volatile asset. Also, this can be utilized for efficient transfers over international borders.

Conclusion

As of September 15th, 2025, Coinbase estimates the total market capitalization of crypto to be $3.9 trillion, or roughly 15% the size of the global gold market. As infrastructure improves and regulations take shape, the public's adoption for crypto will likely increase. However, with great opportunity comes great risk. We must remain vigilant on our implementation and use of this new technology. This may be the next step in money's evolution, but only time and trust will tell.

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