What Are Cryptocurrencies and Why Should You Care?

A non-geek's introduction to the volatile world of blockchain-based digital assets. Part one of a three-part crypto series.

By Glenn Derene

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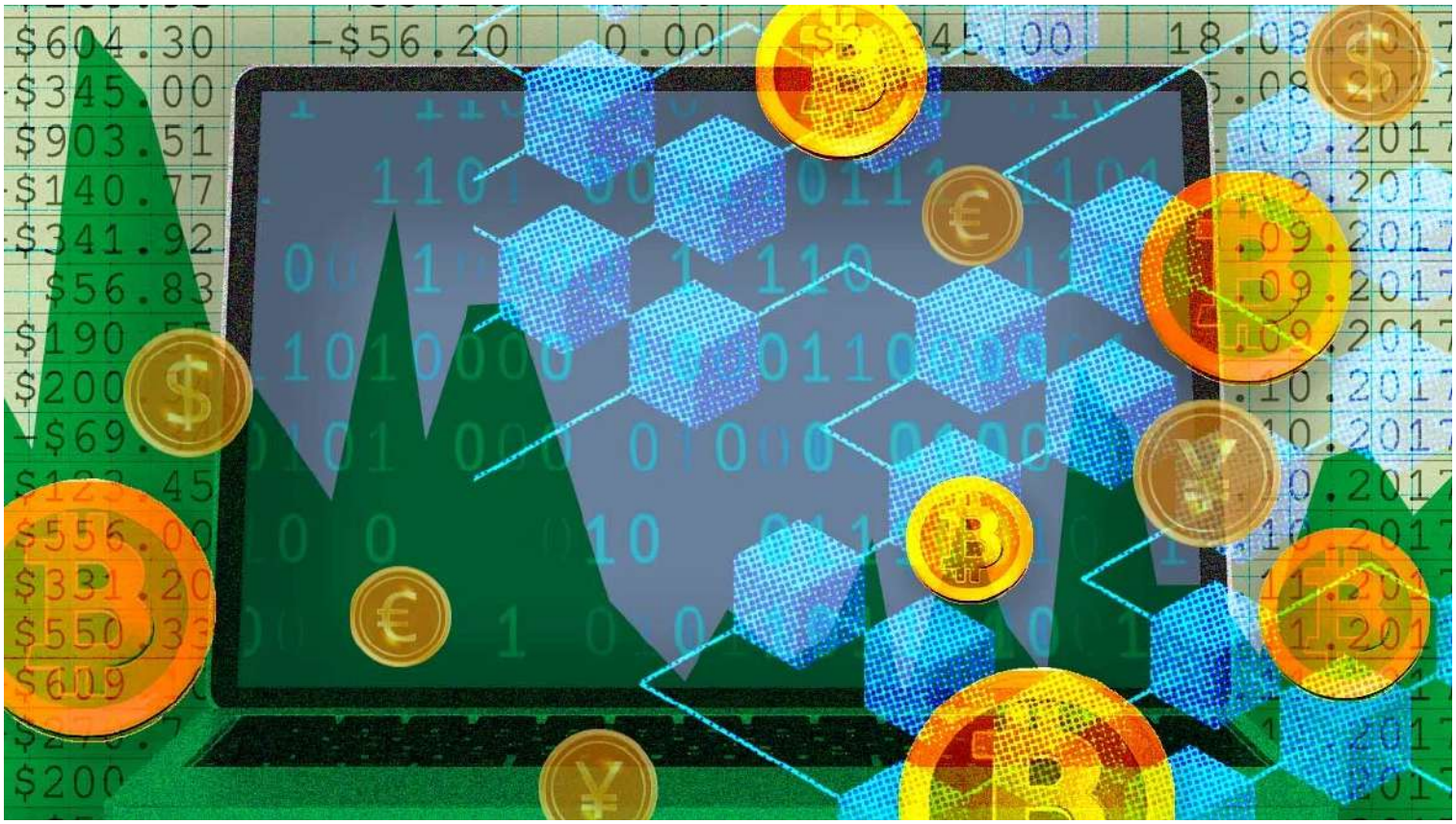

Cryptocurrencies could affect your finances whether or not you choose to invest in them directly—so a basic understanding of crypto has become an essential element of financial literacy.

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Imagine you were one of the curious few who, in the summer of 2010, dipped a financial toe in the waters of bitcoin by paying, say, $20 for roughly 250 of the digital coins using Mt. Gox, one of the earliest bitcoin exchanges. Also imagine that you were wise enough to withdraw those 250 coins from the exchange and store them in your own digital wallet. And, finally, let's say that you held onto those coins for 15 years and then sold them in early October 2025 at their most recent high of about $124,000 per coin.

You would have made an astounding profit of approximately $31 million—while the same money invested in an S&P index fund over that time would have made you just over $100.

Those types of eye-watering returns have attracted legions of investors to cryptocurrencies. A June 2025 study by Marion Laboure, PhD, an analyst with Deutsche Bank Research, found that 17 percent of U.S. consumers had used or invested in crypto in the prior 12 months.

But here's the catch that most people don't hear about: That jackpot scenario would have required something like clairvoyance—or at least an extraordinary combination of nearly perfect timing, iron discipline to hold on through multiple crashes, and the know-how to avoid technical pitfalls that wiped out many other early investors.

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After all, that same bitcoin that was worth $124,000 in early October last year was worth about $66,000 in late February 2026, a 46 percent decrease in value. One reason for that volatility is that unlike stock prices, which generally rise and fall based on company performance, crypto prices have a tendency to soar or plummet based purely on speculation, social media hype, or even a single influential tweet.

What's more, many of the early investors who had stored their bitcoins on the Mt. Gox exchange either had them stolen during a security breach in 2011 or had to line up as

creditors when the exchange filed for bankruptcy in 2014. Some 880,000 bitcoins, worth about 60 billion today, were reportedly lost or stolen in those episodes—and many victims are still trying to recover their funds.

"When it comes to crypto, the volatility is generally a fairly well-known trait," says Molly White, a prominent crypto critic and author of the Citation Needed newsletter. "But I think people often don't anticipate that in some of these cases, not only might your crypto assets go to zero, but you could lose access to those tokens entirely because it's very common for crypto platforms to go bust, or to run off with all the assets in an exit scam, or to be hacked by outside groups."

Crypto investors may also be surprised to learn that crypto assets are typically not protected by federal insurance programs like FDIC and SIPC, which protect bank deposits and stock investments from bank and brokerage failures. That's because crypto has fallen into a regulatory gray area, says White: "At the current moment, at least in the U.S., there isn't much oversight."

But whether you see cryptocurrencies as a potential path to riches or a wildly speculative gamble, one thing has become clear in recent years: Cryptocurrency is becoming impossible to avoid. Crypto is increasingly being embraced by traditional financial institutions, and can now be bought and sold by ordinary individual investors using traditional investment tools such as exchange-traded funds (ETFs) and index mutual funds from major firms such as Fidelity and Charles Schwab. Crypto assets have even crept their way into 401(k) provider and pension fund portfolios, meaning some investors may have retirement savings invested in crypto and not even realize it. And new financial regulations and federal laws like the Guiding

and Establishing National Innovation for U.S. Stablecoins (GENIUS) Act of 2025 are further embedding crypto in the mainstream financial system.

That means crypto could affect your finances whether or not you choose to invest in it directly. So a basic understanding of crypto is an essential element of financial literacy, knowledge that every consumer should have.

This article—the first in a three-part series meant to deliver just that—is a primer on cryptocurrencies, how they work, and how they've evolved over time. Part two is a practical user's guide for anyone considering investing in cryptocurrency, as well as a clear-eyed view of the risks. And part three explores why crypto is so influential and controversial, and examines the evolving regulatory framework around crypto and why it matters to everyday consumers.

Let's Begin With Blockchains

To understand crypto, you need to understand blockchains. As first described by a mysterious figure known as Satoshi Nakamoto in a paper in 2008, the kind of blockchain used in crypto is essentially a digital ledger (PDF) on which transaction details are recorded and grouped together into "blocks." Like a page of an old-fashioned accounting ledger, each block records transaction data (how much cryptocurrency moved, for example, and which addresses it moved to and from) and information about the block itself (including an encoded ID and a timestamp).

Security is built into the design of these digital ledgers by two key features. One is that blockchains are hosted redundantly on computers all over the world, enabling anyone to see them any time they want. In effect, then,

blockchain ledgers are maintained in public view, so no one person or entity owns or controls a blockchain, and anyone with an internet connection would know whether someone tries to add or remove an entry.

The other key security feature is that the blocks of transactions are cryptographically linked together like a chain—thus the name. Think of it as a tamper-evident seal: Anyone attempting to tamper with one block would have to rewrite every other block after it, all over the world, without anyone noticing, which is essentially impossible.

Those features add up to a tamper-resistant public record of everything that's happened on the network, enabling it to represent value in a way that is verifiable, transferable, and secure. That makes blockchains the perfect technological backbone for digital currencies such as bitcoin, Ether, and SOL.

"The technology underlying bitcoin is a marvel," says Eswar Prasad, a professor of economics at Cornell University and author of "The Future Of Money: How the Digital Revolution Is Transforming Currencies and Finance" (Belknap Press: An Imprint of Harvard University Press, 2021). "I mean, just the notion that you can actually conduct financial transactions in a secure way, without using any trusted third-party intermediary. That is mind-boggling—and it works."

What Is Cryptocurrency For?

Because they're capable of operating securely without supervision by a government or other controlling authority, blockchain-based currencies were envisioned by early enthusiasts as alternatives to "fiat" currencies like

the U.S. dollar and Euro. It's no coincidence that bitcoin emerged in the wake of the 2008 financial crisis, which called into question the international financial community's ability to manage the global economy.

In theory, crypto was actually supposed to be a peer-to-peer technology for conducting financial transactions large and small, outside the purview of the global banking and international monetary systems. But experts we consulted for this series agree that real-world adoption of cryptocurrencies has evolved in a very different direction.

"Cryptocurrencies like bitcoin were meant to allow people and businesses to conduct transactions without having to rely on traditional third-party intermediaries such as commercial banks, credit card companies, or other payment services," says Prasad. "Oddly, they have not proved to be very good in that function."

That's partly because converting dollars to bitcoin and other major cryptocurrencies can be a slow and cumbersome process, and the volatility of those currencies makes transactions somewhat impractical.

"If you were a merchant, why would you accept payment in something that could go down by 10 percent in a day?" says Lee Reiners, a lecturing fellow at Duke University and a former bank examiner at the Federal Reserve Bank of New York. "It just never made any sense."

"I often like to point out that [cryptocurrency] is sort of disingenuously named because it's not really a currency," says White. "It's much more akin to a speculative asset."

Indeed, for certain types of investors, the volatility of cryptocurrencies is a

positive feature, not a bug. Over time, the swings in value attracted speculators who saw an opportunity to make a lot of money quickly, which increased the volatility, which attracted more investors, and so on.

To understand how crypto went from an idealistic, peer-to-peer currency intended to free consumers from reliance on the global banking system to an investment with hang-onto-your-hat volatility traded on exchanges owned by companies now big enough to be listed on the S&P 500 themselves, we should start where cryptocurrencies themselves started—with bitcoin.

What Should You Know About Bitcoin?

Bitcoin, which was invented by Nakamoto, was the first true cryptocurrency.

Perhaps the first thing to understand about bitcoins is that they're not coin-like at all: They're not discrete digital objects that can be identified by the kind of serial numbers you see on dollar bills. But of course that's also true of fiat currencies: Your bank just keeps track of how many dollars you have in your account, not which particular banknotes.

The key difference is that, with bitcoin, there's no bank (or other entity) authorizing transactions or keeping track of who owns how much bitcoin. Instead, each transaction is recorded on the bitcoin blockchain, where the network itself verifies and records all changes. Each transaction assigns spending rights to cryptographic addresses, and control of any given chunk of bitcoin belongs to whomever possesses the corresponding private cryptographic "key," a kind of encoded password that unlocks access.

Bitcoin owners manage those keys in digital wallets, which you can either control yourself (which is known as "self-custody") or allow some other entity to host on your behalf ("custodial"). We get into a lot more detail about keys, crypto wallets, and other practical matters in part two of this series.

What's the Deal With Bitcoin Mining?

Many early enthusiasts envisioned bitcoin as a commodity-style asset like gold and, in fact, Nakamoto compared the creation of new bitcoins with

mining for gold.

It works like this: Nakamoto designed the bitcoin network to slowly release new coin over time, in decreasing amounts. Opportunistic "miners" use specialized computers to solve cryptographic puzzles to compete for the newly created bitcoin as a reward for securing the network, and that mining becomes more difficult and resource intensive over time. (The impact on the environment is huge. In 2024 researchers determined that bitcoin mining alone consumes as much electricity as Poland. And the energy costs get passed along to investors through transaction fees and contribute to the overall volatility of the currency.)

Investors don't need to mine bitcoin to purchase or own it, but the mining process drives overall supply and secures the blockchain.

This wasn't meant to go on forever: Bitcoin is mathematically limited to just under 21 million total coins by design—although that total probably won't be reached until the year 2140. The predictable and capped supply was meant to prevent the currency from being diluted, but that doesn't prevent its price from rising and falling, sometimes rapidly, in response to changes in demand.

"Like gold, bitcoin was seen as a safe haven asset, and also as a hedge against inflation," says Prasad. "But in fact, bitcoin is behaving like any other risky asset such as equities, except that it is turbocharged as a risky asset, meaning it falls even more than indexes like the S&P when things are not going well in the economy."

And unlike equities, such as stocks or stock-filled mutual funds, bitcoin is not backed by or linked to the performance of underlying companies or

assets like real estate. Many experts think bitcoin is better compared with commodities like crude oil, soybeans, industrial metal—but even that analogy has limits because bitcoin itself has no inherent value.

"At the basic level, it is an intangible asset," says Reiners. "It is not an economic interest in an operating business, like we think of stocks or bonds. In essence, you are investing in computer code, and that's one of the reasons why it's so volatile because there's no underlying fundamentals and no cash flows."

Beyond Bitcoin: Other Cryptocurrencies

If you've been paying attention to crypto—and it's okay if you haven't—you probably know there are a host of other "coins" in addition to bitcoin.

Early "altcoins" started to emerge only a few years after bitcoin's initial release. The first few, including Litecoin and Namecoin (both launched in 2011), were modifications of bitcoin's technology intended to improve speed of transactions and explore other use cases for the blockchain. In 2013, Dogecoin introduced the concept of a "memecoin," a joke digital currency with a shiba inu mascot that gained value as social media users—and eventually Elon Musk—hyped up the coin and boosted its value with pure attention.

Some alternative crypto currencies were little more than pump-and-dump scams, according to regulators and the Justice Department, and many have fallen by the wayside and are effectively worthless now.

One of the more significant innovations came in 2015 with the launch of the

Ethereum network, which uses the blockchain concept in a different way to create a decentralized "world computer" that can run apps and create "smart contracts." We'll save you the headache of reading about the technological distinctions between bitcoin and Ethereum. The important thing to understand about Ethereum is that the way its blockchain operates makes it more efficient and environmentally friendly than bitcoin, and it also makes it far more flexible. Whereas bitcoin's blockchain essentially exists just to support the bitcoin digital currency, Ethereum's blockchain is programmable and can support its native cryptocurrency, Ether, as well as numerous other "tokens" that have been built on top of the Ethereum blockchain.

Plus, Ethereum's design as a global computer that can issue smart contracts gives developers the ability to build a wide range of financial services and applications on top of it. Tokens can also be used for other things. You might have heard of NFTs, or non-fungible tokens. These are essentially digital certificates that can verify your ownership of something like a work of digital art, a song, or a collectable item within a game. The non-fungible part just means that the tokenized digital object is unique, like a signed baseball. Your ownership of the NFT is recorded on the blockchain just like a unit of cryptocurrency.

What About Stablecoins?

Speculative investors have long been attracted to the volatility of cryptocurrencies, but—as noted above—that volatility can make transactions highly impractical. After all, how could a retailer determine the price of, say, a box of cereal in bitcoin if the currency can fluctuate by 20 to 30 percent in

days or weeks? In part to address that issue, stablecoins started to emerge a few years after bitcoin was launched.

The concept of a stablecoin is somewhat straightforward. Like other cryptocurrencies, they are built upon a blockchain, but to keep them from fluctuating wildly, they are supposedly backed one-for-one with either a fiat currency, like the dollar, or a related safe asset, like U.S. Treasury bonds.

But the key word there is "supposedly." Before passage of the GENIUS Act required it, not all U.S. stablecoin issuers provided regular, independent audits of their reserves, and limited regulations meant the quality of the reserves varied. Even now, prices can wobble when reserve assets or banking partners come under stress. This happened in 2023 when it was discovered that Circle, the issuer of the USD Coin stablecoin, kept significant reserves in Silicon Valley Bank when the bank collapsed. (In that case, the stablecoin recovered after the U.S. government backstopped the bank's deposits.) Still, stablecoins do tend to avoid the wild fluctuations of other cryptocurrencies.

The associated fees for buying and selling stablecoins, as well as a lack of retailer support, has limited their utility for U.S. consumers. But experts have noted that stablecoins can prove useful for moving money across borders for things like remittances, and for asset protection in some countries like Argentina and Nigeria, where the native currencies can be unstable.

So far, some of the main users of stablecoins—especially since the passage of the GENIUS Act last summer, which created a regulatory framework for them—have been crypto exchanges and professional crypto investors.

Because moving money from dollars to cryptocurrency and back again can be expensive and slow, stablecoins are an easy and relatively safe place to park funds in between transactions. The main purpose of stablecoins, then, is not to serve as a speculative asset but rather as a liquidity and settlement tool to the broader crypto market.

What Else Should You Know?

Well, this is getting a little more advanced, but it's worth knowing that there's an even newer blockchain called Solana, with a native currency known as SOL. Solana is similar to Ethereum in that it operates like a global computer, but its underlying technology was designed to process transactions faster and at lower cost. Solana has grown quickly and attracted a lot of developers, but it's still not as big as Ethereum in terms of market share.

Because both Ethereum and Solana are distributed programming environments that enable smart contracts, the crypto community sees enormous potential for an emerging concept known as decentralized finance, or "DeFi." The world of DeFi is spawning a new universe of lending and investment products that resemble what you might see at a traditional bank or brokerage but exist at the fringes of regulation and consumer protection.

"They are underpinning an entirely new branch of finance," says Prasad. "Where you can conduct a lot of very sophisticated and complex transactions without using the traditional intermediaries like commercial banks or investment banks and so forth."

Many DeFi products not only are abstract and risky but also operate in regulatory gray areas with minimal consumer protection. If something goes wrong—a hack or platform collapse, say—consumers typically have no recourse or regulatory agency to turn to for help. For the time being, the way most people buy and sell crypto assets is through a giant infrastructure of crypto exchanges.

"The broader irony is that when you look at the crypto industry today, it is filled with intermediaries," says Reiners. "All [they] have done is replaced one set of intermediaries—mainly largely regulated financial institutions, like banks—with another set of intermediaries who are very lightly regulated, and not regulated in some cases."

That means that in 2026, if you are looking to buy bitcoin or Ether or any other digital asset, you are most likely going to end up doing so on a crypto exchange or through a more conventional investment instrument, which in many ways abstracts modern crypto investors from the technology of crypto itself.

These exchanges are gigantic, controversial, and politically powerful, and are becoming more enmeshed in the global financial system every day. In the next articles in this series, we'll explore how they work on a practical level for retail investors, what Consumer Reports has learned from evaluating major crypto platforms, and why the economic influence and changing regulatory rules should matter to every U.S. citizen, whether or not they ever buy a single bitcoin.

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