Introduction

In February of 2022, Russia shocked the world by invading Ukraine. The two countries had long held enmity for each other, with eight years of conflict between the Ukrainian government and Russia-backed separatists (Walker 2025). As Russia attacked, the rest of the world rushed to respond. Many already know that the U.S. has been a major source of support; as of writing, the U.S. Department of Defense estimates spending $66.9 billion for military support (Bureau of Political-Military Affairs 2025). However, what is less well-known is the extent to which cryptocurrencies have played a role. In March of 2023, it was estimated that $212 million worth of crypto had been donated to Ukraine, with $80 million of that money going directly to the government (Feingold 2023).

A couple hundred million might not seem like much compared to 66.9 billion, but crypto contributions have made a huge difference for one reason—transactions are fast. When the invasion began, Ukraine saw millions of dollars in aid contributed in less than a day. Chainalysis, a major blockchain analysis firm, found that $56 million in crypto was donated to Ukraine in the war's first month. Crypto was used to lend Russia support too, but on a smaller scale (Feingold 2023).

If not for these millions in aid, Ukraine would have been slower to respond to Russia's aggression. The course of the war might very well look completely different. But ultimately, the Russo-Ukraine war is just one example of the power of crypto in action. There are many other real-world stories of crypto making an impact in people's lives. Cryptocurrency isn't just a tool for building wealth, though it can be that. It's a valuable technology in its own right, and like the internet, artificial intelligence (AI), and other budding technologies that came before it, it's on the cusp of transforming the world.

This book is for those who want to be a part of the crypto revolution. We'll cover the technology from a broad point-of-view, looking at what crypto is, how you can invest, different types of crypto, the latest trends, career opportunities in the industry, and more. By the end of the book, you'll be prepared to use crypto to build a brighter future for yourself, whether that means investing, pursuing career opportunities, incorporating the blockchain into your business, or even finding ways to incorporate crypto in your everyday life.

Crypto is not a mainstream technology yet, but it does have use cases. As an enthusiast who's been following the market since the 2017-2018 bull run, I've seen it go from a niche interest to a mainstream news story. I've watched as it's gone through cycles, weathered market shocks, and achieved milestones like the first Bitcoin ETF or the first Proof-of-Stake (PoS) blockchain. I've learned from mistakes, losing money and making more along the way. I'm an ordinary person, like you. Who better to guide you than someone who knows the ins and outs of what works for

people like us? My goal is to help you make the right decisions in the crypto space faster, with fewer mistakes than I had.

If you talk to enough people or read enough articles, you'll hear all sorts of opinions. Many claim crypto is a scam—this comes from bad actors who use the technology to steal. Others claim it's all hype and technologies like Bitcoin have no inherent value. As we'll see, this argument doesn't hold water when you look at it in more depth. Whether you want to believe in crypto or not, the fact is that it's here to stay. It's growing. Soon, it will be a major force in the world. Why not be a part of that transformation instead of watching from the sidelines?

I've separated the content of this book into eight chapters, aiming to slowly introduce you to the world of crypto from multiple angles. These are structured as follows:

1. **Chapter One:** What is crypto? In this chapter, we'll look at how cryptocurrency is more than just money on the web. We'll cover the basics, talk about the history behind the technology, and delve into the pros and cons and how it can be used.
2. **Chapter Two:** We'll look at cryptocurrency investing strategies, different ways that you can invest, and how to make the most of your money in the market.
3. **Chapter Three:** We'll look at the technology behind crypto. This chapter will cover the inner workings, such as how the blockchain works and Proof-of-Work (PoW) vs Proof-of-Stake (PoS).
4. **Chapter Four:** We'll dive deep into different types of crypto, like Bitcoin, Ethereum, Solana, and lesser-known currencies.
5. **Chapter Five:** We'll look at case studies of cryptocurrency adoption from around the world. We'll examine what worked, what didn't, and why.
6. **Chapter Six:** Moving on, we'll use what we've learned to answer the question, "what will crypto look like in the future?" We'll study the latest trends in crypto and take note of how it may shape the world in 10-20 years or more.
7. **Chapter Seven:** Chapter seven will focus on the risks of cryptocurrency. We'll learn how to differentiate scams from legit market opportunities.
8. **Chapter Eight:** We'll wrap up by looking at career opportunities in crypto, where you can find jobs, and how you can become a competitive candidate.

If you already know a little about crypto but want to learn more about one area, feel free to skip ahead. This book is designed with this in mind; you can dive into any chapter to get targeted advice and information, without reading those that come before. However, if you're just getting started, go ahead and turn to page one. We'll cover the basics, learning about what makes crypto the opportunity of a lifetime.

Chapter One

Do you know the story about the first real-world cryptocurrency transaction? In 2010, Bitcoin was a far cry from the valuable commodity it is today. On May 22, a programmer in Florida named Laszlo Hanyecz owned some bitcoins and decided to use them to pay for two large pizzas from Papa Johns. The coins he paid with were only valued at approximately $41 USD—can you guess how much Bitcoin that was?

Bitcoin's all-time high is over $120,000 (at the time of writing). The $41 he spent would be a small fraction of one bitcoin today. Back then, however, it took 10,000 bitcoins to purchase those two pizzas. Today, those same 10,000 bitcoins are worth over a billion U.S. dollars (ET Online 2025).

What Cryptocurrency Is and Isn't

When you think of cryptocurrency, you might think of money on the web. Cryptocurrencies like Bitcoin and Ethereum are digital; they have no physical form that you can hold or touch. But what makes them crypto isn't their ethereal nature, but rather, the fact that they are built on a network that has been secured with cryptography. These networks use a technology called the blockchain to prevent the cryptocurrency from being double-spent or counterfeited (The Investopedia Team 2025a).

Most cryptocurrencies are decentralized. This means that they aren't controlled by a central authority, unlike the U.S. dollar, for instance, which is controlled and regulated by the U.S. government. The U.S. government can print more money when it needs more dollars; no one can do the same for technologies like Bitcoin or Ethereum (The Investopedia Team 2025a). In fact, Bitcoin has a fixed supply. New bitcoins are added to the network at a predetermined rate approximately every 10 minutes, but the total supply of bitcoins will never exceed 21 million. That's because of a hard cap created by the inventor of Bitcoin, Satoshi Nakamoto (Hayes 2025).

While Bitcoin was originally created to facilitate financial transactions, many other cryptocurrencies were created to refine and improve the underlying blockchain technology that runs each cryptocurrency network. Ethereum, for example, was originally created to help with validating blockchain transactions and opening blocks. Ripple (XRP), another cryptocurrency, was created to simplify the process of transferring money between different regions. Nowadays, most cryptocurrencies can be grouped into one of six categories (The Investopedia Team 2025a):

1. **Utility Tokens:** These are cryptocurrencies like Ethereum and Ripple, meant to serve a specific function on the blockchain.

2. **Transactional Currencies:** Bitcoin is the most famous transactional cryptocurrency. This type is designed to be used as a payment method.
3. **Governance Tokens:** Some cryptocurrencies grant holders voting rights on the blockchain or enable owners to make decisions about the direction that the network takes in the future.
4. **Platform Tokens:** These are cryptocurrencies that support decentralized apps (dApps). We'll talk more about dApps in future chapters—they are essentially software programs that run on a cryptocurrency network, as opposed to your computer or the cloud/internet.
5. **Security Tokens:** Cryptocurrencies called security tokens are commonly used to represent ownership of a real-world asset. For example, a security token could be used to represent shares of a stock.
6. **Memecoins:** While not a function per-se, many cryptocurrencies are now designed for the purpose of poking fun at something or just to generate hype. They often do this with a meme. Examples of memecoins include Dogecoin, Shiba Inu, and Pepe.

Cryptocurrencies are digital in nature, but not all digital currencies are cryptocurrencies. For example, many videogames allow you to exchange real-world cash for tokens or money in-game. Since these in-game currencies aren't usually built on a blockchain network, they can't be classified as crypto. But they do live inside a digital space. Recently, Central Bank Digital Currencies (CBCs) are also gaining in popularity. These are digital currencies that are regulated by a central authority, often acting as a replacement for a traditional currency like the U.S. dollar or the Euro. While these kinds of digital currencies have their uses, they are fundamentally different from crypto (The Investopedia Team 2025c).

Crypto vs Fiat Currency

At present, most cryptocurrencies are competing against an existing system of centralized currencies controlled by governments across the world. These government-backed currencies are commonly referred to as fiat currency or fiat money. Fiat currencies derive their power from some sort of backing, giving them their value.

In the past, currencies like the U.S. dollar used to be backed by gold, silver, or other precious metals. In fact, the British pound sterling was originally a literal description; one pound sterling was a silver coin that weighed exactly one Troy pound. Similarly, up until 1933, a single U.S. dollar could be redeemed for gold (Hall 2025).

However, nowadays, most fiat currencies have moved on from being backed by precious metals. This is because tying a currency to a real-world asset, like gold, limits monetary supply and hampers growth. If the value of a currency is tied to gold, for example, the value of that currency can only grow when more gold is acquired. On the other hand, the population can increase and the need for money can still rise even without more gold being found, which can eventually pose a problem. That's why today, fiat money is often backed by the strength of the

government that issues it, rather than any real-world asset. Value is determined by supply and demand, interest rates, and total supply of the fiat currency (Hall 2025).

But even with these changes, there are still two major risks with fiat (Hall 2025):

1. **Political Instability:** With modern fiat currencies, money is only worth as much as the government that's backing it. To retain its worth, that government has to remain stable and in power. Moreover, people need to keep believing in the value of the currency. Once belief wavers, which often happens in times of instability (since the government's power to back the currency is put into question), demand falters. This can result in steep inflation, as supply remains constant while demand decreases.
2. **Mismanagement:** The other big risk with fiat currency is that the government will mismanage the currency. This often happens due to increasing the supply of said currency without corresponding demand. Worst-case scenario, this could lead to hyperinflation, as prices rise rapidly due to the huge discrepancy in available money vs people who want it. But even if hyperinflation doesn't result from this, government mismanagement by printing too much money can still cause price hikes.

Cryptocurrency positions itself as the solution to these two problems. Since crypto is decentralized, it's not tied to the strength of any one government. Political instability can't threaten the underlying security of blockchain technology, and as such, is unlikely to affect people's belief in cryptocurrencies or to dampen demand.

Likewise, cryptocurrencies are not at risk for mismanagement. Their decentralized nature means that no one has the ability to print more money. Many cryptocurrencies have set-in-stone rules about how new coins can be created. Some, like Bitcoin, even have hard caps; as we saw earlier, there will never be more than 21 million bitcoins.

The First Cryptocurrency

Though Bitcoin is the first widely popular cryptocurrency, it's not the first one to be invented. That honor belongs to a little-known digital currency called eCash, invented by American cryptographer David Chaum in 1990. Chaum first proposed eCash in a 1983 paper, developing something he termed a "blinding formula" that could be used to encrypt information, ensuring that money transferred between individuals could be verified as secure without exposing personal information.

However, eight years after eCash's launch, Chaum's company, DigiCash, went bankrupt. This spelled the end for eCash, but not for cryptocurrency. Chaum's ideas went on to inspire other developers, who eventually created their own digital currencies like Bit Gold, B-Money, and Hashcash. None of these currencies survived, but they all played a small part in influencing Satoshi Nakomoto when he invented Bitcoin. In fact, Nakamoto even references the B-money system in the original Bitcoin whitepaper (Reiff 2025).

Nearly twenty years after the launch of eCash, in 2008, Satoshi Nakamoto published the whitepaper for Bitcoin. The first blockchain network was launched soon after, as on January 3, 2009, Nakamoto mined the first block, also commonly referred to as the genesis block. His reward for mining that block? 50 bitcoins. Since then, block rewards have halved every four years. At the time of writing, miners earn 3.125 bitcoins for every block they mine (The Investopedia Team 2025d).

Fast Fact: What is mining and what is a block?

Mining is the process of using computing power to solve complex problems so that the blockchain network can continue to function. Traditionally, this has been at the heart of how blockchain networks function, though as we'll see later, some networks have moved away from it. Nakamoto designed his system to be fully peer-to-peer, based on a shared database of information commonly referred to as a ledger. Instead of storing the database on a central computer, each computer stores their own copy of the database, and then they talk to each other to make modifications when transactions occur.

Under this system, blocks are bundles of information that computers share with each other. A miner is someone who uses their computing power to assist in processing transactions so they can be posted to the digital ledger. This process is also known as mining a block—essentially, using computing power to complete the tasks necessary to add a block to the network (The Investopedia Team 2025d).

While Nakamoto is world famous today for creating Bitcoin and the blockchain, he's also well-known for another reason. And that's because Satoshi Nakamoto is not actually a real person.

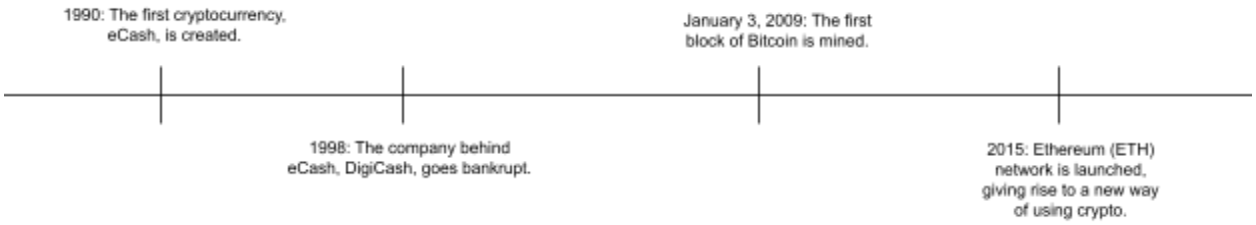
Instead, that name is a pseudonym used for anonymity. Nakamoto could be one person or a group of people. They could live anywhere in the world. Most communication with them has been conducted via email. The last known correspondence was in 2011, when they sent an email to another developer that said "I've moved on to other things."

Regardless, Nakamoto has a huge cache of Bitcoin that he's never cashed out. It's estimated that he mined 1.1 million Bitcoins in the technology's first year, which would give him holdings of more than $125 billion USD at today's prices. And since the Bitcoin network is transparent, anyone can see activity. Nakamoto, with all that cash, has not moved a single coin (Fabino 2025).

In the years since he disappeared, thousands more cryptocurrencies have been launched and entered circulation. None has managed to overtake Bitcoin in size, however, many have achieved stability, finding a unique place in the crypto industry. These other cryptocurrencies are often referred to as altcoins, and one of the most influential of altcoins is Ethereum.

Ethereum was initially conceived by Vitalik Buterin, a Russian-Canadian computer programmer, as a software platform built on the blockchain that could be used for developing decentralized finance applications (dApps). It was introduced by Buterin with a whitepaper in 2014, then launched in 2015. The invention transformed how developers see cryptocurrencies. It gave rise to technologies that go beyond negotiating simple financial transactions.

This revolutionary shift is a major reason why Ethereum is so influential. Its ecosystem supports gaming, the development of decentralized autonomous organizations (DAOs), non-fungible tokens (NFTs), and it has the potential to support even more technologies as developers continue to invent and innovate (The Investopedia Team 2025b).



Crypto: The Pros and Cons

As with any new technology, there are advantages and disadvantages to crypto as a replacement for fiat currency. Crypto is decentralized, which means that political instability and mismanagement of crypto funds is less of a risk. Other advantages include:

- **Easier and Faster Money Transfers:** Crypto technology improves upon existing processes, especially when it comes to international transfers. This is because money transferred to or from cryptocurrency does not require a third-party. For instance, someone from the U.S. can easily convert their dollars into Bitcoin, send that Bitcoin or loan it to someone in France, Romania, China, or anywhere else, and know that it's simple for the recipient to convert back to their native currency (The Investopedia Team 2025a).
- **Easier Financial Access:** Many people across the world still don't have access to traditional banking infrastructure. Crypto can allow them access to a similar system, as all they need to start buying and selling is a smartphone (Nibley 2025). Additionally, some cryptocurrencies allow for more complex financial transactions, like loaning money. This can make things easier by connecting lenders with borrowers from everywhere (The Investopedia Team 2025a).
- **Security of the Blockchain:** Because cryptocurrencies are based on cryptography and a blockchain, they are very secure. The security of an individual blockchain is relative to a feature called its hash-rate; Bitcoin has one of the highest hash-rates, and as such is very secure. However, keep in mind that the security of your money also depends on

where you store it, with crypto exchanges and software wallets posing additional risks (Nibley 2025).
- **Transparency:** With the blockchain, all transactions are stored on a public ledger. While people can't see who controls each blockchain address, they can see the flow of money in and out of each address. This makes it easy to monitor financial activities, especially if an individual wallet can be linked to a specific person. Potentially, this could be used to keep politicians honest or monitor for illicit payments in other contexts (Nibley 2025).
- **Inflation Protection:** As we saw earlier, inflation occurs when governments print more money. Theoretically, this means that the fixed and decentralized nature of cryptocurrencies can act as a hedge against inflation. Bitcoin, for instance, is designed to always be scarce, with limited supply regardless of national monetary policies (Nibley 2025).

Meanwhile, cryptocurrencies have several key drawbacks. These include:

- **Irreversible Transactions:** Because there's no centralized authority to oversee transactions, there's no way to remedy mistakes. Once crypto is sent, it's gone for good. In practice, this makes cryptocurrency a popular tool for scammers. And crypto is also often used by criminals for other activities like money laundering or buying illicit goods, as its pseudonymous nature makes it hard to track and identify bad actors (The Investopedia Team 2025a).
- **Vulnerability to Hackers:** Cryptocurrency can also be vulnerable to hackers, depending on how it's stored. Though blockchain networks are incredibly secure, many cryptocurrency exchanges have been hacked over the years. Wallets, especially software wallets, are also vulnerable to hackers (The Investopedia Team 2025a).
- **Price Volatility:** As of writing, most cryptocurrencies are still experiencing extreme price volatility. For example, it's not uncommon to see Bitcoin lose $500 or $1000 of value in a day. This extreme volatility makes it hard to use for day-to-day transactions (The Investopedia Team 2025a).
- **High Energy Consumption:** Bitcoin and other cryptocurrencies that rely on a technology called Proof-of-Work (PoW) (more on this later) demand a lot of energy. Because of this, mining can have a negative environmental impact. However, as we'll see in future chapters, new technologies like Proof-of-Stake (PoS) are lessening crypto's carbon footprint (Nibley 2025).
- **Scalability Issues:** While crypto transactions are fast, there is some debate over how well existing blockchain networks could scale. Technology in this space still lags behind the dominant payment processors of today like Visa, but blockchain networks are catching up (Nibley 2025).

As we move on, keep in mind that crypto is still a new technology. There are kinks to work out before it can be used as a widespread payment system. The underlying technology is improving every day. In 20 short years, we've already gone from it being a niche interest to a popular vehicle for investment. The last 10 years have also seen tremendous growth in what crypto can

do. Nowadays, the technology isn't just for simple transactions. It can also be used to represent ownership, grant voting rights to users on a blockchain, or to support key functions or software (dApps). Like with any new technology, there are pros and cons. However, crypto is here to stay. And given its decentralized nature, it already looks like a better option than fiat.

In the next chapter, we'll discuss the main use case for crypto right now: investment. We'll look at how you can invest in crypto, making the most of your money as the technology evolves and grows.

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