

Chapter 3: Introducing Cryptocurrencies

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High up in the mountains of Tibet lies a secret base.

An underused hydroelectric power plant sends an almost endless source of cheap energy to a remote mining base.

Industrious entrepreneurs use this cheap, abundant energy to mine millions of dollars' worth of a valuable new commodity.

But this is no ordinary mine...

There are no picks and shovels. Instead of shafts, miners work in rooms lined with endless rows of computers. Thousands of roaring fans keep the "mine" from overheating.

Every month, the mining operation produces millions of dollars in a new type of commodity.

The mine doesn't produce gold or any other precious metals...

Instead, it produces cryptocurrencies, including the world's most popular one: Bitcoin. And the industry is booming.

The owner of the mine is a 30-year-old whiz kid named Chandler Guo. At first glance, Guo seems like any other ordinary computer scientist. But he's much more than that. Bitcoin has made Guo rich. According to Guo, his operation mines 200 bitcoins per day. At market prices as of this writing, Guo is grossing \$500,000 *per day*.

His total operation (including the base in Tibet) is now the third-largest bitcoin mining group in the world.

I had been reading about Guo for years... but could never get a meeting with him. I finally tracked him down in the East End of London. I was there to attend a blockchain conference, and Guo was one of the speakers.

I learned from Guo during my interview that he's thoroughly focused on bitcoin. In fact, Guo believes so strongly in bitcoin that he sells all other cryptocurrencies he mines at the base so he can buy more bitcoins. He told me, "In the digital world in the future, they will be using Bitcoin."

It's too good an opportunity. In his own words, he said, "At \$700 a coin, bitcoin is too cheap. In 20 years, bitcoin will be a global [currency]. One bitcoin will be worth \$1 million."

I know that might sound crazy, but there are only 11 million bitcoins left out of the 16 million that have been mined. By Guo's estimation, 5 million bitcoins have been lost (through owner deaths, hardware breakdowns, negligence, etc.). This backs up what I was told from another bitcoin millionaire, Jered Kenna. He thinks about one-third of all bitcoins have been irretrievably lost.

So, at \$1 million per coin and with only 11 million available coins, Guo is anticipating that bitcoin will have a total worth of \$11 trillion. Another bitcoin millionaire, Roger Ver, aka "Bitcoin Jesus," thinks bitcoin will be worth \$500,000 per coin. That would give bitcoin a value of \$5.5 trillion.

I know these numbers sound crazy. But if bitcoin becomes the equivalent of digital gold, these numbers aren't as nuts as they appear...

Consider that today, the total value of all mined gold in the world is \$7 trillion. So, a case can be made that if Bitcoin *does* become

a globally recognized asset class, you could see a price between \$500,000 and \$1 million per coin.

I've been bullish on bitcoin since 2015.

It's a perfect asymmetrical bet: It has vast upside, but the downside is limited.

So, yes, I'm a big fan.

But as much as I admire guys like Guo, I think they're missing the forest for the trees when it comes to cryptocurrencies.

The truth is: Bitcoin is just part of a much, much bigger picture.

In my conversations with the investing public and bitcoin experts, their entire focus is on replacing fiat (paper) money with digital money. I believe this will inevitably happen, but there is much more to this story than just money.

But before we begin exploring the vast use-cases for bitcoin—and the hundreds of cryptocurrencies it spawned—we need to lay some groundwork.

What Exactly Are Cryptocurrencies?

Money is one of the most confounding concepts on earth. We all use it. But who really understands it?

The truth is: *Money can be anything.*

In the past, seashells, salt, rice, barley—even silk—have been used as money. In essence, all you need is something that makes it easier for people to transact business between each other.

Take the U.S. dollar. There's nothing backing it up—we went off the gold standard in 1971. So, all the dollar really is *is a promise... an "act of faith."*

We're all acting on faith that by accepting these small pieces of paper we call "money," we'll, in turn, be able to use them to buy other stuff in the future.

A cryptocurrency, sometimes called "digital currency," is no different. It's simply internet-based money. And like any other medium of exchange, many people around the world have decided it is money.

They believe they'll be able to use cryptocurrency in the future to buy other stuff with it. *That* alone makes it have value.

How Do Cryptocurrencies Work?

This is where it's easy to get lost in the weeds.

To me, the best way to think about it is like this: We all drive cars, but how many of us understand the finer details of how an engine works?

As we discussed earlier, cryptocurrencies work thanks to something called a "blockchain," which is nothing more than a very secure online database. Just think of it as a public ledger.

In short, a cryptocurrency is a digital currency that uses cryptography to secure transactions and create new units.

Cryptocurrencies are basically computer codes that can be used to transfer things of value. These transactions take place over the blockchain, which is essentially a public ledger.

It's not that much different than when one bank sends money to another. They use ledgers to track the transactions. The difference, as we've mentioned before, is the blockchain is a decentralized ledger. So, the transaction is tracked over multiple computers.

Some cryptocurrencies, like bitcoin, are used as money (a medium of exchange). Others are similar to equities or stocks (will go over that in a later chapter).

The main difference between cryptocurrencies and traditional currencies is that the cryptocurrencies are digital and use cryptography.

A Groundbreaking New Way to Make Transactions

We live in a modern age with all types of new technologies. But did you know we're still using antiquated methods to make payments? And it's costing us billions per year.

You see, during Roman times, bankers would transfer money via what we'd consider today as paper checks.

According to a Goldman Sachs report, paper checks still make up 50% of all business payments. So, we're sending \$26 trillion per year through a system that was invented 2,000 years ago.

The cost of this antiquated approach is mammoth.

All-in costs surrounding these outdated payment systems are estimated at \$550 billion per year.

To put that in perspective, that amount is 3.5-times bigger than all the profits made by U.S. banks in 2014. It's twice the size of the global PC market... and almost as big as the annual Pentagon budget.

So, what are the problems with the way we handle money as a society now?

For one, it's inefficient. It takes days to verify transactions, and mistakes are made in the process.

Second, money can be counterfeited. According to the Secret Service, about \$300 million in fake U.S. currency is removed from circulation each year. And that doesn't include check forgeries and credit card fraud.

Cryptocurrencies solve these two major problems using the blockchain.

Let me explain how it works...

When you go to the bank and withdraw money, the teller checks the bank's electronic ledger to see your balance.

Once the teller sees that you have enough money to withdraw, he or she gives you your money and changes the ledger to reflect the withdrawal.

If you immediately go to an ATM at a different bank, you'll see that the ledger has already been shared with the other bank.

This is called a closed-ledger system. Only other banks and payment networks can view this ledger.

The blockchain works similarly, but the ledger is public and online. Identities are kept anonymous, but all transaction details can be seen by everyone.

The blockchain is maintained by thousands of independent computers across the world. These computers are constantly "talking" to one another, comparing data to make sure the ledger is valid.

This prevents double spending the same way banks prevent double spending.

Even better, the blockchain is unhackable and impossible to shut down because there's no central server. Being unhackable means no one can tamper with the information on the blockchain.

And because the blockchain uses cryptology (a secure form of communication), it's also difficult to counterfeit cryptocurrencies.

So, this creates trust without needing a central authority or middleman. When you cut out middlemen, you cut out lots of costs. This is already changing the face of the money-transmitting business.

For example, you can now send money in any currency to any place in the world that has an internet connection for 99.9% less than it costs to send money by Western Union. The recipient will receive the money immediately.

Paying 5–10% of the money you send in a wire transfer and waiting seven days for that money to clear will be things of the past.

In a few years, you'll be able to buy a home without having to spend \$3,000 on title insurance. The blockchain can do that in seconds.

Two Trillion Reasons (and Counting) Why Blockchain Is the Future

In a recent report, *Forbes* estimated that cybercrime costs are expected to reach \$2 trillion by 2019. By moving much of our existing technology architecture from a centralized to a decentralized model, such as the blockchain, cybercrime as we know it can be virtually eliminated.

The potential savings and future profit opportunities promised by blockchain technology is why I believe many fortunes in this space will be made from the underlying blockchain technology itself.

If you look at the banking sector, industry giants like JPMorgan Chase, Barclays, and the Royal Bank of Scotland (among many others) are pouring billions of dollars into developing financial applications that use blockchain technology.

JPMorgan alone publicly announced that it will invest \$9 billion in blockchain technology.

This movement to the blockchain is all about money. A blockchain-based financial system can virtually eliminate fraud, delays in payment, and trade errors. Hundreds of billions of dollars are at stake... and that's just in the banking sector.

Many try to explain the blockchain in terms of the “new internet.” I'll admit: Even I'm guilty of that. The problem with this analogy is that we're using old technology in an attempt to define an entirely new paradigm.

Much like the dawn of the Internet Age, we don't even have the lexicon yet to explain the coming era. Even as I write this, I struggle to find the words to explain it—it's that cutting edge.

But it is important to understand that the blockchain is not only about money and payments. Which brings us to the world's second most valuable cryptocurrency: Ethereum.

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