Chapter 2:
Bitcoin Will Change the Money System

By Teeka Tiwari

Monetary policy is the process by which the size and growth rate of the money supply is governed. This is the single most important factor determining the health of an economy simply because money is half of every transaction.

Monetary policy has been managed by old men and women in stale suits sitting behind closed central bank doors for 100 years now. Despite their air of legitimacy, these central bankers have done nothing but rig the game in favor of the world's power institutions: governments and big banks.

We have already seen how the magic money machine is used to give governments unlimited spending power and to bail-out the big banks... all at the taxpayer's expense. There is another little nuance you should know about.

Every transaction between the U.S. government and the Federal Reserve has to flow through what's called a "primary dealer." Primary dealers are the only banks permitted to transfer money and securities between the government and the Fed. And they receive a commission on every transaction they facilitate.

Which means the big banks receive a cut of all new money created from thin air by the magic money machine. They directly profit from the U.S. government's debt binge.

This is why the fiat monetary system is inherently inflationary. Central banks around the world create money at will every single

year. Then the value of that money goes down. Which means the cost of living goes up for everybody.

Some are worse than others, but every country's central bank does this to some degree.

Bitcoin is fundamentally different. Satoshi Nakamoto built a deflationary monetary system into the core of bitcoin's source code. New bitcoins are "mined" into existence per this monetary policy.

And bitcoin is a market-based system—there are no "insiders." Miners compete to solve the math problems necessary to mine for—i.e., create—bitcoins.

I'll give you a quick rundown of how it all works here… and if it starts sounding too complicated—don't worry. We'll discuss the blockchain in greater detail in Chapter 3.

The gist: Mining is the process of validating transactions and adding transaction records to bitcoin's public ledger, called the blockchain. These records are added to the blockchain in "blocks," hence the name.

The system is designed so that each new "block" is added to the larger "chain" roughly every 10 minutes. These records are public and they are permanent. There is no mechanism for altering the ledger in any way.

The blockchain is simultaneously maintained by thousands of mining rigs around the world. These mining rigs are each making trillions of calculations every single second… which makes bitcoin's mining network more powerful than 500 of the world's fastest supercomputers. And this also makes the bitcoin network practically impossible to hack.

Without getting too technical, it would take huge amounts of computing power and a lot of time to change a single transaction.

But Wasn't Bitcoin Hacked?

By now, you've probably seen a headline or two saying bitcoin was hacked.

There's an important distinction to be made here. The bitcoin blockchain has never been hacked. What has been hacked are exchanges such as Mt. Gox and Bitfinex. (You'll learn more about exchanges in later chapters.)

These centralized services are weak points in the bitcoin ecosystem. But don't worry; there are steps you can take to protect your funds.

First, never keep too much of your digital money on any cryptocurrency exchange. Second, consider using cold storage features to store your digital money offline.

Finally, you can store your bitcoins in a paper wallet. This takes your bitcoins offline and stores them on a physical document. Just make sure to store it in a very safe place.

Don't worry; we will go over everything you need to know about how to acquire, use, and store bitcoins safely in a later chapter.

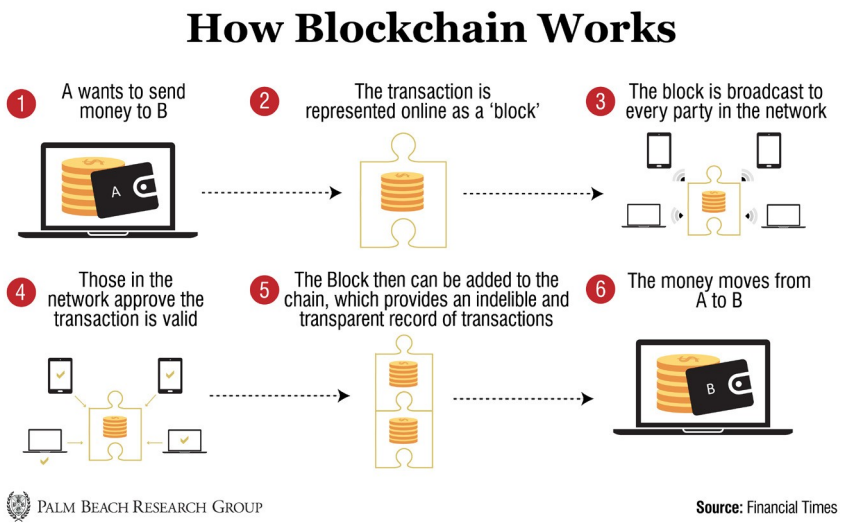
Meanwhile, the decentralized network of miners would continuously confirm transactions and add new blocks on top of your targeted hack.

So even if you had the computing power to alter a transaction, you would not be able to do so before the network had already confirmed new blocks on top of your target. Thus, the network would disregard you entirely. Your change would not stick.

That is the beauty of the decentralized proof-of-work system. And that's why you can trust bitcoin to be a borderless, transnational,

immutable, incorruptible, and censorship-resistant system. It has no other choice.

This image simplifies how the system works:



The bitcoin network relies on the mining process for security. That is mining's primary purpose.

The more computing power dedicated to mining, the more secure the bitcoin network becomes.

Naturally, there must be an incentive for people to use their computing power to secure the bitcoin network. The chance to "mine" new bitcoins into existence is that incentive.

Each block also contains all the fees associated with each transaction processed. The miners receive those fees in addition to the new bitcoins.

This puts everyone's financial interest in alignment.

Satoshi designed this system to harness the power of potentially

billions of computers around the world for security purposes. That's far better than relying on a centralized entity with a single point of failure.

And that is where monetary policy comes back into the picture.

Bitcoin's total money supply is capped at 21 million. That is hardcoded and cannot change.

There will always be a new block mined roughly every 10 minutes. This is a constant that is managed by a self-adjusting "difficulty" level. Which means new bitcoins come into the network every 10 minutes or so.

The number of new bitcoins mined in each block decreases significantly over time, however. The new block reward size is "halved" every four years.

At first, each new block contained 50 bitcoins. The block reward was halved to 25 bitcoins in 2012. And it was halved to 12.5 bitcoins in 2016. Another "halving" will occur in 2020. Miners will only receive 6.25 new bitcoins per block at that point.

This process will continue through the year 2140 until all 21 million bitcoins have been mined into existence. In this way, bitcoin is much more akin to gold than fiat currency in terms of how new money enters the market.

Once all 21 million bitcoins have been mined, bitcoin miners will be paid fees from transactions on the network. This will be one incentive to keep them running the system.

To recap: Bitcoin is limited in supply, and it becomes exponentially more difficult to mine over time. These qualities produce the "scarcity" element necessary for any store of value.

Let's put this scarcity into perspective.

As I write, 16.4 million bitcoins have been mined since bitcoin was born. Remember, there are only 21 million bitcoins total… so 78% of all bitcoins that will ever exist are already here. Yet the last bitcoin will not be mined until the year 2140.

That is what a deflationary monetary system looks like. And that is why you can expect bitcoin's value to increase significantly over time.

Will It Catch On?

Here is what Satoshi had to say when bitcoin launched in 2009:

> *I would be surprised if 10 years from now, we're not using electronic currency in some way, now that we know a way to do it that won't inevitably get dumbed down when the trusted third party gets cold feet.*
>
> *It could get started in a narrow niche like reward points, donation tokens, currency for a game or micropayments for adult sites. Initially it can be used in proof-of-work applications for services that could almost be free but not quite…*
>
> *It might make sense just to get some in case it catches on. If enough people think the same way, that becomes a self-fulfilling prophecy. Once it gets bootstrapped, there are so many applications if you could effortlessly pay a few cents to a website as easily as dropping coins in a vending machine…*
>
> *I am sure that in twenty years there will either be very large Bitcoin transaction volume… or none.*

Eight years later, $1 billion worth of bitcoin transactions take place every single day.

Satoshi was wrong about the nature of the first mass-adopter transactions, however. He thought they would be for novelty, mostly irrelevant purchases.

He underestimated how revolutionary his creation was. Bitcoin did not begin to catch on out of fun or convenience… It caught on out of necessity.

You see, bitcoin had no monetary value when it launched in January 2009. Bitcoin gradually gained value over the next four years. One bitcoin was worth $34 by March 1, 2013.

And then something happened on March 26, 2013, that changed the course of human history…

"All insured deposits (individuals and legal entities) up to €100,000 have, as of 26 March 2013, been transferred from Laiki Bank to the Bank of Cyprus," read an announcement from the Cyprus government…

> *In addition, the entire amount of deposits belonging to financial institutions, the government, municipalities, municipal councils and other public entities, insurance companies, charities, schools, educational institutions, and deposits belonging to JCC Payment Systems Ltd have been transferred to the Bank of Cyprus.*

The Bank of Cyprus then proceeded to charge a "levy" of 9.9% on all bank accounts over €100,000 as well as a levy of 6.75% on all bank accounts under €100,000. And they limited all ATM withdrawals to €400 a day.

In other words, they locked everybody's money inside the banking system so they could confiscate a portion of it to "bail-in" their failed banking system.

People rushed to ATMs to try to get their money out… so the withdrawal limit was decreased to €100. Still, the ATMs ran out of money very quickly. And nobody bothered to replenish them.

Average people watched helplessly as their money was frozen for a month. When they finally had access to their money once again, they found that there were now very strict rules regarding how much money they could take out of their bank accounts and what they could do with it. Capital controls became their reality.

Meanwhile, the price of bitcoin shot up 299% to $139 per bitcoin by April 30, 2013. People were beginning to realize that bitcoin was a way out… a safe haven.

Bitcoin went parabolic once that realization took hold. The price shot up another 727% to $1,151 per bitcoin by December 4, 2013.

But then it cooled back off as the situation in Cyprus settled down. In fact, bitcoin spent nearly two years cooling down as the macroeconomic climate remained quiet.

That is, until it happened again… this time in Greece.

Rumors suggesting that the Greek banking system was in trouble were circulating throughout the country in the early months of 2015. People were getting nervous.

On June 27, 2015, Panos Kammenos, head of the government's coalition ally in Greece, appeared on local television. "Citizens should not be scared, there is no blackmail," Kammenos assured the Greek people. "The banks won't shut, the ATMs will (have cash). All this is exaggeration."

The very next day, Greek Prime Minister Alexis Tsipras announced that banks in Greece would not open on Monday. "In the coming days, what's needed is patience and composure," Tsipras proclaimed. "The bank deposits of the Greek people are fully secure."

The government of Greece released the following guidance:

- From June 29, 2015, banks will remain closed up to and including July 6.
- Deposits are fully safeguarded.
- The payment of pensions is exempted from the restrictions on banking transactions.
- Electronic transactions within the country won't be affected. All transactions with credit or debit cards and other electronic forms (web banking, phone banking) can be conducted as normal.
- Prepaid cards may be used to the limit existing before the beginning of the bank holiday.
- **From midday June 29, ATMs will operate with a daily cash withdrawal limit of €60 per card, which is equivalent to €1,800 a month.**
- Foreign tourists can make cash withdrawals from ATMs with their cards without restrictions provided these have been issued abroad.
- Wages paid electronically to bank accounts aren't affected.

Instead of heeding the prime minister's call for patience, people stormed the ATMs, gas stations, and grocery stores. Lines went on for blocks.

The ATMs ran out of cash. The gas pumps ran dry. Food disappeared from store shelves.

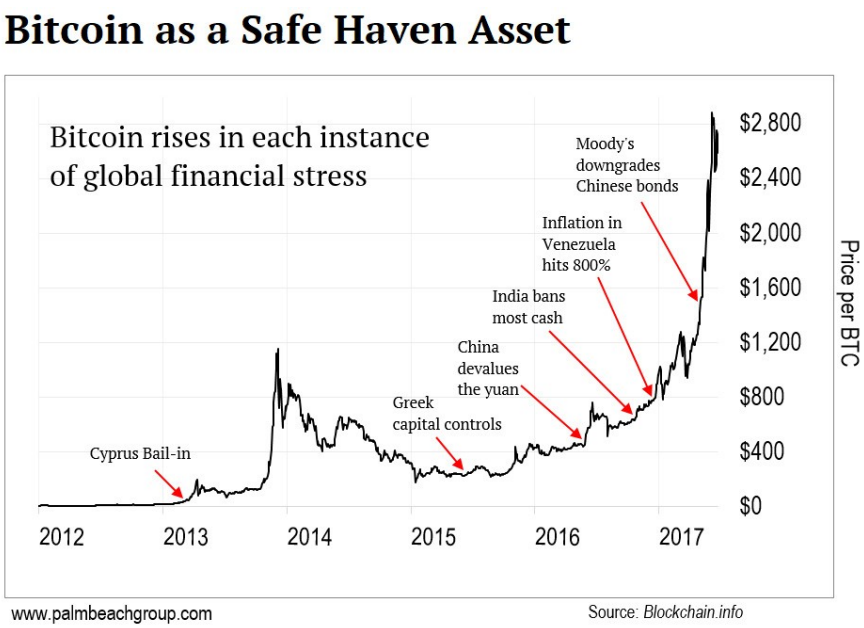
The Greek people were no fools… They had seen this before. Cyprus was only 500 miles away, after all.

As it turns out, banks in Greece were closed for nearly a full month—leaving people with little access to their money.

And once again, bitcoin spiked in price as people fled the banking system looking for a safe place to store their money. Bitcoin gained another 206% over the course of the next year.

But this time, it did not cool back off. Nor did the macroeconomic climate remain quiet.

Instead, one event after another has driven more and more people to bitcoin… most looking for a safe place to store their wealth. Take a look at this chart:



Far from being a cheap way to pay for games, as Satoshi originally suggested, bitcoin quickly became the world's prominent safe-haven asset. The more governments and big banks moved to control their money, the more people flocked to bitcoin as a solution.

In 2016, the People's Bank of China devalued the yuan, reducing its purchasing power significantly. Then India banned more than 80% of all cash in circulation… then inflation in Venezuela hit 800%… then Moody's downgraded Chinese bonds.

More and more people flooded into bitcoin with each incident, and its price exploded up to nearly $3,000 per bitcoin.

This crazy experiment with "internet money" was worthless in 2009. Less than a decade later, it was worth nearly 3,000 times more than the world's global reserve currency.

That's a story for the history books, if there ever was one.

So, the question now is: Will it last? Will bitcoin continue to attract more and more people until it becomes recognized as a legitimate payment network on a global scale?

Or is it just another iteration of the dot-com bubble that crashed and burned in 2000?

After all, the bitcoin network is terribly slow by global standards. As this book is being written, the bitcoin network can only process three to seven transactions per second. A scaling upgrade was recently approved, but even then, the network will only be able to handle 12–28 transactions per second.

Visa, on the other hand, processes 2,000 transactions per second. That puts bitcoin way behind the eight ball in terms of global adoption.

But to determine whether bitcoin's rise will last, you can't get caught up on where the network is today. You must look to the future.

You see, bitcoin is still in its infancy. It is a baby. The bitcoin you see today is not the final product.

To understand this, you need to understand that bitcoin is fundamentally a disruptive technology.

The Nature of Disruptive Technology

The thing about disruptive technology is that it always has to prove itself on outdated infrastructure designed specifically for the technology it seeks to disrupt.

Think about the first cars.

They had to demonstrate their value on dirt roads made specifically for horses.

This same dynamic was true of the internet. It first had to operate through the phone system, which was designed to carry human voices, not data.

That's where bitcoin is today.

Bitcoin is currently operating within the constructs of the legacy financial system.

This system is centralized and slow by design. It is a system of controls and surveillance. It was designed specifically to give a few people complete control over money and banking.

Bitcoin is awkward within this system because it is decentralized by design. It is peer-to-peer. It's open and transparent.

Bitcoin doesn't just give users control over their bank accounts. It makes everyone the president and CEO of their own bank.

But bitcoin still has to move in and out of the existing system to be fully functional right now. It's the car stuck on the dirt road. It's the weird noises coming from that thing called a "modem."

Disruptive technology is always awkward at first. Old people ignore it. Academics laugh at it. The media says it's for criminals.

But if the technology is useful enough, people gradually gravitate to it. Usually, they come from the fringes at first.

With user adoption comes development and innovation.

The development and innovation gradually attract more users. Which gradually spurs more development and innovation.

Then, one day, you wake up and the world has changed.

There are paved roads and cars everywhere. The horses are back on the farm.

But now there are also motorcycles. And bicycles. And skateboards. And Teslas.

These are the "apps" that were developed once the technology became mainstream.

The apps piggyback on the work done by the disruptive technology. They don't change the world—they make it wealthier and more interesting. But they could not come into existence until there was a market for them.

The disruptive technology is what creates the market.

Nobody was on the internet 30 years ago. The world-wide web wasn't invented until 1989. Netscape wasn't released until 1994.

People spend all their time on the internet today. They send 2.5 million emails every single second. They do video chats with each other. They are buried in Facebook. They gobble up shares of Snapchat's IPO.

The internet began as a quirky novelty. Now, human civilization would collapse if something happened to it.

What's funny about this is people always say that it happened overnight.

Video chats. Digital money. Immersive 3D worlds. Virtual reality.

These things were just science fiction when I was a kid. Nobody saw them coming.

That's because nobody was paying attention until they had no other choice.

The majority of people never see the genius and the struggle behind disruptive technology. They just see the end result when it becomes useful to them.

They become the market.

But that only happens after tons of blood, sweat, tears, and capital has poured into development and innovation.

As this book is being written, institutional money is beginning to flow into bitcoin… big money.

There was a Consensus Conference on bitcoin held in New York City in May 2017. For the first time in bitcoin's history, this conference wasn't an echo chamber for tech geeks, software developers, and sound-money libertarians. Instead, the conference was crawling with hedge fund managers… excited hedge fund managers.

Albert Wenger of Union Square Ventures said at the conference: "When we look back at the crypto space, and its $80 billion [value] right now, it will look like a small blip."

And here is Brian Kelly, BKCM hedge fund manager:

> *Six months ago, we started getting interest from family offices. Now we're getting interest from venture capitalists and small institutions. In three to five years, we'll be getting interest from pension funds. We are still in the first innings. I would use any price pullback to buy; there is a wall of money coming. Just 1% of institutional money and we would see an explosion in prices.*

Michael Moro of Genesis Global Trading added: "In the last six weeks, we've gone from millionaire conversations to billionaire conversations. There's plenty of money left to be deployed."

This "wall of money" is going to be used to fund bitcoin's expansion. The platform is going to scale, and it is going to become much more user friendly.

Ultimately, bitcoin is going to get to the point where you use it as effortlessly as you use your credit card today.

So, I think I will wake up one morning to learn that bitcoin has been an overnight success.

It will be a miracle. Nobody will have seen it coming. And when that day comes, today's adopters will become very wealthy.

I know this is a lot to chew on. But I felt like you needed to know the "why" before the "what" and the "how" would make sense.

So, let's take a step back for a minute.

Bitcoin is classified as a "cryptocurrency." It is the first of its kind, but bitcoin has spawned hundreds of other cryptocurrencies—each with unique properties and use cases. Next, we will dive a little deeper into cryptocurrencies...

ISBN 978-1-5323-5236-2

Published by:
The Palm Beach Research Group
Delray Beach, Florida

www.palmbeachgroup.com

PALM BEACH RESEARCH GROUP