BITCOIN: THE ULTIMATE COLLATERAL

Martin Connor

Written by: Martin Connor

Contributors: Juraj Bednar, Kristian Csepcsar, Brian Cubellis, Martin Matejka, Eli Nagar, Igor Neumann, Wyatt O'Rourke

Editors: Kristian Csepcsar, Debbie Liebenberg

Cover design: Kristofer Filip

Design consulting: Robert Blecha

Typesetting: Sabina Heyová

Marketing strategy: Kristian Csepcsar

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BITCOIN: THE ULTIMATE COLLATERAL

This book was written by Martin Connor, Braiins Propaganda Editor, with collaboration from talented people from industry-leading bitcoin companies. It aims to research and summarize the concepts of lending, collateral, and bitcoin. In this book, we look at how bitcoiners and bit coin companies can extract the most value possible from their bitcoin, without having to sell it.

OBSAH

FOREWORD(S): BUILDING TOOLS TO MAXIMIZE BITCOIN'S POTENTIAL

The past, present and future of collateralization – **a double fore word** from two bitcoin builders**.**

> *"You will spend 40,000 hours of your life trying to make money; it's worthwhile to spend 100 hours figuring out how to keep it."*
>
> — Michael Saylor

THE BRAIINS WAY SINCE 2010: NEVER SELL, COLLATERALIZE *BY ELI NAGAR OF BRAIINS*

As the CEO of Braiins, I have had the unique opportunity of leading our company through the rapidly evolving landscape of bitcoin, mining, and everything in between. At Braiins, we have always been driven by a singular vision: to harness the transformative potential of bitcoin, **not just as the highest form of money, but as the ultimate form of collateral**.

Since our founding in 2010, **100% of our revenues have been in bitcoin, and we've financed all our growth and operations by selling as little of it as possible**. This strategy lets us keep our bitcoin holdings while leveraging them, driving the innovation that has positioned Braiins as a leader in the industry. **We've seen firsthand how the ultimate collateral drives real results and gives us financial freedom**.

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Various features of bitcoin – its decentralized nature, finite supply, and inherent security – uniquely make it the most resilient and trustless form of collateral. Its liquidity and global acceptance allow it to be instantly converted into cash – without geographical constraints or the risks associated with fiat collateral.

Bitcoin is not just another option for collateral; it is, in many ways, the superior choice, offering a level of stability and security – unmatched by any other asset class. **We have years of experi ence to back this up**.

At Braiins, our experience using bitcoin as collateral has been overwhelmingly positive. By leveraging bitcoin to secure financing, we have been able to expand our operations and innovate without the need to liquidate our holdings. This strategy lets us maintain the value of our assets while still benefiting from bitcoin's long
term appreciation.

We have been leveraging our stack for years. We raised significant funds to expand into our hardware division, and the results of that are paying tremendous dividends. Our mini miners – the BMM 100 and BMM 101 – are just the beginning.

It is with this deep understanding of bitcoin's potential that **we have decided to invest in Firefish, who pioneers the use of bitcoin as collateral for loans. Their platform, which enables individuals and businesses to unlock the value of their bitcoin without having to sell**, represents a significant advancement in the financial use of bitcoin.

Bitcoin is not just the best option, but the only option for collateral in the modern financial era. I am confident that the knowledge shared in these pages will be invaluable to anyone interested in the future of finance.

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As we continue to innovate and push the boundaries of bitcoin, we look forward to the exciting opportunities that lie ahead with Firefish as a key partner. **At Braiins, our mission is to provide miners with tools to be as efficient as possible in such a ruthless industry**. We believe **the ability to leverage your bitcoin – not sell it – will be a key tool** going forward. Together, we

will help shape the future of finance, one that is built on the soundest collateral known to mankind – bitcoin.

Onwards fellow bitcoiners!

Eli Nagar – CEO, Braiins
Houston, Texas
8/18/2024 - block height 857346

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COLLATERALIZE, BUILD, REPEAT

BY MARTIN MATEJKA OF FIREFISH

Firefish grew from multiple different places. Before Firefish was created, I worked at a trading desk, dealing in energy and com modities. We used all sorts of collateral to help process our large transactions and trades – cash, stocks, exotic assets, securities, gas, and even carbon allowances. Then, I thought,

"Why not use bitcoin as collateral?"

Collateralization is widely adopted in traditional finance. **"It was missing a piece: bitcoin**. Our goal was to ensure **you never had to sell your bitcoin – that you could live off it**.

It took a long time for me to get there, though. The first few years of my bitcoin journey, I, like many others, thought it was a cool technology and **just an investment**. Looking back, it's definitely still a cool technology, but it's so much more than an investment. **It's a way of thinking**.

I know firsthand, whenever you send money – especially bitcoin – away from your balance sheet, you're exposed to counterparty risk. We thought, why though? Bitcoin is programmable money. We can program it, and we did. That's why we created a non-custodial lending protocol, fine-tuned for bitcoin. **And thus Firefish was born**.

We are proud to offer bitcoiners and bitcoin companies the ability to **not only sit on their bitcoin until it moons, while also extract ing the inherent value of their bitcoin without needing to sell it**. There is no exit strategy with bitcoin – just with fiat. Rich people never sell their assets, and neither should bitcoiners.

Over the coming years, **we plan to help bitcoiners truly take the position of "short fiat, long bitcoin"** through everyday payments. We just might expand into bitcoin-backed credit cards, lightning integration, and even bitcoin-backed securities.

At Firefish, we are short fiat currency. **That's why we think your liabilities should add up in fiat, backed by real money – bitcoin**. Our goal is, and always will be, to make bitcoin more useful.

It made so much sense to partner with Braiins. It's always about the people, and the people there are the most exciting part. From the bottom of my heart, it makes the biggest difference to work with them. **We are human. We want to interact and do business with people we know and like**. Plus, Braiins has been around the block. They are the good guys in the bitcoin mining industry, and they always will be.

They walk the walk, too. They were one of the early beta testers of Firefish.

As the industry of bitcoin mining and mining pools evolve, we believe financial services will be a game-changing value propo sition for Braiins.

Collateralizing is just the first step. **What you all build next is what really matters**.

The journey begins, let's build!

Martin Matejka – CEO, Firefish
Lugano, Switzerland
8/27/2024 - block height 858678

BITCOIN: THE BEST ASSET EVER CREATED

WHAT IS BITCOIN?

In order to understand anything that can be done *with* bitcoin, you must first understand bitcoin. Truthfully, nobody may ever fully understand bitcoin. Bitcoiners are actively looking for the bottom of the rabbit hole. Even bitcoin's founder, Satoshi Nakamoto, could not have predicted its path. Or could he?

For as long as we can remember, we've used money – in forms such as shells, gold coins, paper bills representing gold coins, paper bills, then to the pinnacle: numbers on a screen "held" by a third party that only lets you access it in paper form if you follow various confusing steps and rules. That was, of course, until we had bitcoin.

Bitcoin is the first-ever money that allows for quick, permissionless, worldwide transactions. It is the first money neither issued nor controlled by a government or central bank in centuries. Currency[1] debasement has been around since currencies have.

For many reasons, bitcoin avoids debasement. There will only ever be 21 million bitcoins. It is such a simple concept that many naysayers refuse to accept this hard cap. They are wrong. Without this agreed upon hard cap and known issuance schedule, history has proven that those in control of the currency supply will use it to their advantage. No matter what the money is, people will try to take advantage of it.

1 Currency is money issued by a government, meaning it has a central authority and is under control.

In the 14th century, beads were a form of money in West Africa. They were made of salt and glass, which were rare for them. It made sense to use rare, small, portable objects as money. Then, Europeans discovered this. They could recreate these beads with tremendous ease, so they did. With their newly counterfeited money, the traders greatly devalued the rest of the bead holders[2]. This is impossible with bitcoin. It is immune to counterfeiting.

It is still important to know why millions of people love bitcoin. We will look at that here. Many people, including the Braiins team and this humble author, contend that bitcoin is as important an invention or discovery to humanity as fire, electricity, or the inter
net. But why? What is it?

BITCOIN IS

"A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution." This sentence begins the bitcoin whitepaper[3]. Bitcoin is, and will always be, a digital payment system that one person can use to pay anyone else, anywhere on the planet, at any time, without asking anybody for permission.

Anybody with access to the internet can use bitcoin. It's comparable to many things. Every day, millions of people communicate with each other over the internet via email. They create an address, type out information, then send that information out to somebody else who has also created an address. This is the same with bitcoin – just replace "information" with "money". How does email work?

2 Lyn Alden, Broken Money, p. 27.

3 https://bitcoin.org/bitcoin.pdf

Millions of computers process everything, ensuring that the cor rect messages are sent to the correct people. The internet is not owned or controlled by one company – it's a decentralized network of participants. Take a guess how bitcoin works. Obviously, both are more intricate than that, but for simplicity's sake, that is how email works, and that is how bitcoin works.

What if bitcoin goes down? It has not[4]. If it somehow does, then there are considerably bigger issues at hand. It will require the entire internet[5] shutting down worldwide. That has never happened before. Still, if it somehow does, the second the internet and one bitcoin miner go back up, effectively, so will the entire network. The bitcoin blockchain is just a record of who sends what money to whom. That will never, ever change.

As mentioned, bitcoin has a fixed supply cap. There will only ever be 21 million. This is as foundational as anything. This fixed supply allows for predictability in bitcoin – yes, predictability.

Bitcoiners know exactly how many there will ever be, which is the only thing in human existence we have absolute knowledge of. There may be more gold found somewhere on Earth (or in space). Companies may issue more shares of stock. Real estate, believe it or not, also doesn't have a fixed supply. If developers wanted, and if there was enough demand, they would build miles into the atmosphere for people to live in. One can also note that any property "ownership" is simply renting from the government or municipal ity, who can seize it at any given moment. Study property taxes.

4 Bitcoin's uptime is over 99.98%, according to bitcoinuptime.com. This is higher than any centralized internet server ever.

5 Even if the entire internet goes down, users can send bitcoin via satellites and radio waves. I'm not fully sure how they work, so we won't go too far into that.

All of those comparisons aren't *really* money, though. And bitcoin is money. It really is. People use it to buy things. Today, somebody bought something with bitcoin. But what is money? Go to any introductory bitcoin writing, and you will find something like this:

Aristotle says that money must be durable, portable, divisible, and intrinsically valuable. The first three make plenty of sense – you must be able to carry money with you without worrying about it getting lost, stolen, or destroyed, and you must be able to pay in whatever denomination or fraction you wish. Austrian economics, however, would argue that nothing *really* has intrinsic value.

What backs gold? Nothing *really* backs gold – or government issued paper notes.

Bitcoin, on the other hand, is backed by terawatts of electricity and millions of computers working together in competition to secure and verify that every single payment is truthful and valid. Energy and electricity are the culmination of millions of years of evolution, representing the true power, wealth, and well-being of human civilization. Bitcoin is *the* energy currency.

The decentralized (read: not controlled by anyone or any group) nature of bitcoin is what differentiates it. Anybody can buy a bitcoin miner and partake in the network – you just need the computer, the electricity to power the computer, and the internet.

For more information on what makes bitcoin the best, please con sult this fancy chart made by the wonderful Braiins Design Team:

Verifiable		Moderate	Moderate
Fungible			
Portable		Low	
Durable			Low
Divisible		Low	Moderate
Scarce		Moderate	Low
Established History	Low		Low
Censorship-resistant		Moderate	Low
Unforgeable Costliness			Low
***Openly Programmable**		Low	Low
***Decentralized**		Moderate	Low

Bitcoin is highly **verifiable** because a transaction will not work if a user sends coins he does not have. The only thing you can send on the bitcoin network is bitcoin. It cannot be counterfeited. It cannot be hacked. The only way to participate in bitcoin is through the accepted, decentralized channels through which everyone already participates.

Bitcoin is highly **fungible** because every bitcoin is worth the same amount. Bitcoin is highly **portable** because a user can memorize a 12-word seed phrase (think of a password) and transport that anywhere. Bitcoin is highly **durable** because the blockchain, which carries records of ownership of funds, can never be erased – anybody can own a copy of the blockchain without needing permission to do so. Bitcoin is highly **divisible** because it extends to eight dec

imal places – the smallest denomination is called a satoshi. One

bitcoin is equal to 100,000,000 satoshis. Bitcoin is highly **scarce** because there will only ever be 21 million. Bitcoin, launched in 2009, does not have the track record that gold does as a type of money. Bitcoin is highly **censorship-resistant** because all valid transactions get included in blocks.

Notice another thing with bitcoin, gold and fiat - none of them have intrinsic value. Money exists for people to transfer and cre ate value. Bitcoin is the best monetary technology – not the most intrinsically valuable.

If you want to delve deeper into why bitcoin is so fascinating as money and technology, please check out these three books ded icated just to this topic:

● *Bitcoin: Separation of Money and State* by Josef Tětek ● *Broken Money* by Lyn Alden
● *The Bitcoin Standard* by Saifedean Ammous

Still, what actually *is* bitcoin?

In reality, bitcoin is just a ledger – picture a super long scroll that a messenger from ancient Rome would read breaking news from, just considerably longer. It contains recorded transactions from everybody, and is updated and modified perpetually. Anybody can make their mark on this ledger by setting up a bitcoin wallet and transacting. This can be as simple as buying it off an exchange and sending it to a different wallet. That one transaction exists forever.

These coins aren't "stored" anywhere. Your private keys (password) enable you to edit your record on the ledger and send bitcoin to other addresses. The only people who can do this are the ones who know the private keys. This gives users massive control over their own finances, compared to banks, who have strong control

over your deposits, require regular password checks, passcodes to verify your device, and restrict users with daily transaction limits.

Believe it or not, there is a large contingent of people who enjoy having absolute control over their finances. For decades, there has been pretty blind trust in banks, who often have been incen tivized to take advantage of their power over finances, much to the detriment of society.

Still, there have been some ups and downs with bitcoin's perceived value (price) over the years. It's a new technology, which makes it extremely difficult to value. Bitcoiners love the freedom offered and financial stability – yes, stability. The fixed supply combined with personal responsibility and security is unmatched in any asset or technology.

Early, *early* bitcoin adopters saw this potential and ran with it. Regularly, there are stories of people who cashed out *thousands of bitcoins* for millions, then ride off into the sunset. These people are often called lucky. For every one person who retires from bit
coin, there are probably five or more who lost their private keys to thousands of bitcoins.

The early bitcoiners who lost their funds likely didn't see the true value of it and simply forgot they had it. They'd also likely sell at a considerably smaller gain, if they managed to keep their coins. Nobody who's made their retirement off bitcoin was lucky.

The ability to buy and hold bitcoin from pennies to today requires incredible foresight, knowledge, patience, and passion. They could have lost or sold their coins at any point leading up. Bitcoin has doubled over 16 times since it reached $1 in price. Still, some have never sold, because they have real belief in it, because the best is yet to come.

IN MY EXPERIENCE, THERE'S NO SUCH THING AS LUCK

Many people, at first, see that there is some digital currency with volatile price movement and think, *gee, look at all the geniuses involved in this*. In bitcoin's short history, there have been countless scan dals, scams, catastrophes, lost money – you name it. They've all made it stronger. Bitcoin is much more than some internet token that nerds in their parents' basement[6] trade amongst each other. Bitcoin is the ultimate mixture of technology, history, philosophy, energy, and more. There is intricate intent behind a multitude of details that tells a bigger story. Satoshi left us messages in bitcoin's structure, showing us this was more than just an experiment.

On October 31, 2008, Satoshi Nakamoto posted *Bitcoin: A Peer-to Peer Electronic Cash System* on a platform called Metzdowd. Thanks to a passionate, smart few and the power of the internet, bitcoin has grown literally, figuratively, and spiritually across the globe.

On October 31, 1517, Martin Luther posted his *Ninety-five Theses* to the door of All Saints' Church in Wittenberg. Thanks to a disgrun tled bunch of Christians and the power of the printing press, the Reformation spread, changing the world as we knew it.

It isn't crazy to view this as a coincidence. If you look deeper, however, you may find it's just the tip of the iceberg. The domain name for bitcoin.org was purchased on August 18, 2008. Satoshi had 74 days to share his whitepaper with the world, but he waited. He waited until Halloween, 491 years after Martin Luther, to post it. Bitcoiners now have a second holiday to celebrate on October 31st – Whitepaper Day.

6 This sentence was written in my parents' basement.

Bitcoin miners, however, celebrate the day the first block was mined. On January 3, 2009, Satoshi Nakamoto mined the first bitcoin, inscribing the day's front-page headline from *The Times*:

"Chancellor on brink of second bailout for banks"

The global financial crisis was in full swing. Foreclosures, bank ruptcies, and bailouts were as common as days ending in "y". Bitcoin legitimately started with the worst stretch of global banking in decades. This date, January 3, 2009, was likely chosen because that was the day Satoshi wanted to start bitcoin – not for any secret reason, but that inscription on the first ever block, mentioning governments propping up a failing banking system, has so much meaning. Governments, who have indefinitely abused monetary policy, bailed out banks, who abused the financial system. These two institutions are forever tied to bitcoin.

On The P2P Foundation forum, Satoshi Nakamoto listed his birthday as April 5, 1975. This is the 42nd anniversary of Executive Order 6102. On April 5, 1933, United States President Franklin Delano Roosevelt confiscated all US citizens' gold. Anyone who held gold could sell it back for $20.67 per ounce (or face a $10,000 fine, or ten years' imprisonment, or both). On January 30, 1934 – less than a year after "buying" everyone's gold at $20.67, the US raised the price of gold to $35 an ounce. Everyone who previously "sold" their gold lost out on 69.32% gains. Talk about a rug pull. Who gained money? The United States government did – printing the new money as required by the Gold Standard. Perhaps bitcoin *was* born on April 5th.

For those new to bitcoin, a "block" is a set of transactions, compiled, reviewed, and added roughly every ten minutes. Every 210,000 blocks,

7 According to dollartimes.com/inflation/, a $10,000 fine in 1933 would be roughly a $234,157 fine in 2024. That is a hefty fine for owning some gold.

the block subsidy[8] gets cut in half. This is called a "halving." The first one occurred on November 29, 2012, dropping the block reward from 50 bitcoins to 25. Oddly enough, the yearly inflation rate of bitcoin also dropped from 50% to 25%. This happens every halving – the design of bitcoin is so that its block reward is also the percent increase in supply each year. All of this adds predictability to bitcoin. How many United States dollars will be in circulation in the year 2040?

In the past, these halvings have led to an increase in price thanks to the decrease in new supply. Because of this, bitcoin is often a hot topic a few months after each one. Interestingly enough, a bitcoin halving is projected to happen during every United States presidential elec
tion year. Maybe Satoshi picked January 3, 2009 for a reason, huh?

Individually, all of these small things are just tiny details that have coincidental double-meanings. It's fair to call them a stretch – indi vidually. Together, they show a clear design of what led to bitcoin's creation. These values and intentions behind Satoshi's invention create a story that does the marketing for bitcoin – not some fancy marketing department like the one who put this book together.

Maybe Satoshi just randomly released the whitepaper on October 31st. Maybe he just randomly put a news headline on the first ever block. Maybe he just randomly picked a date as his birthday. Maybe he just randomly decided that four years for each halving made sense. But what if he didn't? What if he knew he created the most important technology known to man?

Maybe he did, and maybe he didn't. It doesn't matter – the first domino has been knocked over.

8 The block subsidy is the predetermined reward in bitcoin given to the miner that finds a block. They receive the block subsidy plus any transaction fees when adding a new block.This is how new bitcoins are issued.

WHY RICH PEOPLE NEVER SELL THEIR ASSETS

WRITTEN WITH GUEST CONTRIBUTOR JURAJ BEDNAR – HACKER, CODER, AND AUTHOR

THEY DON'T NEED TO

When people make more money, they typically have to pay more in taxes. Rich people don't like that. *Why* people don't like to pay taxes might belong in a different book, but generally speaking, some people do not want to see half their income go towards the government, who can just print money out of nothing anyhow. There are ways around this.

Billionaires like Jeff Bezos and Elon Musk are often criticized for their lack of tax payments. They, of course, have enough money to pay the best accountants, who develop the best tax-optimiza tion plans, allowing them to minimize their tax payments while avoiding fines or jail time.

The reality is often surprisingly simple – those who do not earn an income do not have to pay income taxes. Those who do not realize capital gains do not pay capital gains taxes. A common way billionaires finance their lifestyle or new ventures is by borrowing. They go to a private bank and say, "I own shares in my company and would like to use them as collateral to take out a loan".

Of course, if they give the bank $10 million worth of stock, they can borrow a lower value – say $1 million or $5 million (this ratio is called LTV – loan to value – it protects the lender against sudden drops of the collateral's value).

Elon Musk famously took out a $12.5 billion loan – with Tesla $62.5 billion of his Tesla stock as collateral – to purchase Twitter in 2022. According to the SEC filings[9], this loan had an LTV requirement of 20% as of the closing date. This is one of many examples of billionaires having the ability to grow their wealth through leveraging it.

The advantage of this approach is not only tax-related. The shares that are pledged to the bank as collateral allow the owner to keep their company's voting rights, so they don't lose control of their business. If the value of the shares plummets, the bank can call on the borrower to repay the loan or replenish the collateral. If the owner fails to do so, the bank will sell the shares on an open market.

Besides, it is headline news when someone like Jeff Bezos sells Amazon stock. Amazon, the S&P 500, and the American economy as a whole, all benefit when the CEO of the strongest company in the nation has faith in said company and wants as much equity as possible. Besides, why would someone save in fiat?

Why don't rich people sell their assets? Because institutions have made it so that they don't have to. Even still, the current setup of financial institutions requires you to play by their rules – which are said to be quite confusing.

CAPITAL GAINS

Some who own bitcoin don't hodl[10] forever. Some sell and take profits. Some trade. This gets risky – anybody worth a satoshi knows

9 https://www.sec.gov/Archives/edgar/data/1418091/000110465922048128/tm2213229d1_ sc13da.htm Schedule 13D Item 4 (iii).

10 The term "hodl" comes from a misspelling on a bitcointalk.org forum post, where one user was encouraging everyone to hold onto their bitcoin during an early crash. Since then, bitcoiners have used the typo as an endearing meme.

that bitcoin can experience short-term volatility. What happens when somebody takes profit, wanting to trade, then buys back in, except the price drops after they buy back in?

Well, they might owe taxes they cannot afford to pay. That is an issue with capital gains taxes. They essentially tell you, "You don't really have as much money as you think." Suppose you sell $100,000 worth of bitcoin, but owe 15% of that in taxes. Did you ever *really* have $100,000?

It depends. Certain nations have bitcoin-friendly tax laws and do not require capital gains taxes on bitcoin, nor taxes on bitcoin transactions. This is a forward-thinking tax code that promotes the growth of bitcoin and wealth creation in general. Unfortunately, not all countries are smart enough to do this. Hopefully, the previous sentence is obsolete by the time this book is printed – or at least when you first read it.

So what can bitcoiners do? Anyone passionate about the big orange coin will answer – still, not selling. Most of us are quite patient in this regard, with low time preferences. They will sacrifice not having certain luxuries, like a new car or the best clothes, to have more bitcoin. Some may not share this sentiment, though. They know they're sitting on a hoard of digital gold, and they want to use the value they have. Again, it's their stuff – they should be able to do whatever they want with it.

Why can't they take a loan out with their bitcoin as collateral? Everyone else does it – with much less valuable assets.

Well, now they can. Enter Firefish and collateralized bitcoin.

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MANAGEABLE DEBT ISN'T A BAD THING

Over the years of currency debasement, people have not been able to buy things like homes, cars, and education on their own. Nearly everybody has some type of debt. Some of it is predatory and unethical, taking advantage of the terrible financial system we're forced to live in.

Some of these companies even make catchy slogans to get you to take out a payday loan. *That* is terrible debt. *That* takes your problem, increases it, and passes it back to yourself roughly two weeks later. 16 US states have outlawed this practice because of how ridiculous and predatory it is. It's ironic – people with more money can take advantage of that by not spending their excess for a few weeks, only to receive greater returns in short periods of time. There's nothing wrong with leveraging your wealth, knowl edge, and overall circumstances to increase wealth – just don't take advantage of those who already can't pay for their necessities.

Like it or not, we live in a debt-eat-debt world. If you want something of value, you typically must either be a card-carrying member of the "Lucky Sperm Club" or take on debt. Believe it or not, hard work still goes a long way in this world.

Still, with every percentage point that inflation increases, hard work – and money – become less valuable. Prices increase more than what we earn, so we must take on debt to buy what's needed. Having debt doesn't make you financially illiterate, though – not everybody with *some* debt is unable to afford their credit card bill. Few successful companies have gotten where they are without some level of debt – especially Braiins. If it is structured well enough, with the sufficient means to pay it back, then debt isn't a bad thing.

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The same goes for individuals. Going into debt to buy a house you're comfortably able to make payments on is considerably different from going into debt because you can't pay your bills on time. Circumstances surrounding both of those may differ, but debt can be a tool to increase savings in the long run. If it's paired with something that increases in value over time, and payments can be sustained easily, debt is not a bad thing. Debt is a tool. Like all tools, it can be used well or poorly, depending on who uses it and how it's used.

To put it mildly, it's bleak that it's essentially impossible to own anything of value in today's world. This unfortunate reality makes bitcoin held in cold storage that much more valuable.

HODL

They're called "assets" for a reason too.

A key thing behind an asset is value. People generally prefer to own something that increases in value rather than something that has the same (or even decreasing) value. That way, they can get more from it – more housing, more food, more clothes, more vacations. It's your stuff, you should get to do what you want with it.

With our society of inflation and currency debasement, nearly any asset will drastically appreciate in value compared to the US dollar (or other fiat currencies). Rich people do their absolute best to hold as few actual dollars as possible. So do bitcoiners.

Entire financial advising industries have come about, purely focused on avoiding the inherent loss of value associated with holding fiat currency. Companies specialize in finding investments to protect and increase wealth. As Michael Saylor said, dollars are

like melting ice. Eventually, you'll have less than what you once had if you let it sit there and leave them alone.

Whether they know it or not, people actually hate dollars. They're incentivized to – 401(k)s, Roth IRAs, pensions, and more all tell people not to hold dollars now, and to realize them later. With 401(k)s, the income supplementing them is pre-tax. With Roth IRAs, the realized cash is tax-free. People are encouraged to avoid taxes if they want to increase their wealth.

This mentality is quite common in bitcoin, too. The term "hodl" is ingrained in every bitcoiner's mind during a bear market. We know that our coins will perpetually have more value in the future – so we won't sell, regardless of any outside market influences driving the price up *or* down. Not all bitcoiners are rich people, and not all rich people are bitcoiners. *However, both bitcoiners and rich people prefer not to sell.*

Another fancy term smart people like to use is "exit strategy", basically, how much and when you plan to sell something – in this case, bitcoin. Bitcoiners often joke that there is no exit strat egy – that they'll never have to sell. They'll spend it. But before they spend it, they may need to collateralize it. It doesn't sound as ridiculous as you may think, too.

While the current setup of the financial system allows people to take advantage of existing methods to use collateralization and debt to live as their wealth increases over time, bitcoin is a new financial system. That means new things must come to support bitcoin and further its adoption.

The title of this book is *Bitcoin: The Ultimate Collateral*. Collateral generally requires borrowing. It's time to discuss borrowing.

DEBT AND FIAT: FEW PEOPLE CAN BUY THINGS OUTRIGHT

As mentioned, in today's world, everyday people have lost the opportunity to instantly purchase common goods – like cars and homes. An overwhelming number of factors, such as currency debasement, inflation, and government control in financial mar

kets, are part of why bitcoin was created – and now thrives.

Bitcoin was made to help people save money and fully own what they buy. It sounds ridiculous to say that. It is the unfortunate truth. Actually owning something you make a significant purchase on is as far-fetched as retiring before 60. With costs rising, and wages not meeting costs, people need help buying things.

Our society relies on banks to make those purchases for the con sumers, who pay back the banks once a month for 30 years. The same goes for things like cars, just with shorter loan terms.

In both instances, a house or an automobile serves as collateral for the loan. If payments aren't made, the loan provider (bank) will repossess the collateral. This unfortunate event is typically agreed upon by both parties in the debt contract. Even still, it's difficult to get loans with favorable terms – especially with no collateral *other than what you're buying*.

If you've read the above and thought, "our money is a disaster, how can we count on everybody to repay their debt?" You're onto something. Unfortunately, not all debt gets paid, despite the debtor promising to pay it back! Because of this, lenders try their absolute best to figure out the odds someone will pay their loan back in full.

The Fair Isaac Corporation, otherwise known as FICO, created the first-ever credit score in 1989. They devised a way to measure someone's likelihood of repaying debt, based on payment history, amount owed, new credit, length of credit history, and credit mix. They track everything you buy and how much of it you've paid off, then estimate how likely you are to take on a new loan. Credit scores are the epitome of centralization and "trusted" third parties.

Shockingly, with the financial conditions mentioned above, people with worse conditions tend to get worse interest rates. This added fee just makes it even more difficult for them to pay off their debt. It traps the debtor in a revolving door of "I can't own this, so I need a ridiculous loan that I can't pay off, which makes me not able to own anything else."

Still, for those with the ability to service their loans, taking out a mortgage to buy a home often gets them a lower monthly hous ing payment than rent. Again, it's their money. They can do what they want with it to live their preferred lifestyles. With the correct environment, debt can be a tool to leverage value and gain own ership of something.

BENEFITS OF CORPORATE DEBT

Companies have known this for years. As many know, businesses fund themselves with money from either loans or investors. It's usually a mix of both. With debt, you must pay back the lender with interest. With equity, the investor's initial money ideally grows with the company over time.

Like an individual who pays off his mortgage and fully owns his home, a company who fully pays off its debt gets to reap the rewards of having fewer investors to answer to. Businesses often own things

like buildings, factories, stores, intellectual property, goods, etc. that serve as collateral for these loans, making it easier to finance new projects through debt. Again, like individuals, it's easier if the business thrives, too.

Simply put, the best companies get the best loan terms. If it's obvious they can service their debt, then lenders are more likely to lend to them. Like humans with their credit scores, other companies, like Moody's, Standard & Poor's, and Fitch all rate companies based on their likelihood of servicing their own debt.

Companies are free to do whatever they wish with their money and business structure. If their goal is to be as profitable as possible for their investors, some businesses will accomplish that through taking on debt to fund new ventures while not diluting those inves
tors simultaneously. It is inherently riskier for those investors, however, as the debt will take priority in the event of a bankruptcy.

Still, for those investors who prefer the riskier strategies, they understand that no payout whatsoever is worth the reward, if they get a bigger slice of the pie. Investors at any scale may prefer debt for funding so they can maintain their ownership stake.

DEBT WITH BAD COLLATERAL

There have been times when the collateral backing debt becomes worthless. Bitcoin was partly started because of the financial crisis of 2008, which happened because of bad collateral.

Lenders bundled their mortgages into securities and used these securities as collateral for trillions of dollars in loans. People bought these securities expecting a return of roughly 2-3% per year – to keep up with inflation. Banks often run at considerably slim profit

margins, so those types of gains are significant to them, especially considering the scale of their cash holdings.

People packaged groups of loans, sold them, and then the buyers of those loans took out new loans with those packaged loans as collateral. As I'm sure you can imagine (or recall), things went swimmingly.

It seemed fine – why would somebody take out a mortgage they couldn't afford? Famed bitcoin hater Charlie Munger once said, "Show me the incentive, and I'll show you the outcome."

Lenders were incentivized to offer adjustable mortgage rates to debtors who had no realistic way of sustaining their monthly pay ments. Individuals everywhere defaulted on their debt, starting one of the biggest domino effects in history. The incentive structure of mortgage issuers rewarded high quantities of loans, so that's what the outcome was. From there, the outcome was that the quality of the loans was next to nothing.

Imagine working for a bank – your job is to physically go to all foreclosed homes and repossess them. The former owners who signed a contract they didn't understand are furious. They blame you. You tell them they have 30 days to vacate the premises. They don't have to go home, but they can't stay here.

30 days later, you return, ready to begin the resale process for Giant Bank National. The home is drastically different. The front door is boarded up. Wallpaper has been ripped down, holes punched through walls. Anything that can damage a house has happened – but at least those former homeowners are gone – your bank has got its collateral back! It just might be a bit tricky to restore the value you thought you had.

From September 2008 to September 2012, there were roughly 4 million completed foreclosures in the United States[11]. Now, not every one of those resulted in a completely ruined house – but it was a significant enough occurrence that a city in California offered up to $1,000 for people to not trash their home before they were foreclosed[12]. Still, the housing market was thoroughly depleted. Banks that took over these homes saw massive losses compared to what the houses were originally sold for.

When lending, it is important to have collateral that can be easily collected and quickly converted to cash to recoup the investment – otherwise, it's not really collateral, is it?

ESCROW

An even more interesting aspect of lending is escrow. It involves using a trusted third party to hold an asset, goods, or money while a transaction settles. For example, if somebody wants to purchase a bitcoin miner from a supplier they haven't used before, they may have a third party – that the seller and buyer agree on – hold the funds until delivery of the bitcoin miner is made. In that instance, the money goes to escrow until the seller holds up their end of the deal.

While this process adds trust to a deal, it also adds time and red tape. Large payments take one day at minimum to settle, so if you add a third party to each trade, you lose valuable time. The traditional escrow process leads to further inefficiencies. Is there a payment system that allows for instant, permissionless transac
tions at the click of a button? Perhaps there is a way to integrate this into escrow?

11 http://multivu.prnewswire.com/mnr/corelogic/56990/
12 https://www.nbcnews.com/id/wbna25217565

LIQUIDATION

We've mentioned a few times that not everyone can pay back their loans. When this happens, the lender typically does everything in their power to recuperate their losses, meaning, they take back what they gave you – even if it's a house. This is called liquidation.

Liquidation also happens in trading with debt. Some risky inves tors prefer to leverage their cash to purchase more than what they can afford to, on the assumption that they will make money on their investment, pay off the debt, and still make a profit. What happens if the investment plummets? If it reaches a certain, low enough point, the lender closes out the entire investment and the investor is left with nothing.

Liquidation looms on many debt maneuvers, so it is important to keep in mind all outcomes – especially negative ones, when taking on any type of loan.

LOANS ARE CONFUSING AND DIFFICULT

This entire chapter has been written as if anybody can walk into a bank and receive a loan instantly. In a society like ours, that is the furthest thing from the truth. It can often take weeks or even months to receive approval from banks to take out a loan.

Typically you must show up, looking presentable, and give intricate details about you, your background, your lifestyle, your employment history, and anything else that may be relevant to your ability to pay them on a monthly basis. The same applies on the corporate level, though you likely need corresponding business documents, showing projected cash flows with various outcomes. Often, for new businesses, banks may require some type of personal collat-

eral to secure a corporate loan due to a lack of established history paying back debt as a company.

For those with a proven track record of paying off debt, they easily can take on more. Apple is far more likely to receive a loan than Joe Smith's new cement mixing company. Like mentioned in the last chapter, the structure of lending is meant to be easier for the elites at the expense of the plebs[13].

Thankfully, a platform exists that equalizes this uneven playing field – making it easier for everyday people to take advantage of the positives of debt. Enter Firefish.

13 The word "pleb" in bitcoin is used to describe everyday bitcoiners – short for plebians. It is not necessarily a bad thing to be a bitcoin pleb. It just means you're an individual bitcoiner.

LENDERS WANT SECURITY

Lenders prefer to have something behind their loans. It adds a secu rity blanket that protects the agreement. Basically any type of legal agreement will carry some type of guarantee. Anything with value can serve as collateral. Some examples might be a house, a car, a boat, cash, shares of stock, precious metals, art, jewelry – anything that may require a significant amount of money to purchase. If the lender sees you have something valuable, they'll be more trusting that you can repay your loan. They may even offer better terms, too.

Obviously, the big risk here is that if the loan is defaulted, the col lateral goes with it. Generally speaking, the lender would rather have their loan paid back in full, so they'll make several attempts to receive their payments prior to seizing any collateral. As discussed last chapter, it can be quite frustrating to physically collect collat eral, especially when a bad debtor knows it's going to be claimed.

There are downsides to every one of those options for collateral. A house, again, can be damaged, difficult to maintain, difficult to resell, and obviously cannot be moved. A car's most reliable feature is its ability to drastically lose its original value. A car also can be difficult to track down in the event of a default. A boat similarly loses value at a rapid pace. They can also be damaged – even sunk – further adding risk as a collateral. When out on the water, the only constant is unpredictability. Boats[14] are certainly not the best form of collateral.

14 Boats are dangerous, too. I actually lost my bitcoin private keys in a boating accident. Feel free to join me at the next "Braiins Boating Accident Support Meeting" – held Tuesday nights at 7 PM CET. Kristian Csepcsar, Braiins Chief of Propaganda, tragically suffered a boating accident, with the video posted on X https://x.com/KristianCsep/status/1834593991959970008.

Cash seems like a simple, reliable option, but also, it will consis tently lose its value over time. Inflation wrecks the value of cash – especially when the inflation rate grows.

A comparison of 2% inflation vs. 5% inflation over time

The more inflation grows, the less purchasing power you have over time, so a small percentage difference actually makes a drastic impact over an extended period of time.

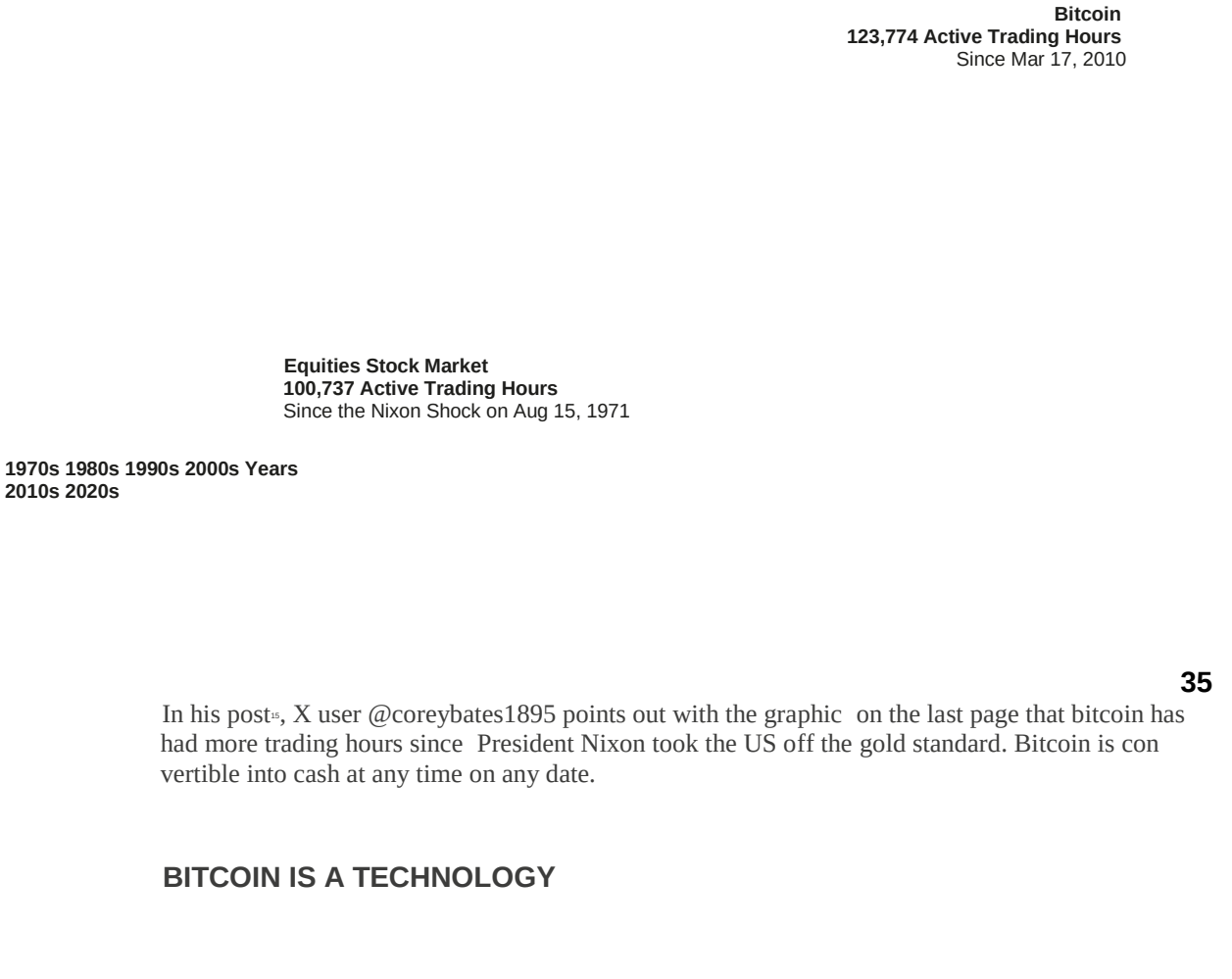
Cash always becomes less and less valuable over time due to infla tion – a key factor in our society. Loss of collateral value paired with interest rates are not a good match. Shares of stock seem like a great option; however, when a famous CEO has a public liquida tion price, that may lead to price manipulation and in turn a lack of market faith in the future price growth.

Precious metals like gold or silver are a common option, though they are not very portable due to their weight and size. They are

also easily hidden, which could lead to some problems when collecting on the collateral. These are historically strong stores of value, so in the right setting, they are probably the best option of the ones listed.

Art and jewelry are easily lost or damaged and are subject to the risk of price volatility. A painting is only worth how much someone will pay for it. Centuries of art and jewelry theft may also weaken their viability as collateral.

The best, simplest – ultimate – form of collateral is something that can instantly be claimed and sold at any time when the debtor fails to make their payments. A house can take months, even years to sell. Stocks, too, have time restrictions. But bitcoin doesn't. Bitcoin is always in motion.



In his post[15], X user @coreybates1895 points out with the graphic on the last page that bitcoin has had more trading hours since President Nixon took the US off the gold standard. Bitcoin is con vertible into cash at any time on any date.

BITCOIN IS A TECHNOLOGY

In the first chapter, we discussed how bitcoin is the best asset ever created. Remember, bitcoin is. Bitcoin is also a technology. Anybody can use it anywhere at any time. It is digital, fungible, portable, and verifiable. If it's properly used as collateral on a loan, it is remarkably easy to liquidate. It's impossible to damage a bitcoin.

When dealing with collateral, it requires trust. First, you trust that the debtor will pay back the loan in full, and you'll never have to worry about liquidating them. In the event that happens, you trust that the defaulted debtor will freely give up their collateral if it was not already secured before the loan started. Finally, if you do end up securing the collateral and claiming it, you have to trust that it will retain the value it originally had.

Don't trust – verify.

When bitcoin is secured in escrow in a multisig wallet, it functions as the greatest collateral ever. It will not need to be claimed, and there is no worry that what you receive won't be what you agreed to collateralize in the first place. Additionally, there is no concern that the bitcoin will be spent, changed, or anything, since it can't be moved.

What is a multisig wallet though?

15 https://x.com/corybates1895/status/1831842100603965819/photo/1

ORIGINS OF MULTISIG

WRITTEN BY BRIAN CUBELLIS, CHIEF STRATEGY OFFICER AT ONRAMP BITCOIN.

Onramp Bitcoin specializes in multi-institutional multisig custody for individuals, institutions, and companies that hold bitcoin.

Multisig (short for 'multi-signature') is a foundational feature of the bitcoin protocol that requires multiple private keys to authorize a transaction, rather than relying on a single key. Simply put, if you send your bitcoin to a friend from your mobile app wallet, you just need one approval – your own. For more security, there are setups where you need approval of two or more friends in order to send funds from your wallet. This setup is ideal for those with massive amounts of bitcoin – typically large companies who want their funds to be as secure as possible.

While multisig was included in bitcoin's original protocol design through its native scripting language, this functionality was not easily accessible in early implementations. The breakthrough for practical use came through several key BIPs (Bitcoin Improvement Proposals):

- BIP 11 (2011) proposed the formalization of multisig transactions, specifying how multiple private keys could be used in combi nation to authorize a transaction. This created a framework for enhanced security, but its implementation remained complex.
- BIP 13 (2012) introduced Pay-to-Script-Hash (P2SH), an inno vation that abstracted away the complexities of multisig by allowing users to send funds to a script hash, rather than a more cumbersome multisig address.
- BIP 16 (2012) refined P2SH further, enabling users to create multisig wallets without the need to manually interact with complex scripts, thereby broadening its usability.

These BIPs collectively transformed multisig into a widely acces sible and practical security tool, allowing for enhanced control, risk distribution, and asset protection in bitcoin ownership.

At the core of multisig's functionality is the "m-of-n" structure, which requires a subset (m) of a total number of private keys (n) to authorize a transaction. For example, in a 2-of-3 multisig wallet, three private keys are distributed, but only two are needed to approve a transaction. This structure enhances both security and usability, providing redundancy in the case of key loss while preventing any single party from gaining unilateral control over the funds. It supports various configurations such as corporate gov ernance, shared custody arrangements, and decentralized escrow systems, making it adaptable for diverse bitcoin custody needs.

BITCOIN'S UNIQUE CUSTODIAL PROPERTIES

As a digital bearer instrument, bitcoin presents both opportunities and challenges in terms of asset custody. Unlike traditional finan cial assets – where transaction reversals or error corrections are possible through financial intermediaries – bitcoin transactions are immutable once confirmed on the blockchain. This makes effective custody a critical issue: if bitcoins are lost or stolen due to misman agement or security breaches, there is no recourse for recovery.

This immutability distinguishes bitcoin from physical bearer assets like gold, which rely on physical security measures such as safes or vaults. Bitcoin, being digital, requires cryptographic security to protect private keys and prevent unauthorized access. Effective private key management, whether through hardware wallets, software wallets, or multisig configurations, is essential for safeguarding bitcoin from theft or loss.

ELIMINATING SINGLE POINTS OF FAILURE

Single-signature wallets concentrate risk by relying on one private key. If that key is compromised or lost, the entire bitcoin balance is at risk. Multisig, by contrast, introduces fault tolerance by requiring multiple keys to authorize a transaction, thus reducing the risk of theft or loss due to a single point of failure.

Multisig allows for the distribution of control among multiple parties, requiring agreement from a quorum of signers before a transaction can be executed. This model is particularly effective in reducing the risks posed by a single entity's security failure or malfeasance. Furthermore, bitcoin's digital nature uniquely allows for a level of collaborative oversight and security that physical assets cannot achieve, reflecting the decentralized ethos embed
ded in the protocol.

Multisig represents a powerful tool for distributing counterparty risk and increasing security. Its open-source, interoperable stan dard allows users to configure multisig in different ways – whether holding all keys themselves, sharing keys with trusted parties, or distributing keys across institutions. This flexibility enables bit coin holders to implement customized security models tailored to their specific needs.

ONRAMP'S MULTI-INSTITUTION CUSTODY MODEL

At my firm, Onramp, we've pioneered a multi-institution, multisig custody model that builds upon bitcoin's native security features. Our model distributes keys across three independent entities cho sen by the clients – including different geolocations and jurisdic tions – minimizing counterparty risk while eliminating any single point of failure. No single institution has unilateral control over the

client's assets, ensuring a balanced distribution of authority and responsibility. This structure is designed to protect client assets while significantly reducing the risk of key mismanagement or loss.

In this model, clients are freed from the complexities of managing private keys themselves, thus reducing their technical burden and eliminating a single point of failure. At the same time, they retain ultimate control over their funds, as the institutions in the multisig quorum cannot move assets without the client's explicit direction. This innovative approach balances security with usability, aligning the interests of all parties while safeguarding client assets.

Our multi-institution multisig solution marks a significant advance ment in bitcoin custody, expanding the power and accessibility of multisig arrangements. By distributing control across inde pendent entities, we align incentives for security, transparency, and fiduciary responsibility. Bitcoin's auditable nature ensures that all custodial actions are transparent, fostering trust while discouraging malpractice.

This security is important in making bitcoin the ultimate collat eral. Without it, there is considerably more risk and trust in the collateral process. When it is locked, there is no way it can be sent to someone else, spent, or lost.

Brian Cubellis
Chief Strategy Officer, Onramp Bitcoin

When bitcoiners call bitcoin the most secure asset ever, multisig is one of the key reasons. A bitcoin recipient does not even need to verify when a transaction goes through – the miners and nodes do that for us.

GROWTH, COLLATERALIZED

Bitcoin, more often than not, appreciates in value. Since its start in 2009, nothing has gotten more valuable. In 2010, bitcoin literally was worth pennies. The return on investment from holding bitcoin in 2010 is roughly 90,000,000%[16] – 90 million percent, with two commas. Not every bitcoin holder can boast those types of gains – in fact very few, if any, can. Still, anybody who has held bitcoin for over four years is in profit[17].

This book does not offer inclinations of bitcoin surging that much anytime soon, but it sure would be nice. It may happen eventually, but it's impossible to predict. Still, bitcoin has carried a compound annual growth rate[18] of ~167% since its inception. For comparison, gold's CAGR is 5% since 2010. The S&P 500's is 13%. A lender would *love* to use an asset that grows 13% a year as collateral. Imagine multiplying that number by over ten and combining that result with a strict limit in supply. Once they realize that, all they'll see is orange.

So, there is an asset that performs better than any other, can be sent anywhere at any time, and has no risk of being damaged, stolen, or hidden when serving as collateral.

How can you do it?

16 Data from https://casebitcoin.com/charts.
17 If you're ever worried about bitcoin's price at a specific moment in time, zoom out on whatever graph you're looking at.
18 Compound annual growth rate (CAGR) measures an asset's growth on a year-by-year basis over a given period of time. It's a helpful measure of growth inclusive of years where you may lose money, something that regrettably can happen in bitcoin.

WELCOME TO FIREFISH

BY IGOR NEUMANN, FIREFISH CO-FOUNDER AND COO

All statements about Firefish[19] reflect their platform and products at the time of publication. The team reserves the right to build further, which in turn may lead to changes in some terms.

HOW IT STARTED

Firefish, like many other aspects of bitcoin, originated from traditional finance – also known as "TradFi". As you read in his foreword, Martin Matejka, the Firefish CEO, spent his career working for a trading desk dealing in energy and commodities. Collateral is standard in traditional finance. Everyone has access to it, and everyone uses it. Still, there weren't many people working in that industry who knew about bitcoin. At one point in time, postal services dismissed email. Hopefully, we'll make that comparison about bitcoin soon enough.

Still, there was no bitcoin-native option to properly collateralize bitcoin. One option was through centralized, custodial lenders. This was referred to as the "trust-me-bro" model – hopefully, the custodian sent your bitcoin back to you. The other option was via decentralized finance, or "DeFi" platforms, where you'd "wrap" or "bridge" your bitcoin to a different blockchain, then hope that the new blockchain wouldn't get hacked or fall victim to fraud.

The year 2022 was one of the worst years for bitcoin. Fueled by the collapses of known global cryptocurrency exchange, lending, and

19 Use refferal code firebook during registration for borrowers get 30% off the origination fee to their first loan. User guides can be found at https://docs.firefish.io.

custodial companies FTX, Celsius, BlockFi, and Genesis, bitcoin's price fell from $46,311 to $16,603[20]. That is a crash of 64% in one year. Thousands of customers lost millions, and people still don't have their full deposits back.

A big thing in bitcoin though, is that during the worst of times, builders build.

So, in 2022, Martin combined his TradFi knowledge of collateral and his faith in bitcoin as a financial savior to create Firefish. It was founded by bitcoiners who knew that:

1. Bitcoin is the ultimate collateral and
2. Rich people never sell their assets

Keeping those two key ideas in mind, we went about it as bitcoin as possible. It offers completely peer-to-peer lending, operates in an automated, bitcoin-only way, and removes trusted third parties from the process. Firefish developed a non-custodial[21] protocol, where bitcoin is locked directly on the blockchain and outside parties do not have access to it. It is the ideal way to collateralize bitcoin. As Martin would describe it, "Firefish is an open lending marketplace connecting bitcoiners, institutions, and investors."

The key word there is *"marketplace"*. People can interact with the platform as borrowers, locking their bitcoin and receiving a loan against it; or investors, lending their money to borrowers and earning a yield, while keeping their investment safe as the loans are overcollateralized (2:1).

20 https://finance.yahoo.com/quote/BTC-USDhistory/?period1=1640908800&peri od2=1672531200

21 Nobody else holds the funds for you.

LONG BITCOIN, SHORT FIAT

Firefish, in its DNA, is a long bitcoin, short fiat company. What does that mean though?

When you short a stock, you borrow it then sell it immediately, with hopes to buy it back later at a lower price. Ideally, your profits come from returning it at a lower value later on. People typically do this with companies that struggle. Simply put, companies that are destined to fail get shorted. What about currencies that are destined to fail?

To short fiat, you can pledge your bitcoin as collateral – not selling it – to borrow fiat and spend immediately. You can spend it on a house, a car, starting a business, anything – maybe you'll spend it on more bitcoin. It is inherently the same process though. You borrow money and spend it immediately, planning to pay it back at a later date with the knowledge that fiat currency is designed to devalue over time. Nominally, yes, you may be paying more in interest, but with the fiat standard of inflation, you know you're doing the right thing, holding as little fiat as possible.

All the while, your bitcoin – designed to appreciate in value over time – serves as collateral to protect your loan.

Fiat loses considerable purchasing power over time. It makes sense for your liabilities to be in melting ice, not your savings.

OVERVIEW

So, Firefish is a marketplace platform connecting borrowers and lenders with bitcoin as the key collateral piece. But how does it work – in detail?

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Simply, people go on the interactive marketplace and see if anything makes sense to participate in. Prospective borrowers can request a loan, indicating the amount they want to borrow, currency, tenor, and the interest rate they'd accept. Investors can see all the offers in the marketplace and choose a deal that meets their requirements, with the same criteria. Once an investor picks a deal, the borrower locks their bitcoin as collateral, and the investor sends money directly to the borrower's bank account. Rather than submitting countless forms, sitting through meetings, and wanting to pull your hair out with a bank loan, the Firefish process is designed to be quick, transparent, and market-driven.

The only thing that serves as collateral with Firefish is bitcoin – the ultimate collateral.

Again, it was designed for bitcoiners, by bitcoiners. The non-cus todial, decentralized lending process sends funds directly to the borrower's checking account, allowing them to fully unlock the value of their bitcoin without dealing with capital gains taxes.

It's a dangerous business, sending your bitcoin elsewhere. You give it to someone else, and there's no knowing where it might get sent off to.

Having other people control your collateral requires trust. Bitcoin exists to remove trust from finance. It enables people to have full control over their money and gives them the ability to transport it anywhere. Unfortunately, there have been instances where bitcoin can get lost or stolen when people didn't properly follow the ideal practices. Bitcoiners regularly cite the Celsius and BlockFi collaps es as examples of how important it is to actually hold your own bitcoin. With Celsius and BlockFi, people passed the ownership of their bitcoin to those companies and suffered for it.

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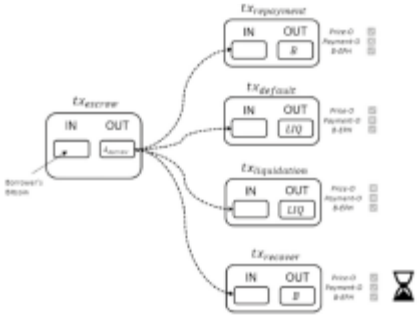
People can lose their private keys. People can irreversibly send bitcoin to the wrong address. People can keep their bitcoin on an exchange – and that exchange can implode from poorly managing its users' funds. People can make mistakes.

But foolproof technology cannot. That is where multisig comes in.

As Brian Cubellis, Chief Strategy Officer at Onramp pointed out in the last chapter, multisig protects users from countless bitcoin disas ters that have occurred over the years. With multisig, you are safe.

MULTISIG ESCROW AND POSSIBLE OUTCOMES OF A LOAN

Firefish's collateral structure is the complete opposite of the "trust-me-bro" model. The multisig escrow process keeps the bitcoin the exact same. Nobody can touch it unless authorized. Each multisig contract is written to ensure that the funds stay in escrow until certain conditions are met. Generally, there are five events in a contract that cause funds to move: repayment, default, liquidation, cancellation, and recovery.



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From Firefish[22], this graphic shows four of the possible outcomes – repayment, default, liquidation, or recovery.

For repayment and recovery, the funds return to the borrower. Repayment is what you most likely assume – the borrower repays their loan. Recovery, on the other hand, is built into the contract in the event that Firefish or the platform ceases to exist. The bor
rower will still be able to recover their funds even if Firefish goes away permanently[23].

In the event that the lender never sends the funds to the borrower, the contract is cancelled, and the collateral goes back to the borrower.

For default and liquidation, the funds go to the liquidator – the lender. Default is when the borrower doesn't repay the loan at maturity, and the lender is entitled to collect on the collateral to cover their investment, plus interest. Liquidation is when the price of bitcoin falls below the Loan-to-Value (LTV) number – general
ly this must be 95% in order to initiate the liquidation process. A 95% LTV means that the bitcoin price fell from being 2x the loan amount to just above 1.05x the loan amount.

> *Example: Satoshi takes out a $50,000 loan with $100,000 of bitcoin as collateral. The loan is 50% of the value of his collateral. If the value of Satoshi's bitcoin falls below $52,500, then his loan is now 95% of the value of his col lateral, and the liquidation process is triggered. Depending on their preferences, the investor either receives their investment back in fiat currency or bitcoin.*

22 https://docs.firefish.io/firefish-protocol

23 If Firefish disappears, it is important to understand that there's still a binding legal contract between the borrower and the lender. Their responsibilities and obligations are defined in the legal contract they sign via the platform. If Firefish disappears, the borrower is still legally obliged to repay the loan.

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Obviously, bitcoin has had multiple drawdowns of 50% or more in its lifespan. Firefish users have the opportunity to top up their collateral as the price of bitcoin falls. Still, the short-term volatility of bitcoin is built in, with the 50% LTV requirement. As always when dealing in bitcoin, due diligence is strongly recommended. Bitcoiners do the due diligence so that others don't do it for them.

PEER-TO-PEER

Loans under $100,000 on Firefish are classified as "peer-to-peer". These are targeted towards individuals. Companies just getting started may also seek these types of loans, as they are smaller in both principal and term length.

Generally, these loans start at $1,000 and have market-driven interest rates, currently ranging from 6% to 13%. The length can be anywhere from 3 to 18 months[24], offering short-term cash to support your lifestyle or start your own business *without selling your bitcoin*. Like all loans on Firefish, these require a 50% LTV ratio – meaning the collateral is twice the value of the loan.

Bitcoin at its heart is a pleb-driven monetary system. It just hap pens to also be the greatest monetary system ever. With that, we had to ensure that Firefish worked at scale.

BORROW OR INVEST AT SCALE

Tailored towards High-Net-Worth-Individuals (HNWIs) and bigger companies, Firefish allows for larger loans with longer terms.

24 This term length is subject to change as Firefish works on its individual-based platform.

This is called Firefish Prime. For Firefish Prime, each loan offers specialized customization, with up to 5 year term length[25].

Firefish Prime members all receive a dedicated account manager specialized to their loan. They can also choose to customize their collateral management options. As Brian from Onramp Bitcoin mentioned, there are *plenty* of ways to use multisig to your advantage.

Like always with Firefish, these loans are immune to bankruptcy of the marketplace. The bankruptcy remote feature is built into each contract, meaning your funds are secure no matter what happens to Firefish.

The 5 year maximum term length is also advantageous for both borrowers and lenders, who can plan out their finances further in advance, offering predictable structure to their investments.

Above all, Firefish Prime carries institutional-grade liquidity, mean ing that any significant loans can be met quickly, letting borrowers make the most out of their bitcoin at any given notice.
Bitcoin offers near-instant payments – so should the loans backed by it.

There are more and more companies building on bitcoin. With Firefish Prime, they can fund themselves with their bitcoin, without selling their bitcoin – like Braiins has done countless times already.

LIQUIDATION

Unfortunately, liquidation is a key part of lending with collateral. It is imperative, both as a borrower and an investor, to under stand the liquidation process in the event it happens. Liquidation

25 This term length is subject to change as Firefish Prime gets developed further.

can happen if the borrower fails to repay their loan – known as defaulting – or in traditional liquidation, when the value of the collateral locked reaches a predefined liquidation level due to a decrease in bitcoin price.

As mentioned, all loans are required to have an initial LTV ratio of 50% – the collateral is twice the value of the loan. If the LTV ratio rises to 95%, borrowers are faced with a few options. First, they can simply do nothing and let liquidation happen. Their coins would be sold on the open market and funds would go directly to the liquidator[26].

Another option would be to pay back the loan early. Because of the initial collateral, it's established that the borrower has enough funds to pay back the loan – so long as nothing drastically changes financially on their end. If faced with liquidation, the borrower always has the option to simply pay back their loan.

Lastly, borrowers can top-up their collateral. This feature is where a borrower sends additional bitcoin to the escrow to lower the LTV ratio. This can be done at any time, but it's most often done when a margin call[27] approaches. Firefish always shows borrowers what their current liquidation price is, so they can act accordingly, depending on the price of bitcoin and their personal strategies.

In order to top-up their collateral, borrowers must follow the specific instructions on the "Top-up collateral" option in the Loan actions menu. Users have plenty of options to top-up their collateral to get their desired LTV ratio as well. Once you input your desired top-up amount, you are simply directed to the bitcoin transfer.

26 The liquidator is chosen by the lender to receive funds in the event of liquidation. Often, the lender chooses themselves for this.
27 A "margin call" is when your liquidation price is approaching. The lender "calls" you to let you know you are on the "margin" of being liquidated.

Hit send, and your loan is safe.

If the borrower, who already knows their liquidation price, choos es not to top-up collateral as liquidation approaches, then the investors have options, too. They can choose self-liquidation or Firefish liquidation. Self-liquidation is where the bitcoin collateral goes directly to the designated liquidation address – the bitcoin remains as bitcoin. Firefish liquidation – the default option – is where Firefish sells the bitcoin on the open market and repays the investor back in their original currency.

BORROWING AGAINST YOUR BITCOIN ON FIREFISH

*Use refferal code **firebook** during registration for borrowers get 30% off the origination fee to their first loan. User guides can be found at https://docs.firefish.io*

FINDING A LENDER

Anyone can borrow on Firefish. In order to provide a complete borrowing and investing experience with banking money, Firefish is required to comply with standard KYC/AML regulations. So, users do need to pass a KYC[28] process.

On top of that, Firefish aims to ensure security and fraud prevention for both borrowers and investors in the P2P relationship while also safeguarding the integrity of the platform's transactions and operations.

Identity verification through a KYC process is required for regu latory compliance and secure financial transactions.

Once you sign up, you can select the "Borrow" option, then sim ply post on the marketplace. Enter your desired loan terms into the menu, such as amount to borrow, currency, loan period, and preferred interest rate.

From there, you can see the "Loan request summary" which does what it says – summarizes your information. With this, you can check your estimated bitcoin required, which tells you just how much

28 Know Your Customer, where a user must submit a form of government identification and bank information to access certain financial products.

collateral is needed to initiate your loan. If everything looks good, then you can submit your request and send it out to the marketplace.

Then, you get matched with whichever investor chooses to accept your request.

One tool that can help with loan requests is the loan marketplace. This shows existing requests, their loan amounts, periods, interest rates, and when they were created. From the marketplace, you can get an example of what loans are currently available, then base your requests on that.

You can also view completed requests made by other users in the marketplace to get a sense of what loan terms are being accepted. You can model your requests off other successful ones.

It is important to note that the Firefish loan marketplace does not list things like names, credit scores, incomes, or anything – all you see are the desired loan terms. Bitcoin does not discriminate, and neither does Firefish. That is the beauty of the platform – in order to obtain a loan, you technically prepay it, so there is little to no default risk for the investors. Bitcoin is the ultimate collateral for both borrowers and lenders.

Borrowers can send out multiple loan requests at once, and they are cancelable at any time – simply hit “Cancel” when you wish to do so. When a lender agrees to your terms, you’ll then have the option to accept the deal and initiate the loan.

COLLATERALIZING YOUR BITCOIN

Once you’ve found a match for your loan, the next step is to set up the bitcoin escrow to lock up your collateral and access your

new funds. For this, you must enter your Firefish password, then give a bitcoin return address. This return address is permanent, and it is the only place to receive your collateral upon maturation of your loan.

From there, you simply transfer the bitcoin. You will see both a QR code and an address – choose whichever works best for you. When sending your collateral, do not use a fee bumping or replace-by fee (RBF) feature, and also send the amount of bitcoin displayed in the “Bitcoin amount” field. If it says to send 0.98765432 BTC, you *must* send at least 0.98765432 BTC[29] in order to properly set up the escrow. If you don’t, then the loan will not be valid.

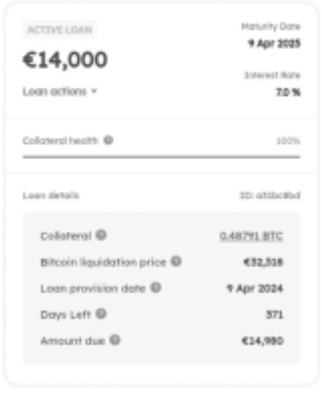
From there, the Oracles[30] verify that everything was done correctly and initiate the next steps. Once everything is in order, you click “Complete setup” and wait. It is then up to the lender to send over your loan directly to your bank account. Once that happens, you confirm that it did, and your loan is officially underway.

Borrowers can refer to their loan cards at any time. Loan cards show all relevant information about the loan, such as maturity date, interest rate, collateral, bitcoin liquidation price, number of days left, amount due, and the loan principal.

For additional questions, Firefish has a dedicated team of support agents and account managers who are there to help with any ques tions. They also have a dedicated online community where all mar ketplace users can discuss anything pseudonymously. Their discord community is available here: https://discord.com/invite/ksmg2v533j.

29 If you send more than the required bitcoin, you lower both your LTV ratio and liquidation price, so there’s no problem.

30 Oracles on Firefish are entities that attest to two things: 1) the exchange rate of bitcoin and 2) whether or not a fiat payment has been made (e.g. loan repayment). Firefish often serves as an Oracle by default.



Here is an example of a loan card.

In case you want to see what other options are available once your loan is active, click on the "Loan actions" menu.

Here, you can do several key actions related to your loan:

- View loan documents
- Top-up collateral
- Save the recovery transaction as a text file
- Request early prepayment
- Add maturity event to the calendar

Firefish loans are fixed-term loans, meaning you only repay it upon maturity. Users have the option to repay early. In order to do so, you must request it and get an agreement from your lender. If that is approved, you simply pay back the remaining balance on the loan to the lender via bank transfer. This process is the same if the loan is repaid on the maturity date as well.

INVESTING YOUR CASH ON FIREFISH

All detailed information including user guides and manuals can be found at https://docs.firefish.io.

WHY INVEST YOUR FIAT ON FIREFISH?

Much like borrowing, anyone can lend on Firefish. It's actually easier – you don't need bitcoin, and your only role is to send money to the borrower at the start of the deal, then verify the return of your investment upon maturity.

First, you may wonder, *why would I want to lend money on this plat form?* It's a valid question – besides, you should rarely make an investment without putting actual, solid thought into it. The num ber one reason why you should lend money on Firefish is that you can earn solid, predictable, passive income for your money, beating traditional money market instruments like term accounts or treasuries. Additionally, your money is always secured by the borrower, who puts up *twice* the loan amount as collateral. So, you are protected as an investor.

Additionally, you don't need to interact with bitcoin one single time as a Firefish lender. Obviously, Firefish are bitcoin maximalists, but they appreciate others' rights to have opinions and freedom to do what they want with their money. They can't force you to use bitcoin, but you can help bitcoiners use theirs – while earning a reward for your generous help. Lending on Firefish offers true

yield[31] – meaning, I can explain in two sentences what the yield is, and where the yield on your investment comes from:

"The yield for the investor is the marketplace-set interest rate that the borrower will pay, on top of the nominal amount of the loan. The yield on a Firefish investment comes from the loan repayment made by the borrower, who puts up collateral worth twice the amount of the loan."

There – those are two sentences explaining how you make money.

Even if the price of bitcoin plummets, you *still* receive your invest ment back, plus interest. Please look at the following hypothetical:

"The price of bitcoin is $100k[32]. Satoshi has $50k that he wants to gain solid yield on in 12 months. He finds a Fire fish loan asking for $50k with 12-month terms and 10% interest rate. Satoshi sends the borrower the money, but after 6 months, the price of bitcoin falls to around $52,700. This activates liquidation. The borrower, frustrated, simply lets liquidation happen. Satoshi chose "self-liquidation" on Firefish, so now, after just 6 months, Satoshi turned $50,000 into a full bitcoin, purchased at roughly a 5% discount."

In the worst-case scenario, investors still come out as winners with Firefish. Throughout bitcoin's history, many people have been quite successful after purchasing bitcoin on ~50% crashes – as long as they stay patient.

31 Many so-called "platforms" offer yield with no real explanation where it comes from. This investment can be dangerous, as in countless instances, the platforms go under, and its users lose their funds. These platforms are called "Trust-Me-Bro" services. You trust that they are generating yield for you – until your money is gone.

32 This bearish price prediction was made for simplicity's sake.

Lastly, with 3 to 18-month loan periods, you can earn your interest in a relatively short time.

HOW TO INVEST ON FIREFISH

It's simple. You sign up for Firefish as an investor, look at the mar ketplace, then choose loans you are interested in financing. The marketplace has a loan requests book, which shows all available loans, with amounts, time periods, and interest rates. Simply select the ones you want, then initiate the lending process.

Even if there are no requests you'd like to match, you can use the watchdog feature, which works very similarly to the borrowing request feature. Enter your preferred loan amount, time period, and interest rate, and you will be alerted via email when your ideal loan is requested – talk about passive income.

Once you find what you're looking for, click "Invest now" and wait for the borrower to accept.

When the borrower accepts your offer, they will first send the exact amount of bitcoin needed (twice as much to protect the lender) as collateral to a multisig escrow wallet. Once this is done, you send the agreed-upon loan amount to their bank account. When the borrower confirms that you sent the funds, the loan activates.

From there, you wait until the maturity date to receive repayment. Occasionally, the borrower may want to repay the loan early. If you're fine with that, you simply accept the offer and get your money back quicker. Or, in the unfortunate event of liquidation, you will receive your funds depending on what you chose – Firefish liquidation, or self-liquidation.

As mentioned earlier, in Firefish liquidation, you receive your money back in your bank account in the original currency you lent. This is the default setting. In self-liquidation, you input a bitcoin wallet address at the start of the loan, and you will automatically receive the funds there. This liquidation address cannot be changed for the duration of the loan.

If the loan *does* get repaid on time, you simply confirm that it was and receive your yield.

It's as simple as this: choose a loan to invest in, transfer the funds, earn interest, then redeem it or reinvest it. On Firefish, it's up to you.

PEER-TO-PEER LOANS

WE ARE HUMAN

Like Firefish CEO Martin Matejka said in his foreword, "We are human."

We need certain things to live. We need certain other things to live *well*. These necessities often require money. In a given week, you can spend money on food, housing, fuel, electricity, public trans portation, and many other essentials. You may also spend money on your hobbies – golf, the gym, drinks with friends, yoga class, travel – it's your money. If you enjoy something, do it. Bitcoiners are allowed to buy things other than bitcoin. Money is a technology. Spending it is one of its key purposes.

Most of what we buy is with a credit card anyhow. A piece of plas tic (or metal) lets you walk into a store and walk out with nearly anything – legally. When you use a credit card, you essentially take out a very short-term loan and hopefully pay it back with zero interest. However, you cannot buy *everything* with a credit card. In fact, credit cards carry frustrating 3% transaction fees wherever you go, and often, these fees are pushed onto the consumer via passive-aggressive signs mentioning a credit card surcharge[33].

Despite this, paying with a credit card and properly allocating your money elsewhere is smart, so long as you can make your monthly payments. Again, *we are incentivized to hold as little fiat as possible*. So, why not do this on a grander scale? Why not take out slightly longer loans before actually buying anything?

33 Bitcoin fixes this.

Well, as we've established, traditional loans can be frustrating, time-consuming, and difficult to obtain – especially if you mention the word "bitcoin" just one time.

GET A LOAN FROM SOMEONE

Regularly, you hear success stories of how massive companies started humbly in a garage thanks to a loan from the founder's parents. In 1994, Jeff Bezos was given $245,573 from his parents[34] to start Amazon. It's funny to imagine how crazy someone must be to build an internet company at a time when hardly anyone used the internet. *Are there any applicable comparisons from the internet age to today*?

Still, it is unlikely and unfair to assume that everyone's parents can give them a quarter of a million dollars. Thankfully, there exists a platform that lets you get loans from *anyone*.

GET A LOAN FROM SOMEONE *ON FIREFISH*

On Firefish, bitcoiners can realistically fund their lifestyles through peer-to-peer lending. As mentioned, borrowers can take out mul tiple loans at once, so long as they have the collateral. Bitcoiners can live off their bitcoin while *not selling their bitcoin*.

Again, debt is not a bad thing – especially when your liabilities are designed to get less valuable over time. That just means your debt gets easier to pay off. It's impressive to have recognized

34 This was technically an investment, as Bezos' parents allegedly owned roughly 6% of Amazon according to CNBC https://www.cnbc.com/2018/08/02/how-jeff-bezos-got-his-parents-to-invest in-amazon--turning-them-into.html.

a perfect, digital money. It is frustrating to be locked out of your hoard of digital gold.

Bitcoiners often joke about having low-quality clothes, living in a dirt-cheap apartment, or eating ramen noodles *just to buy more bitcoin*. Now, there's a way for you to live according to your wealth in bitcoin without having to sell it.

On the alternative, you can trade the best money ever created for fiat currency, pay taxes on any gains you may have had, and spend what you have left on what you want.

In other words, you can have your bitcoin and use it too.

HOW COMPANIES CAN COLLATERALIZE BITCOIN FOR GROWTH

BY WYATT O'ROURKE, BASILIC FOUNDER AND CEO

Basilic is a wealth management firm that offers clients investment strategies with a bitcoin-centric lens. Nothing in this chapter constitutes financial advice. Please read Wyatt O'Rouke's full disclaimer[35] *online.*

As you may have noticed by now, we think very highly of bitcoin as collateral. In fact, it is often referred to as "pristine" collateral in the industry because of its unique aspects previously

mentioned. Having "pristine" anything is a pretty good gig, especially if you are a well-run business interested in growing and investing in the future. Owning bitcoin as a business gives you a ton of financial flexibility – there is no second best. Businesses need to access liquidity for several reasons, whether it is paying fiat-denominated bills, compensating employees, or servicing debt – the list goes on.

This chapter will highlight how large (publicly traded companies), medium (private companies), and small (startups) businesses can use bitcoin as collateral to access liquidity, secure loans, and issue bonds. Additionally, we will explore the unique advantages and disadvantages inherent in each business size.

35 https://wyattorourke.com/disclaimer/

SOURCES OF LIQUIDITY

A business has bitcoin on its balance sheet – great! Now, how do they get cash?

Traditional financial institutions – TradFi

Companies can pledge their bitcoin as collateral to traditional banks and financial institutions to secure loans. Legacy institutions like Goldman Sachs have allowed borrowers to use bitcoin as collater al for a cash loan, and this practice is only expected to continue growing[36]. **In this setup, you should expect all your usual big bank requirements – KYC, CPA-audited financial statements, slow disclosures, and 800-page contracts, etc.** While these institutions may be attractive given their deep access to capital, you should anticipate a much more conservative, *fiat* approach to the asset class.

Additionally, TradFi institutions are by far the most heavily reg ulated, which will likely guarantee a higher legal bill and add complexity to the deal. Borrowers will need to explore how their bitcoin will be custodied, ensure systems are in place to prevent their bitcoin from being rehypothecated, and obtain the public address for the wallet where their bitcoin collateral is being held. While many of these institutions may leave a sour taste (and right fully so) in many bitcoiners' mouths, this signifies a massive step forward for bitcoin's maturity and robustness. These institutions have tremendous amounts of capital, large customer bases, an deep knowledge of financial markets. All these aspects help not only bitcoin the asset, but also bitcoin the network.

36 https://www.coindesk.com/business/2022/04/28/goldman-sachs-makes-its-first-bitcoin backed-loan-report/

Bitcoin lending platforms – CeFi/DeFi

Businesses can also pledge their bitcoin as collateral with bitcoin lending platforms and receive dollars in return. While these busi nesses are still relatively new compared to their TradFi counter

parts, their age does not diminish the quality of services they have developed. Many companies like Firefish, Onramp, Kraken, and Galaxy Digital **were built specifically to service bitcoin customers.**

These institutions have a robust understanding of the asset, network, and technology. They have made the properties of bit coin – and the bitcoin ethos – like verifiability, multisig, and zero rehypothecation inherent in their offerings. These companies tend to be more flexible and can process new business quicker than their TradFi competitors. Additionally, many bitcoin lend ing platforms have innovated on traditional lending mechanics. Some offer the ability for the borrower to receive cryptocurrency as liquidity, which can be advantageous for a borrower looking to bypass standard KYC practices or the USD rails.

Some even offer P2P marketplaces where borrowers don't need to interact with a centralized authority, but rather with individual market participants themselves**. Now that is very bitcoin.**

My Hypothesis:

> *"Just as cloud-***native** *computing had a significant advan tage over legacy IT systems in the early 2000s, multisig* **native** *companies will hold a substantial edge over tradition al third-party custody services in the 2020s and beyond."*

Bitcoin lending protocols

The newest way for companies to use their bitcoin as collateral to gain access to liquidity is through DeFi[37] lending protocols**. Loans are issued by decentralized applications and networks, which are powered by code and smart contracts rather than tradition al companies**. While some organizations may be involved, these systems are primarily autonomous, offering a more automated and trustless lending service.

Companies like Zest and Fuji have taken advantage of bitcoin's scalability by creating lending protocols on Layer 2 (L2). **These protocols use bitcoin's Discreet Log Contracts (DLCs)**[38]. DLCs, first introduced by Tadge Dryja, co-author of the Lightning Network white paper, are a type of smart contract for bitcoin. Essentially, DLCs allow parties to make conditional agreements, such as bets, but their potential extends far beyond this, enabling a wide range of financial instruments to be created on bitcoin's network.

Borrowers that decide to use a DeFi protocol as a loan mechanism should expect an experience vastly different from getting a loan from a traditional financial institution. These protocols are trus tless, the counterparty is often unknown, liquidity can be offered in an array of assets, there are far fewer regulations, no consumer protection, and more advanced technical skills are required. Strict due diligence should be conducted on any projects and side chains so you don't get rugged.

37 DeFi stands for "Decentralized Finance" and refers to platforms that offer people a version of financial services without banks.

38 https://bitcoinmagazine.com/technical/pros-cons-and-possibilities-for-bitcoin-discreet log-contracts

TYPES OF LIQUIDITY

Loans

Before securing a loan, borrowers must understand the collateral management process, loan eligibility criteria, potential loan default consequences, and available refinancing options.

Now that we know how to access liquidity and who we can get it from, **let's review the types of loans businesses can receive when they use their bitcoin as collateral**. The mechanism for these types of loans will vary depending on who, where, and how you decide to get your liquidity. However, for the sake of this exercise, let's assume the process is more or less the same across liquidity providers[39]:

1. Borrower finds a source of liquidity.
2. Borrower applies/agrees to terms for a loan.
3. Borrower deposits bitcoin into a wallet.
4. Lending platform/protocol determines the LTV ratio. 5. The lender gets their cash upon approval/consensus mechanism. 6. Borrower pays back the loan on a predetermined schedule and method.

Loan options

- **General Business Loans**
  - » Company size profile: All
  - » Purpose: Companies use liquidity for expansion or operational costs, usually intended for a specific project or instance.

39 https://cointelegraph.com/news/what-is-a-bitcoin-backed-loan-and-how-to-get-one

- **Lines of Credit**
  - » Company size profile: All
  - » Purpose: Use revolving lines of credit for day-to-day spend ing needs, generally as ongoing borrowing solutions.

- **Margin Loans**
  - » Company size profile: Big & medium
  - » Purpose: Businesses use these loans in financial markets to trade, invest, and/or buy more bitcoin. Typically, these loans are used opportunistically depending on market conditions.

- **Bridge Loans**
  - » Company size profile: All
  - » Purpose: Businesses need financing to cover gaps in cash flow. These types of loans are usually used in one-off scenarios.

BONDS

Another option companies have to use their bitcoin as collateral to access liquidity is to issue bonds. As you'll read in the Braiins case study later on, **this may be a particularly intriguing option for companies that are bitcoin-rich and cash-poor**. The mech
anism for issuing bonds typically aligns with TradFi specialties and institutions. The process looks something like this:

1. The company pledges a specific amount of bitcoin as collateral for the bond.
2. The company issues bonds to investors, guaranteeing that the bitcoin is held in reserve to secure the bond.

3. Investors purchase the bonds, knowing that they are secured by the underlying bitcoin.
4. If the company defaults, bondholders have a claim to the bit coin collateral, reducing their risk exposure.

While specific regulations vary across jurisdictions, a bond, unlike a loan, is a security. Bitcoin bond issuers must follow the laws and regulations of their local jurisdictions as they pertain to issuing and selling securities to investors. They will also likely lean on the expertise of traditional financial institutions and their access/reputation to bring their bonds to market.

Bond options

- **Secured Bonds**
  - » Company profile: Big & medium
  - » Definition: These are bonds backed by bitcoin as collater al. In the event of default, bondholders have the right to claim the bitcoin.

- **Convertible Bonds**
  - » Company profile: Big & medium
  - » Definition: Convertible bonds can be converted into shares of the issuing company under certain conditions. When bitcoin is used as collateral, the bondholder is doubly protected, as they can either convert the bond into equity or claim the bitcoin in case of default.

- **Debenture Bonds (unsecured but bitcoin-backed)** » Company profile: Big & medium
  - » Definition: While debenture bonds are typically unsecured, companies can use bitcoin as a collateral layer, which makes them more appealing than traditional debentures.

These bonds wouldn't typically be tied to physical assets but would rely on bitcoin reserves.

BITCOIN COLLATERAL USE CASES BY BUSINESS SIZE

Large companies (public companies)

Companies with vast resources are inherently capable of capitalizing on any opportunity that comes their way. Bitcoin is no exception. In fact, there are many modern-day examples of public companies using bitcoin to bolster their balance sheets. These titans of industry are pioneering the finance and bitcoin industries in real time. The trailblazer of this strategy is, without a doubt, MicroStrategy. We pro
vide a more detailed breakdown of MicroStrategy's methods later on.

The very nature of a public company means they have unique access to capital markets that private companies do not. This typically means they are relatively creditworthy because they have liquid assets, cash flows, and professional finance teams. This gives them tremendous opportunities to access liquidity via bitcoin collateralization.

Public companies also tend to be attractive customers for other types of businesses. Investment banks, capital pools, and exchanges may actively seek the issuer's/borrower's business rather than the other way around. Additionally, a bond issued, or a loan secured, from/to a public company is likely to be more attractive to market participants.

Medium companies (private companies)

Private companies have an array of options and opportunities to leverage bitcoin as collateral. Although their size and success may

vary, they are likely excellent customers for traditional financial institutions, lending platforms, secondary/off-market deals, and bitcoin lending protocols. These businesses tend to be highly specialized and flexible, enabling them to make swift decisions. They often have enough size and resources to negotiate better deals with lenders or issuers.

Additionally, these companies face less regulation than public companies, making it easier to execute and iterate on bitcoin collateral structures. Lastly, many private companies could cer tainly go public but choose not to — why? Because they value the benefits of remaining private. Having an abundance of pristine collateral on their balance sheet gives them tremendous flexibility and empowers them to stay private. **Using bitcoin as collateral allows these companies to protect their control of the business, which is ultimately what they value most**.

Small companies (startups)

Bitcoin has often been referred to as "permanent capital," a term that succinctly highlights the long-term durability and value protection features of the asset. Permanent capital is crucial, especially for startup companies[40].

Startups operating on a bitcoin standard are more inclined to pursue projects that offer stable, long-term returns. This shift from high-risk speculation to sustainable ventures creates a healthier business environment with less emphasis on short-term gains. **Bitcoin frees startups from the ZIRP-era VC games of vanity metrics and the chase for fundraising rounds.** If bitcoin provides this type of freedom, startups should strive to retain it while still investing in growth. Bitcoin-collateralized loans are the ideal

40 https://wyattorourke.com/entrepreneurship-on-a-btc-standard/

option. Startups are particularly well-suited to take on debt backed by bitcoin for the following reasons:

- Lower credit rating: Given the risk, financial situation, and infancy of startups, they tend to have lower credit ratings. You don't need a credit rating to get a bitcoin loan if you have the bitcoin.
- Access to capital: Of all types of companies, startups have the hardest time accessing capital. The P2P nature of bitcoin-col lateralized lending platforms allows startups to tap into a global network of liquidity providers.
- Ownership retention: During the startup phase of a business's life cycle, preserving equity ownership is crucial. Bitcoin-backed loans allow startups to get access to capital without having to give up equity.

EVERYTHING IS GOOD FOR BITCOIN

I usually use the word "financialization" in a negative context. However, in this particular case, deeper capital markets are sim ply a function of capitalism. Two parties can each take a side of a trade, and that trade can then be multiplied into more trades, with market participants determining for themselves which side of the new trade they would like to be on. Now, you may be getting flashbacks from the movie *The Big Short*, and your gut tells you this is a bad thing.

You aren't necessarily wrong. However, in the crony capitalist setting that movie depicted, yes, some skewed incentives were created, and bad things happened. But when dealing with a pris tine, unmanipulated asset like bitcoin in a truly free market, participants benefit from more options. For example, Build Asset

Management is packaging bitcoin loans and selling them in a pri vate credit fund[41].

> *"The Build Secured Income Fund I (the "Fund") invests its capital in U.S. dollar-denominated commercial loans secured by a borrower's bitcoin... Like many private credit funds, the Fund invests in secured loans made to small and medium-sized businesses that typically fall below the threshold for public debt markets or loan syndication. However, in contrast to the typical assets used to secure loans in the private credit industry (such as real estate, working capital, or property, plant, and equipment), the Fund distinctly prefers bitcoin as a backstop in the asset based lending model."*

The maturation of the bitcoin ecosystem will result in new finan cial products. These products will help strengthen bitcoin's value proposition, adding liquidity, diversification, financial flexibility, and much more to the industry. I challenge you, as the reader, to embrace some "financialization" as it leads to deep, rich markets and ultimately more choice for market participants.

41 https://getbuilding.com/bitcoin-focused-direct-lending-fund-posts-one-year-anniversary/?_ sc=NjQzMDA4OSMxNzkw

BRAIINS – LEVERAGING AND COLLATERALIZING BITCOIN

BY ELI NAGAR, BRAIINS CEO

A BITCOIN COMPANY IN A TRAD-FI WORLD

Let me start this chapter by emphasizing that Braiins has earned 100% of its revenues in bitcoin since 2010. We always have been committed to simplifying the mining process – and we will never deviate from that. Bitcoin maximalism is a fundamental part of our company's identity. For this reason we chose to secure several million dollars in loans against our bitcoin to fund our growth while keeping our bitcoin, which continued to appreciate on our balance sheet.

As the creators of the very first mining pool, we've successfully mined more than 1.3 million bitcoins. We've played a key role in improving mining software, including the development of Stratum V2, Braiins OS, Braiins Manager, and several other solutions. This deep knowledge, combined with our passion, fuels our commit
ment to advancing bitcoin and, by extension, shaping the future of global finance.

We are bitcoin maxis. We inherently believe that bitcoin will sub stantially appreciate over time – a key part of our strategy is to prioritize holding bitcoin on our balance sheet to maximize the value of our company. We are committed to holding bitcoin without exception, regardless of external factors. This principle is core to our identity as a company. We prioritize bitcoin over fiat and will take every measure to uphold this standard. The day we can run

our accounting in bitcoin, we will. For now, we must continue to function within the fiat framework.

Still, we recognize bitcoin as the ultimate monetary tool. We reg ularly make payments in bitcoin – for sponsorships, events, and even to our employees, who love the option of being paid in bitcoin.

Unfortunately, the world is not yet on a bitcoin standard. Some people need fiat to pay their everyday bills. So do companies.

Wanting to adhere to our beliefs that bitcoin will grow in value indefinitely and that we would never sell, we knew the next step would be to leverage our stack and collateralize it to fund our operations, growth, and new hardware and software ventures.

HOW TO MOVE FORWARD – COLLATERALIZING WITH THE ULTIMATE COLLATERAL

Our question was in front of us: “How do we fund our company’s growth and success without sacrificing our beliefs?”

Borrowing was the obvious next step forward.

Bitcoin is a monetary tool – the greatest monetary tool ever. We knew we must leverage what we had to position ourselves for success. We realized we can use our stack to secure loans, and our strategies would produce new revenue streams. This new income, combined with our bitcoin holdings, assures the issuer that we can repay our debt. We had difficulty finding a TradFi partner willing to offer us a loan, mainly because bitcoin was a new and unfamiliar technology and asset class. Without knowing how to handle it, they refused to work with us.

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As a result, we chose an alternative path – issuing corporate bonds.

Here, bitcoin doesn’t officially serve as collateral. Our reputation (and bitcoin on our balance sheet) does. Our reputation is built on being bitcoin maximalists who will perpetually HODL, confident that our stack will continue to grow. Bonds are essentially loans, so in the case of bankruptcy, those who buy our bonds get paid back first. Our bitcoin indirectly serves as collateral for them. Thankfully, our fantastic customers and fans are also aware of this. It was they, not traditional financial institutions, who purchased our bonds. It perfectly illustrated the free market at its best.

Eventually the TradFi sector will catch up to our supporters, but for now, we are incredibly grateful for our Braiins fans out there. With multiple bitcoin spot ETFs in today’s market, we feel bitcoin collateralization in the traditional financial sector is imminent.

We didn’t want to limit ourselves to corporate bonds alone. We wanted to explore additional funding options to expand and build our new Braiins Hardware division – which is an extremely capi tal-intensive endeavor. We looked for as many ways as possible to collateralize our coins. We had to delve into the “crypto realm” for some loans. They may not have been bitcoin-only, but they knew bitcoin was king and the ultimate collateral. Unfortunately, this was more difficult to use, plus it required trust.

Bitcoin ≠ Trust.

We had no choice but to trust that we would get our bitcoin back – and that the coins we get back aren’t tainted or traceable to any wrongdoings. Part of the beauty of having the oldest mining pool is that all of our bitcoin is brand new. Some people put a premium on that fresh bitcoin.

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These two lending options were not perfect, but they still helped Braiins remain who we are – and grow at the same time. With bonds, they are less expensive for us, but they are a slower method of obtaining cash. Collateralization, on the other hand, was more expensive for us but faster. Still, we did not want to regularly send our bitcoin elsewhere to fund our operations - there is still an inherent risk of the lender mismanaging our coins before we repay the loan.

Eventually, we found an option that we preferred the most – Firefish.

The locked collateral option was unequivocally the best path forward for us. When your bitcoin is sent to other companies as collateral, you lose a bit of security. When you lock your bitcoin in multisig custody through Firefish, you know coins are yours, you know you can track them, and you know exactly what you'll get back. The only trust required here is trust in the bitcoin protocol.

We trust Firefish, and we trust their platform will show others the true potential of bitcoin as collateral.

DEALING WITH LIQUIDATION, PRICE SWINGS, AND MORE

It's easy to say you will collateralize bitcoin, knowing you won't have to sell, but there's still the ever-looming "L" word: Liquidation.

Thankfully, Braiins has never been liquidated throughout our history of leveraging our bitcoin. There have been close calls, though. The price of bitcoin can move drastically – at any time – keeping us liable for our debt around the clock. It doesn't matter what day or time it is. If a lender tells us we have 12 hours to add to our collateral or close out the loan, we must act.

Ondrej Seifert, Braiins CFO, said that the first time this happened, his hands would not stop shaking and shivers shot through his entire body. We smartly dealt with our loans to *always* be able to add to our collateral in the event of a price drop. After a while, he became numb to the swings.

In all seriousness, communication and preparation are key. If you aren't readily available to assure your lender that your funds are secure, they will do what's best for them – liquidate you which will cost you.

You must be ready to respond to market downturns — bitcoin doesn't always move upward. Patience is key. There will be times when you're asked to top up with 0.5 BTC, then 1 BTC, and even tually 5 BTC. When you're confident you have the necessary funds, you can calmly request:

> *"Please inform us when payment is due. We want to avoid liquidation and just need the exact amount to send."*

At times, the price can shoot right back up, and you might have missed the entire fluctuation while you were asleep.

We've never faced liquidation because we maintain constant com munication and always ensure we have ample reserves on hand.

We also structure the loans with buffers for these scenarios. A liq uidation scenario won't happen unless there is a significant price crash, which you *have* to keep in mind when funding yourself this way.

Obviously, bitcoin is known to appreciate in price from time to time. This certainly has its benefits when it serves as your collateral.

Occasionally, we'll go to our lenders and politely ask them to send some of our bitcoin back home during those incredible bull runs.

Still, bull runs come and go. Our debt obligations are ever-present. It's crucial to keep a level head – during the bad and the good – to stay prepared in the ever-changing world of bitcoin.

If you're a company collateralizing its bitcoin to fund operations, don't leverage what you can't cover, and never think you're out of the woods. So long as you owe money, you must be prepared to pay it. Fiat, you can lose, but bitcoin is precious – it must be treated as such.