

HOW TO POSITION FOR THE BITCOIN BOOM

April 2023



INTRODUCTION

At Adamant Research, we pride ourselves in speaking up when investor apathy rules the day. Each time we published one of our bitcoin reports, in 2012, 2015, and 2019, it was during periods of significant undervaluation. Once more so today. At 60% below its 2021 all-time high, we believe the current bear market represents an exceptional opportunity for value investors.

During each of its cycles, bitcoin has faced significant challenges. And each time it more than lived up to those challenges. Today is no different—we see extraordinarily strong fundamentals, robust and sustained technological progress, and an unparalleled level of conviction among long-time bitcoin investors, all ready to fuel a global buying spree and sustained new adoption.

During this accumulation phase, we expect for bitcoin to trade in a range of \$22,000 to \$42,000, until a new multi-year bull market pushes it well north of \$120,000.

Some of the conclusions suggested by this report:

- Blockchain analysis indicates that bitcoin is undervalued
- Bitcoin is on the brink of decoupling with stocks, crypto
- Global macro predicament is a powerful tailwind for bitcoin
- Bitcoin startup investing is complicated yet attractive
- Bitcoin nation state adoption set to become a big theme
- Collaborative custody is a good option for novice investors

A common phrase among bitcoin enthusiasts is: "Fix the money, fix the world." In this report, we focus on "Understand the money, understand the world." Enjoy!

Tuur Demeester, editor-in-chief

"Investors and fund managers likely do themselves a favor by keeping an eye on Bitcoin."

TUUR DEMEESTER
REPORT NOV 2012
BTC AT \$11

"We maintain that the risk-reward ratio for Bitcoin the currency is currently the most favorable of any investment in the world."

ADAMANT RESEARCH
REPORT NOV 2015
BTC AT \$300

"We assert that the long term risk-reward ratio for Bitcoin is currently the most favorable of any liquid investment in the world. We expect for it to trade in a range of \$3,000 to \$6,500 after which we foresee the emergence of a new bull market."

ADAMANT RESEARCH
REPORT APRIL 2019
BTC AT \$5,200

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RISK DISCLOSURE

Cryptoassets are a highly volatile asset class. The value of cryptoassets can go down as well as up and you can lose your entire investment. When held by custodians, cryptoassets are often not insured and are usually not covered by national compensation schemes.

ONE AS AN INVESTOR, WHY DO I CARE ABOUT BITCOIN?

"Bitcoin is wasteful" ... "Bitcoin isn't backed by anything" ... "Bitcoin is too volatile" ... "Bitcoin is the slowest, most expensive database on the planet" ... "Bitcoin is too private" ... "Bitcoin is not private enough" ... Any or all these criticisms could convince us to discard it, if Satoshi Nakamoto's invention didn't have any redeeming features.

What this elaborate network makes possible though, for the first time in history, is true scarcity for the digital world, fully autonomous ownership, and a permissionless global network for financial transactions. Because of its ingenious proof-of-work mechanism, bitcoin has been able to become a digital gold with an unprecedented robustness and openness: fourteen years of operation with an uptime of 99.988%, and anyone with access to an off-the-shelf phone and an internet connection can gain permissionless access to the network in minutes. This is why we call it the most disruptive technology since the invention of the internet.

To illustrate, these are some of the areas in which bitcoin, with a current market cap of \$0.5 trillion, directly competes with existing infrastructure:

- Remittances, annual volume of \$ 0.7 trillion
- US treasury inflation-protected bonds: \$1.7 trillion
- Payments revenues, globally: \$2 trillion
- All the paper money in the world: \$8 trillion
- Aboveground physical gold: \$9 trillion
- Central Bank Reserves: \$27 trillion
- Currency deposits worldwide (cash claims on banks): \$62 trillion
- Residential Real Estate worldwide: \$258 trillion¹

Bitcoin savers are in the company of legendary investors such as Bill Gross, Bill Miller, Stan Druckenmiller, Peter Thiel, Paul Tudor Jones, Ray Dalio, Alan Howard and Li Ka-shing (Hong Kong's wealthiest person). They rub proverbial shoulders with business leaders such as Elon Musk, Jack Dorsey, and Ricardo Salinas Pliego, as well as with iconic executives such as Tim Cook (Apple), Michael Saylor (MicroStrategy), Vikram Pandit (Citigroup), and Rick Rieder (BlackRock).

"Bitcoin is probably rat poison squared"

WARREN BUFFET, 2018
BTC PRICE \$9,800

"What [bitcoins] lack is their own fundamental intrinsic value. You can't do anything with a bitcoin, other than trade it for something you want."

PETER SCHIFF, 2011
BTC PRICE \$18

"With e-currency based on cryptographic proof, without the need to trust a third party middleman, money can be secure and transactions effortless."

BITCOIN INVENTOR
SATOSHI NAKAMOTO

"Bitcoin is a bank in cyberspace, run by incorruptible software, offering a global, affordable, simple and secure savings account to billions of people that don't have the option or desire to run their own hedge fund."

MICHAEL SAYLOR, 2021

¹ Sources from top to bottom: [Migration Policy Institute](#), [Sifma](#), [McKinsey](#), [BIS](#), [Goldmoney](#), [Yardeni Research](#), [McKinsey](#), and [Savills](#). The reason why we added real estate is because it's an asset class widely used as a store of value. For example for the average US household, real estate represents over **35% of total savings**—28% of which is equity in the family's domiciled home.

But all of the above might still make the investor shrug: “So you’ve built a better mousetrap. Why should I care?” Well, we respond, consider that our existing monetary system is running on fumes, with accelerating debt and inflation increasingly destabilizing the global economy. The unsustainability of the problem bears similarities, ironically or not, with the **Great London Horse Manure Crisis of 1894**, where fifty thousand horses produced over a million pounds of fresh dung every day, creating in turn an infestation of billions of flies spreading typhoid fever and other diseases among the population. The despair was such that the London Times wrote: *“In fifty years, every street in London will be buried under nine feet of manure.”*²

Similar to 1890s London, most people today are aware of some fundamental issues with the financial system:

- US money supply increased by 25% or \$7 trillion since the pandemic
- Since 2020, the minimum reserve requirement for US banks is 0%³
- 186 US banks face collective unrealized losses of \$1.7-\$2 trillion
- If the \$10T in outstanding US deposits suffered a bank run, FDIC’s own reserves could only cover 1.26% of that
- Government debt in the G7—the most economically advanced nations in the world—is the highest since WWII, at 128% of GDP

Additionally, aspects of the monetary system strike many as antiquated:

- 1.4 billion people in the world still don’t have access to a bank account
- Sending money to relatives abroad costs ~6% of the full amount⁴
- Money is digital, but banks still can’t settle a transaction on a Sunday

Now, if you’d ask people in the street, or horse carriage drivers, for an answer to the manure problem in 1890s London, they would probably argue for some type of improved manure collection system—a makeshift band-aid, rather than for a structural, robust solution.

And that’s what we’re seeing today in the financial system, a plethora of half-hearted attempts to somewhat stabilize inflation in the short run, as well as various proposals for “Central Bank Digital Currencies” that don’t strike at the root of the problem, i.e. the practice of printing money out of thin air.⁵

No. The real solution, just like a century ago with the automobile, is more likely to be a **paradigm shift**: a new technology for the digital age that can grow into a universally accepted store of value. That’s what bitcoin is: a “full reserve bank for saving in cyberspace,” with the promise of evolving into a reliable and politically neutral money.

² See The Freeman 2004, “[The Great Horse-Manure Crisis of 1894](#)”.
³ A reserve requirement is the percentage of liquid assets that banks need to keep on their books compared to the deposit claims from their customers.
⁴ Sources from top to bottom: [Yardeni Research](#), [Federal Reserve](#), [Jiang, Matvos, Piskorski & Seru](#), [FDIC](#), [IMF](#), [World Bank](#).
⁵ For a primer from an individual rights point of view, see Cato’s recent study: “[The Risk of CBDCs](#)”, and for a deeper dive, see Smolenski and Held’s whitepaper “[Why the U.S. Should Reject CBDCs](#)”.

“Some 70% of Americans admit to being stressed about their personal finances ... 60% cited inflation as the main contributor to their financial stress, followed by economy-wide instability (43%), and rising interest rates (36%).”

CNBC, APRIL 2023



MORTON STREET, CORNER OF BEDFORD, LOOKING TOWARD BLEECKER STREET, MARCH 17, 1893.

New York City as well had a huge manure problem. Greenwich Village, 1893.

“I think we’re not paying attention to the law of unintended consequences. ... We take decisions with an objective in mind, and rarely think through what may happen that is not our objective. ... We act sometimes like 8-year-olds playing soccer.”

KRISTALINA GEORGIEVA, IMF MANAGING DIRECTOR, APR 2022

Feature	Bitcoin	USD (home currency)
Macro-financial stability risks		
Risk of hyperinflation due to over-supply?	No for individual VCs	Possible (with policy mismanagement)
Risk of long-term hyperdeflation	High	Low

In a [2016 discussion note](#), the IMF points out that the dollar runs the risk of “hyperinflation due to over-supply” whereas bitcoin only runs the risk of “hyperdeflation”, i.e. a long-term appreciation in value.

TWO BLOCKCHAIN ANALYSIS INDICATES UNDERVALUATION

Further in this report we'll talk more about the fundamental reasons why bitcoin is here to stay for the long term. But as we all know it is an incredibly volatile asset, so let's first look at some data to determine if it is worth our time today. The special thing about bitcoin having an objective ledger which records every transaction settlement, is that it allows for analysis that is usually impossible for other asset classes. Let's mine some of that data here below, to answer the question: Is bitcoin undervalued?

1/ BLOCKCHAIN SUGGESTS BITCOIN WHALES ARE HODLING⁶

Knowing what "insiders" are doing is always considered to be useful. As potential investors in a certain asset class, we want to know what the most experienced and wealthiest people in that market are doing with their portfolio. As it happens, the information on the bitcoin blockchain allows us to approximate exactly that. The HODLER Net Position Change is a metric that shows us whether whales (the people controlling the oldest coins in the highest quantities) are moving their bitcoins around, which correlates with selling behavior, or whether they are stoically holding onto their positions because they think bitcoin is still undervalued. As you can see, in the past the whales tend to "sell into strength" during periods of exuberance. That is clearly not the case now—bitcoin whales are waiting for higher prices.

Bitcoin: Hodler Net Position Change [BTC]



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glassnode

Bitcoin: Price Drawdown from ATH



Drawdown analysis: just as in previous bear markets, in this cycle the bitcoin price declined by +75% from its all-time high.

"Imagine there was a base metal as scarce as gold ...and one special, magical property: can be transported over a communications channel. If it somehow acquired any value at all for whatever reason, then anyone wanting to transfer wealth over a long distance could buy some, transmit it, and have the recipient sell it."

SATOSHI NAKAMOTO, 2010

"I am enamored by the duplicity of the bitcoin bottom in 2015 and the recent bottom. ... Both bottoms qualify as double bottoms per Schabacker (1932) and Edwards and Magee (1948), the textbooks for classical charting."

PETER BRANDT, 2023

6 To "HODL" is a popular term that means to hold on to your bitcoin position with conviction, no matter the volatility of the market. It originates in a 2013 forum post from a tipsy bitcoiner: "I AM HODLING."

2/ CURRENT SENTIMENT: OPTIMISM

Another measure, which we also used in our 2019 report **“Bitcoin in Heavy Accumulation,”** is called **“Net Unrealized Profit/Loss” (NUPL).**⁷ Here’s how it works: using the blockchain we can determine the dollar value of each bitcoin at the time it last moved. That way one can calculate for the aggregate of all bitcoins in existence whether the market is experiencing unrealized losses or unrealized gains. As we all know, when we look at a certain investment that we’ve made in the past, it usually makes a strong psychological difference whether that investment is **“in the green”** or **“in the red.”** This is the reason we use this on-chain metric as a sentiment indicator:

“Every time a bitcoin moves on the blockchain, its market value is realized. The owner was aware of its value and affirmed his control over it at the point of the move.”

TAMÁS BLUMMER, 2019

Bitcoin: Net Unrealized Profit/Loss (NUPL)



After the failure of several crypto companies in '22, NUPL signaled heavy unrealized losses (**“capitulation”**). Recovery began early '23, and with the recent Wall Street bailouts, sentiment has jumped from **“hope”** to **“optimism.”**

“In my opinion this is a Bitcoin Panic, not a Depression. Example: The Panic of 1907—the last major financial crisis before the Federal Reserve was founded. ... Its cause was overconfidence expressed in overleveraging and shady activities, after a long period of huge genuine productivity gains in the US economy. I see similarities with this Bitcoin Panic.... [In 1907-’1908] the stock market completely recovered in 18 months.”

TUUR DEMEESTER, JUNE 2022

THREE LOWER BITCOIN PRICE? CREDIBLE CATALYSTS

Now that we’ve established that bitcoin is likely undervalued, the question arises: **“What if it dwindled down again?”** and **“Why would I buy now, if its price could for example drop by 40% once more?”** We’ll get into some specific investment strategies later on in this report, but let’s first address some of the headwinds that bitcoin still could face in the third year since it printed the all-time highs of summer 2021.

1/ POSSIBLE HEADWIND: LIQUIDATIONS OF KNOWN COIN HOARDS

No single party controls the bitcoin network, and as a consequence its assets are extremely saleable. Anyone who owns bitcoins can at any time choose

Number of times bitcoin was declared “dead” in the media

2010	1
2011	6
2012	1
2013	17
2014	29
2015	39
2016	28
2017	124
2018	93
2019	41
2020	14
2021	47
2022	27

Source: 99bitcoins.com

⁷ In our report we called it **“Relative Unrealized Profit/Loss”**, however it displays the same data. Glassnode has also developed the **“Adjusted-Net Unrealized Profit/Loss”**, which corrects for bitcoins that were likely lost, i.e. balances that haven’t moved in over 7 years. In that measure, we see that the cyclical bottoms in the chart align more precisely with each other.

to offer them for sale. As such, during every bear market the fear arises that large coin hoards will be dumped on the market, causing a big additional slump in the price. Let's first cover some of the least likely scenarios, and then talk about the ones that might need to be taken more seriously.

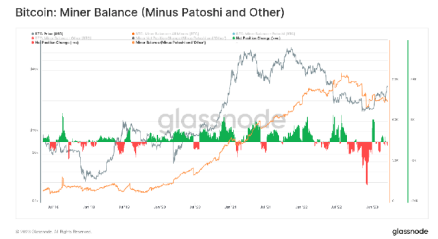
Our first scenario is a classic: the idea that **Satoshi Nakamoto** mined one million bitcoins back in 2009 (which, as argued by Bitmex and others, is based on weak evidence) and that he could liquidate those coins willy-nilly. To this we respond that even if one goes along with all these assumptions, there's not a clear reason why Satoshi—or his heirs—would choose this bear market as the environment to initiate a monster sale like that. *Likelihood: very low*

Second, there is the notion that **bitcoin miners** have collectively been hoarding bitcoins during the 2019-2021 bull market, and now that they are under pressure facing bills and interest payments on their debt, they'll choose to liquidate these coins. There is significant evidence that that's already happened in 2022, and that actually the miners' aggregate debt positions have become much more manageable. *Likelihood: very low*

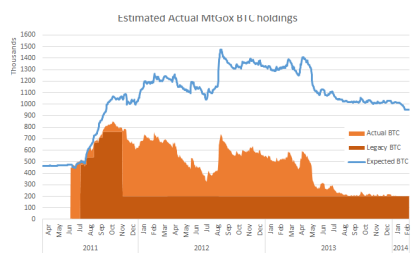
Next, there are the coins held by the trustee of the **MtGox estate**, one of the largest exchanges in bitcoin's history, that declared bankruptcy in April 2014. Those 141,686 bitcoins (approx. 0.7% of the bitcoin supply) will be returned to the customers who owned them sometime in 2023. We don't think this event will make a dent in the bitcoin price though, because MtGox' duped customers have long had the opportunity to sell their claim to interested hedge funds, who are either structurally long bitcoin or positioned in a price neutral way via hedging. *Likelihood: very low*

Another bearish scenario would be if, after last year's panic and bankruptcies, another **large crypto company** was to bite the dust. If its self-reported data is accurate, the current largest crypto exchange in the world is **Binance**. As we've seen with previous incidents at large exchanges (such as MtGox in 2014 and Bitfinex in 2016), a Binance bankruptcy would likely cause a selloff in bitcoin. And there are a few reasons to worry that Binance may not have full reserves to fend against a true run on the bank. For one, after a blockchain analyst blew the whistle, the exchange recently **admitted** that its stablecoin BUSD has not always been 1:1 backed by collateral (as stablecoins ought to be). Amid reports that large amounts of bitcoin were being withdrawn, Binance released what it called a proof-of-reserves. However, this was **criticized** by industry leaders as a noisy, incomplete, and therefore suspect way of commenting on its solvency.

Given the legal headwinds against many crypto exchanges and the strongly declining value of non-bitcoin crypto tokens—both of which can lead to mass withdrawals from exchanges—, we think 2023 will remain a year to watch. However, just like how the failure of a gold bank wouldn't necessarily affect the overall gold price, we think the effect on the bitcoin price would be short lived. *Likelihood: medium*



Glassnode data shows how bitcoin miners capitulated in late 2022, which got rid of a lot of debt in the sector. It is estimated that miners today hold about 75,000 BTC, most of which is managed by low debt miners.



The 2015 WizSec analysis of MtGox showed how the exchange had fractional reserves for years before it collapsed. At bankruptcy, only 140k BTC were left.

"One day, eventually, Binance will have a bank run."
GALOIS CAPITAL, NOV 2022



The market capitalization of Binance's stablecoin "BUSD" has over the last 2 years declined from \$23 billion to below \$8 billion.

2/ COULD BITCOIN SEE A LEGAL CRACKDOWN?

In our previous bitcoin reports we never gave the political world much attention, but now for the first time we feel the need to address it. After 2022's Crypto Panic, which included the collapse of crypto exchange FTX, the downfall of crypto hedge fund Three Arrows Capital, the bankruptcy of broker/lender Genesis Global, the failure of crypto lenders BlockFi and Celsius, the **crypto industry faces the most intense political scrutiny in its history**. Could this affect bitcoin as well?

Our analysis below focuses on the situation in the United States, as it has the most capable and far reaching law enforcement around the world, meaning that American laws and regulations will likely be the most impactful for the international community of bitcoin investors. For Europe, Latin America, Africa, Asia and Oceania, we believe the legal reality will vary greatly and we'll see a growing polarization emerge: some countries will embrace bitcoin (see our section about nation state adoption), whereas others will actively try to discourage citizens from using or holding it.

When could bitcoin be targeted? Well, one could argue that this is already happening. In order for companies to offer bitcoin for sale, they need a bank who is willing to work with them. And, coincidence or not, several of these banks have effectively gone into controlled bankruptcy after facing bank runs in March of this year, thus **diminishing the amount of onramps available for investors**.⁸ Then again, recently brokerage giant Fidelity started offering bitcoin trading to all its 40 million account holders.⁹ Others will likely follow.

Still, **on the legislative front, bitcoin is fairly unaffected** by the political probing into "crypto," because that is mainly about a crackdown on fraud relating to securities, i.e. investment contracts marketed to retail investors. Regulators who want to take action to prevent the next crypto panic, or who are looking to diminish tax fraud, could undermine the ability for bitcoiners to self-custody digital assets, or for existing custodians to store bitcoins for their customers. There are some legislative initiatives that could affect bitcoin by for example a change in the travel rule, or changes in money transfer laws, but with a divided congress those are unlikely to gain much traction until bitcoin is much bigger.

The more serious political threats to bitcoin will happen when it is perceived to threaten the position of the dollar, and for that it would need to be a magnitude larger than it is today. In the medium term, the most likely scenario is that, amid rising geopolitical tension, the US will use its leverage in the financial world to cordon off western firms from offshore bitcoin exchanges. And so in sum, **the most likely period during which bitcoin could be targeted would be when a new BTC price melt-up makes headlines in conjunction with widespread concerns over inflation of the US dollar**.

"[Every crypto coin] other than bitcoin ... these tokens are securities because there's a group in the middle and the public is anticipating profits based on that group."

SEC CHAIRMAN
GARY GENSLER, FEB 2023

"Peer-to-peer systems like Bitcoin represent the essence of autonomy, voluntary cooperation, and liberal values that our country was built on. As with any new technology, bad actors will exploit these systems and their growing pains will result in new policy questions and challenges. However, the U.S. should take a strategic view for the long-term promise these technologies hold and work to encourage their flourishing in our country and around the world."

BITCOIN POLICY INSTITUTE,
NOV 2022

"That no citizen of Texas shall ever be deprived of their right to own Bitcoin and that all Bitcoin owners will be protected ... and the ability to store Bitcoin in an unhosted wallet without undue interference from any state agency; these protections shall be extended to Bitcoin owners"

HOUSE CONC. RES. 89, BILL
PROPOSAL REP. CODY HARRIS

⁸ For a more in-depth look at the crypto crackdown in the US, see Nic Carter's pieces "Operation Choke Point 2.0 is Underway, and Crypto Is In Its Crosshairs," and "Did The Government Start A Global Financial Crisis In An Attempt To Destroy Crypto?"

⁹ See <https://www.fidelity.com/crypto/trading>.

3/ WHAT IF BITCOIN IS SEEN AS A THREAT TO THE DOLLAR OR OTHER FIAT CURRENCIES?

In the case of a major geopolitical crisis, such as a military confrontation between China and Taiwan, a strong rise in food inflation, or aggressive trade wars and protectionism, the stability of the international monetary and financial system would come under serious threat. In that case, the entire focus of the Western political world will become to ensure stability. And because a major bitcoin rally is a potential signal of instability, it could become the subject of hot debates. Journalists would ask questions like “Is the rise in bitcoin signaling a loss of confidence in the US government?.”

In terms of political response, there are two strategies we see as plausible in that scenario. One is a **rhetorical strategy**: an appeal to unity or nationalism, by broadcasting the claim that using bitcoin is unpatriotic, for example by calling it “extremist money” (which it isn’t) or saying that it contributes to global warming (which it doesn’t). The other strategy would be more aggressive, for the government to outright try to **physically restrict access** to bitcoin, either by boycotting the dollar onramps or by outright making its use a punishable offense.

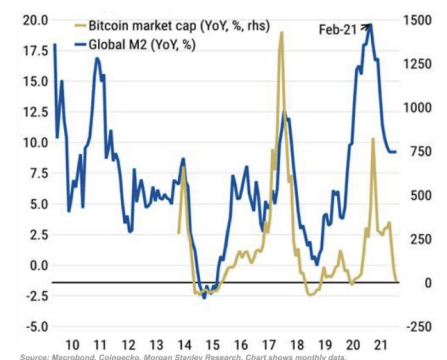
The latter, an **outright ban, seems unlikely to happen in the US** for three reasons: First, adoption is already quite widespread, likely similar to internet adoption in the year 1995—which means it would anger a substantial voter base. Second, a prohibition of bitcoin ownership would be fought in the courts because it violates basic constitutional liberties.¹⁰ Thirdly, such a ban would be very hard to enforce, leading to a streisandian embarrassment most governments are keen to avoid. Finally, comparisons with the 1933 gold confiscation by FDR (Executive Order 6102) should be made with some caution, as the US dollar at the time was directly pegged to the gold price, whereas no such link between the dollar and bitcoin currently exists.



We see parallels between the aftermath of the recent crypto crash and the period 1907-1913, where after the Panic of 1907 Teddy Roosevelt giving “flim-flam finance” an austere wash with “honesty soap,” resulting in increased regulation and eventually in the founding of the Federal Reserve.

“Bitcoin is free speech recorded in every block and replicated on thousands of computers distributed around the world.”

ANETA KARBOWIAK



On a multi-year timeframe, bitcoin correlates with very few global macro phenomena. A consistent exception seems to be changes in the fiat money supply: stimulus campaigns are positively correlated with bitcoin bull markets.

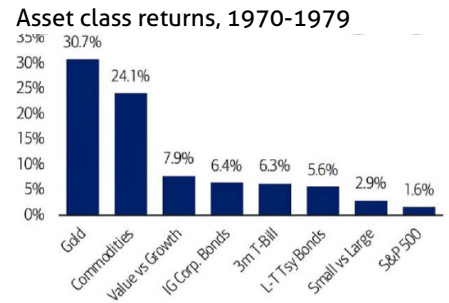
4/ WOULD A MARKET CRASH CAUSE BITCOIN TO TAILSPIN?

Bitcoin is often touted as being correlated with traditional markets, implying that if the markets crash, inevitably so will bitcoin. However, when looked at from a multi-year perspective, that perspective is clearly false. Bitcoin quite regularly **decouples** from traditional markets. For example during its epic rallies in 2013, 2017, and 2021, bitcoin left traditional markets completely in the dust. Over the medium term, we find that these bullish moves are strongly correlated with increases in global fiat money supply. Translation: by investors around the world, bitcoin is increasingly used as a hedge (safe-guard) against excessive money printing.

It is of course true that bitcoin is an extremely liquid asset, as good as or even better than cash in the bank. And so when investors find themselves too exposed to leverage, as often is the case during a market downturn, they will resort to selling some to avoid being margin called. That said, in the case of

¹⁰ The right to own property is constitutionally protected in the United States. The Fifth Amendment to the Constitution includes the “Takings Clause,” which states that private property cannot be taken for public use without just compensation. Additionally, the Fourteenth Amendment includes a Due Process Clause, which has been interpreted by courts to protect individuals’ property rights against arbitrary government interference. For more, see for example [The Constitution Center](#).

another equity market downturn, because bitcoin has already been through so much deleveraging since the summer of 2021, we think it's unlikely it would see a major and long lasting selloff. Given the global and terminal addiction to monetary stimulus, we don't see stock market weakness result in sustained demand for long-term bonds—we see it rather drive confused and concerned investors to buying hard assets like commodities, metals, and bitcoin as a protection shield. In sum, similar to how gold behaved in 2008, **in the case of a stock crash we would likely see an initial price dip in bitcoin, followed by a continued bull market.**



Source: Bloomberg, Dartmouth University data library, London Bullion Market, FactSet, BofA US Equity & Quant. Strategy

We see parallels with the 1970s stagflation¹ and thus expect for asset classes to trade similarly in the present decade. Bitcoin, as a liquid, scarce, low counterparty risk asset could take gold's role from 50 years ago.

FOUR WHAT TO BUY?

Beginning in 2012, some two years after bitcoin's inception, alternative cryptocurrencies began to be created. This trend reached mainstream audiences in 2017, and after another crypto mania in 2021, over 20,000 different tokens have been pushed onto investors. Additionally, hundreds of startups have been launched, several of which are now publicly traded companies, and we've also seen the issuance of tradable mining contracts and other securities. So amidst all this chaos, how do we choose what to invest in?

We suggest that a well-rounded portfolio in the cryptocurrency space should follow two guidelines: one, of the available cryptocurrencies, focus exclusively on bitcoin, and two, invest in bitcoin first, and bitcoin companies later. Let's dig in:

1/ OF ALL CRYPTOCURRENCIES, FOCUS EXCLUSIVELY ON BITCOIN

This guideline deviates from our November 2015 report, in which we suggested to "focus on bitcoin" but also to "round off your investments with a small basket of altcoins". Our argument to justify owning altcoins (now known as "crypto") went as follows:

"In networked environments (like the world of cryptocurrencies), new developments tend to follow a power law distribution; there are a few clear, long-lasting technologies followed by a long tail of ever-smaller and less used ones. This long tail pattern can be found in areas such as languages, e-commerce stores, blogs, and social networks."

The reason we changed our mind over the last seven years, is that we have come to see bitcoin more as a foundational protocol than a communications language. Bitcoin is more like the base layer engineering protocol of alternating current (which allows electric machines to operate) than it is like the German language, which from an engineering point of view is a more surface level communications protocol. Just like the TCP/IP protocol is the foundational layer for all of the internet, we believe bitcoin is becoming the **foundational layer** for the internet of money.

"I have a tremendous amount of respect for Bitcoin. Entire classes of bugs are missing."

DAN KAMINSKY, FAMED SECURITY EXPERT, 2011

"It might make sense just to get some in case it catches on. If enough people think the same way, that becomes a self fulfilling prophecy."

SATOSHI NAKAMOTO, 2009

"Since the birth of Bitcoin, thousands of other cryptocurrencies were created. None of these clones share its origin story. If you want to supersede Bitcoin, you will have to transcend its origin story. In a war of ideas, narratives dictate survival."

GIGI, BITCOIN AUTHOR

¹ Stagflation is a combination of stagnant economic growth and high inflation. It confuses economists, who are used to either [growth + inflation], or [stagnation + deflation].

So why might bitcoin become the singular foundational protocol for e-money, instead of one out of many? The short of it is that at the very heart of digital money is reliability, which is very expensive to achieve, and of which the per-user-cost becomes cheaper as the monetary protocol grows in size.

First, bitcoin’s reliability is rooted in **redundancy**—its transaction history is reliably accessible only because thousands of copies of the ledger are stored all over the world. Second, bitcoin has, as any robust digital money would require, safety guards to prevent political factions from changing the system with a manipulative strategy. This is where **proof-of-work** comes in: the only way to make a cryptocurrency incorruptible, is to design it as an energy intensive system: those who perform work, get to vote on the validity of transactions. With the words of Satoshi: “one-CPU-one-vote”. **The requirement of using electricity and redundancy to all who get involved acts as a firewall around the network, an immune system that protects it from attacks.** Because energy intensity is a *conditio sine qua non* for any truly decentralized and reliable cryptocurrency, we end up with a **winner-take-all dynamic**: once a functioning mechanism is figured out, the network effects and economies of scale of this system make everything else’s security model seem hopelessly inefficient by comparison.

To illustrate with an analogy, consider this: The natural world already features a base layer technology focused on storing extraordinarily important information, which it does with redundancy and sophisticated energy management systems. We’re talking about the **nucleic acids protocol**, the two main classes of which are RNA and DNA, which embeds and proliferates the molecular instructions for all life on the planet. The fact that all organisms operate on the same standard is testament to the fact that nucleic acids are the most effective solution to life and procreation to come out of the known universe. Additionally, this protocol has created a huge **competitive moat** around it, because it is such a vastly rich ecosystem within which Darwinian competition and evolution can take place. A new organism whose molecular instructions are coded using a different protocol wouldn’t be competing with just one other RNA/DNA-based organism, it would in effect have to compete with the extremely adaptable and widespread network of *all* existing organisms. Similarly, we see **bitcoin’s dominance** only continue and strengthen going forward, because it is by far the most known, robust and reliable protocol stack in the world of cryptocurrencies.

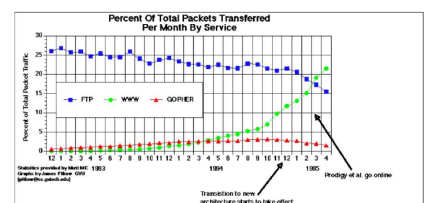
We can also look closer to home to get an illustration of how foundational protocols that compete with each other tend to result in a “winner-take-all” outcome—a world where basically just one protocol survives and dominates. In the **early 1990s** for example, a fierce battle took place between two protocols, each of which had a different way of organizing online information. Most of us are not aware, but the outcome of this competition was a win-or-lose outcome, and it influenced to this day our experience of browsing the internet. One of the two protocols was called **Gopher**, the other the **World Wide Web**. Gopher had a head start, but slowly lost ground because it was less censorship resistant, required more top-down oversight, and because it fell apart in many different forks. After several years of competing, the WWW started to dominate and Gopher completely fell by the wayside. Similarly, we expect less reliable cryptocurrencies such as Ethereum, Ripple, and Cardano to ultimately lose the war and dwindle against victor bitcoin.

“Proof-of-work should not, therefore, be seen as a mysterious or wasteful system, but as something functional, natural, and potentially of value for the design of any communication protocol. ... The universality of the **Handicap Principle** in biology should be enough to make one suspect that a protocol which does not impose costs on its users invite abuse..”

DANIEL KRAWITZ, 2013

“The pyramids were a declaration to every other culture in history: ‘Behold, this is the measure of our civilization, this is proof of work, proof of abundant resources; this cannot be built cheap.’ ...Our ancestors said: ‘This is as good as written in stone.’ Our grandchildren will say ‘This is as good as written on the blockchain.’ Because it is the new standard of immutability, and it is globally accessible. ... Bitcoin is a planetary scale, thermodynamically guaranteed, self evident system of immutability.”

ANDREAS ANTONOPOULOS, 2016



In 1992-1994, a protocol war was waged between WWW and Gopher.

Source: Christopher Lee, ILS.UNC.edu

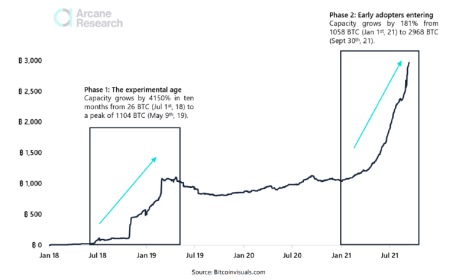
In closing, let us respond to the most prevalent criticism lobbed at bitcoin, which is also the dominant justification for the creation of alternative cryptocurrencies: “Bitcoin can’t do X.” For several years we heard that about transaction speed: bitcoin was **too slow** and supposedly would never scale. And then the Lightning Network came around, which is a protocol layer on top of bitcoin, which gave it its current potential to facilitate millions of transactions per second. Later, we heard that bitcoin had **no privacy** features, which lead to the creation of a host of altcoins. And then in 2021 a soft upgrade to bitcoin called Taproot has enabled a range of powerful privacy solutions for bitcoin, making the Lightning Network more private, and allowing for new forms of collaborative custody and smart spending contracts such as CoinJoin, ROAST, FROST, and FediMint.

The pattern that we see here is that there is **no limit to the features that can be incorporated in bitcoin**, because its blockchain offers a robust foundation on top of which a whole suite of other protocols can be built. Think of bitcoin as the raw land on and around Île de la Cité in France, that easily protected island in the Seine river. At first this land was used to build a little village, which then later evolved into the medieval city of Paris. As more capital was invested in the ‘land core protocol’ (additional roads, ports, and skyscrapers would be equivalent to additional protocol layers), a virtuous cycle develops—the existing infrastructure draws in more people and resources, which then further expand the city. Similarly, bitcoin is a protocol stack which we can expect to be expanding for many decades, and its foundation is that lean, simple database defended by the world’s strongest firewall: the bitcoin blockchain.

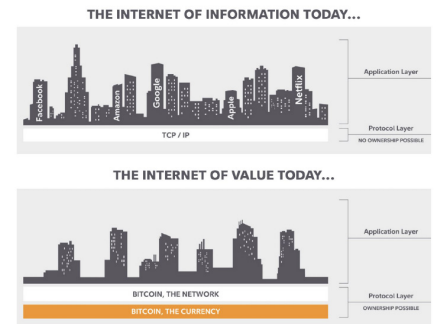
In sum, **we recommend to not worry about “diversification” in cryptocurrencies and to focus exclusively on bitcoin.** It’s the right tool for the job, so pick it up and add it to your toolbox.

True, after having spent 12 years in this space, we may suffer from survivor’s bias or we might have become jaded seeing thousands of people lose their savings investing in failed crypto ventures, so by all means do your own research. But if you’re asking our opinion, it is this: we sincerely urge investors to not waste their money on other cryptocurrencies, most of which are vastly inferior from an engineering point of view, most of which are nothing more than unregistered securities designed to line the pockets of their founders, and, most importantly, all of which lack the elegant design, the overwhelming network effect, the robust track record, the possibilities for autonomous ownership, and the strong cypherpunk ethos that the bitcoin protocol stack has to offer.

Investing in bitcoin, we believe, is like having the ability to buy shares of a general “Internet ETF” back in the early 1990s, or like being able to buy undeveloped land on Manhattan Island at the start of the Industrial Revolution—it’s the opportunity of a lifetime.



The capacity of the Lightning Network has been growing in spurts, followed by consolidation periods. Recently its capacity exceeded 5,000 BTC (\$160M) for the first time. As the bitcoin bull market develops, we expect another growth phase for Lightning.



An image from Fidelity’s ‘Bitcoin First’ report from 2022: “...an investor can own part of the base layer of this new technology and can be relatively agnostic about what specific applications are built on top of it”. (orig. source: @Croesus_BTC)

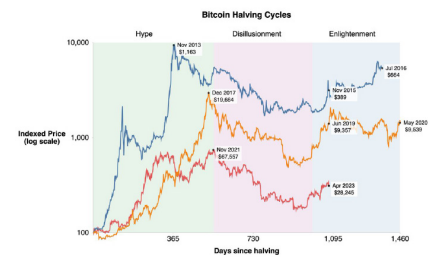
Protocol	Launch	Age
FTP	1971	52 years
TCP, IP	1974	49 years
UDP, Ethernet	1980	43 years
DSL, DHCP, DNS	1984	39 years
HTTP	1991	32 years

2/ INVEST IN BITCOIN FIRST, IN BITCOIN COMPANIES LATER

If one wanted to invest in the internet in the early 1990s, the only option was to invest in startups building on top of the TCP/IP stack—of which there were hundreds. By contrast, with bitcoin we have the luxury of being able to invest in the actual protocol, not just in the businesses built on top of it. We believe that buying into the operational backbone itself (buying bitcoins, or fractions of bitcoins), especially during this infrastructure phase, should be the main focus of a cryptocurrency investor. Unless you have special skills that set you apart, our general recommendation is to first focus on buying bitcoin, and only later to focus on the ecosystem companies.

That said, here are some brief thoughts on how to invest in the space of companies that have nontrivial exposure to bitcoin:

- **Thorough due diligence is indispensable.** Each company in the bitcoin space has by necessity a very limited track record. This means an in-depth survey investigating its people, plans and operations is of crucial importance. If you don't have the time, consider outsourcing this work to a VC fund or analyst... but then make sure to do your due diligence on these professionals, or at least have your financial exposure be in proportion to the time you were able to do due diligence.
- **First mover advantage is overrated.** Go instead for a company that has know-how, integrity and perseverance, even if they arrived later to the party. We've seen strategic advantages evaporate very quickly in this space. Even owning intellectual property doesn't seem to have much sway in bitcoin's global marketplace, where open source projects tend to drive the price of software down to nearly zero. Because the ecosystem is clearly still in its infrastructure phase, look out especially for the presence of highly skilled engineers.
- **Lean into geographically diversified strategies.** Bitcoin is already controversial in today's world, and polarization is only expected to grow. Companies who have operations in multiple countries, or who serve them with an agile and international team, should generally be preferred. Also, consider how companies who require deep ties with regulated entities (like banks) can be more vulnerable to political shocks.
- **Think about timing.** Had you invested in video streaming in the 1990s, you'd have lost your money—no matter how gifted the founder was. Aside from bitcoin mining and probably payments over the lightning network, there is a lot of uncertainty about which bitcoin use cases will take off at any given time. So try not to confuse exciting technological designs for their ability to be monetized in any given year. It's a great plus if the company has growing revenues, in which case you want to ask yourself whether the growth is sustainable and can turn into profits.



As per the consensus rules embedded in every bitcoin node, every four years the issuance of new coins is reduced by 50%. During previous cycles, bitcoin price action was especially bullish in the year before and after each halving event. The next 'halving' is scheduled for Spring 2024.

Graph source: Pierre Rochard

"Right now we're spending ~40hrs/week talking to founders building in Bitcoin. We engage with several hundred distinct startups each year. Still, I know we're missing great people - the ecosystem is so incredibly active."

ALYSE KILLEEN, VC
AT STILLMARK, JULY 2022

"Predictions for 2023: ... the Lightning Network will start to show promise as the world's most effective open, interoperable, cheap, real-time payments protocol."

DAVID MARCUS, FMR. EXEC AT
PAYPAL AND FACEBOOK

FIVE ONE FUNDAMENTAL DRIVER OF BITCOIN'S PRICE

Rather than giving you a dry list of all the niche areas where we expect bitcoin appetite to come from, let's exclusively focus on one particular source of demand, a source which we believe will form the driver for adoption for many years to come: **Long Term Store of Value.**

The reason why the use case of "store of value" (i.e. using bitcoin as digital gold; as a savings mechanism) has such importance, is because it is a crucial step in the evolution of bitcoin towards becoming a money, which is what it was designed for by Satoshi Nakamoto. Initially, back in 2010, bitcoin started as a collectible, a mere curiosity which people enjoyed gathering. Over the years it has become much more frequently used as a store of value; for the short term by speculators, and for the long term by investors. Next, we can expect it to take the role of a medium of exchange, which means that it gets frequently used as a way to buy and sell goods and services. And finally, under a 'Bitcoin Standard' it could turn into a unit of account, whereby people start expressing all economic value in terms of how much BTC it may be worth.

Now, the motivation for many people to start investing an asset that is useful as a long term store of value in 2023, often for the first time in their lifetime, is manifold:

- **Inflation is back.** After massive stimulus in response to liquidity tightness in 2019 and the pandemic in 2020, inflation soared, peaking at 9.1% in 2022. This was the highest dollar inflation print in almost forty years. Given how public debt in the west is at multigenerational highs, we expect for the inflationary quantitative easing programmes to continue for years to come (the alternative is blanket government defaults, which money issuing countries almost never do). All of a sudden, millions of investors in the western world are keen to find new vehicles for storing value, and bitcoin being highly liquid and provably scarce makes for an attractive proposition in that regard.
- **The bond cycle has turned bearish.** After forty years of generally positive returns in treasury and corporate bonds, valuations are now slipping and until global debt levels are a lot lower, inflation adjusted returns will probably not return for many years. That means the 60/40 portfolio is dead (bonds are no longer a hedge for recessions) which is a shock for risk-averse investors around the world, and also it means that traditional large holders of fixed income securities such as banks, insurance companies, central banks, and other economic giants are now worriedly reviewing and revising their long-term investment strategies.
- **The Real Estate market is turning a corner.** One greatly under-appreciated driver for real estate values over the last century is the low quality of money in the world. After the "boring but reliable" gold standard

"I think the internet is going to be one of the major forces for reducing the role of government. The one thing that's missing but that will soon be developed, is a reliable e-cash."

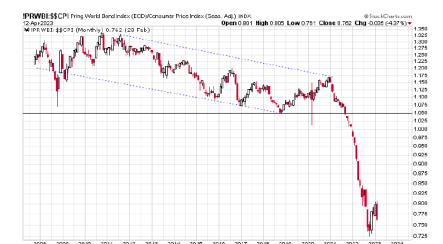
MILTON FRIEDMAN, 1999

	Bitcoin	Gold	Fiat
Durable	B	A+	C
Portable	A+	D	B
Fungible	B	A	B
Verifiable	A+	B	B
Divisible	A+	C	B
Scarce	A+	A	F

Grading of some attributes of different monetary protocols, by Vijay Boyapati

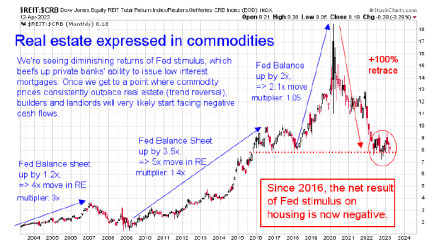
"The Fed is pursuing a policy whose objective is to have investments in cash lose money in real terms for the foreseeable future."

BILL MILLER, 2021



The Global Bond Index, corrected for dollar inflation. Since the pandemic, bond investors have seen the purchasing power of their portfolio melt by over 25%.

was gradually abandoned, savers around the world identified real estate as a new store of value. Combined with the banks' hunger for yield on deposits, and decades-long artificially low interest rates, the real estate market became one of the most debt-leveraged markets in the world. As a result, real estate recently peaked at 46% of all global wealth, representing a staggering 68% of real wealth owned by investors.¹¹ Perhaps central bank buying of mortgage-backed securities will continue to stave off a traditional bear market (the Fed currently owns over 2.5T of all 11T US mortgage backed securities¹²), but it seems increasingly unlikely that real estate will continue to be a suitable hedge against inflation.



When expressed in commodities, US Real Estate has been flat for seven years. Central bank stimulus has lost its magic, and we expect for commodity prices to start outpacing real estate prices soon.

"This year, the government will have to pay 4.5% interest on its debt (as opposed to 0.1%-2%), that means an interest expense of over \$1 trillion! If it keeps going up, you have the Weimar Republic... who's going to buy our paper?"

BILLIONAIRE BARRY STERNLICHT, JAN 2023

"The feedback loop between fiat inflation and bitcoin deflation will throw the world into full hyperbitcoinization."

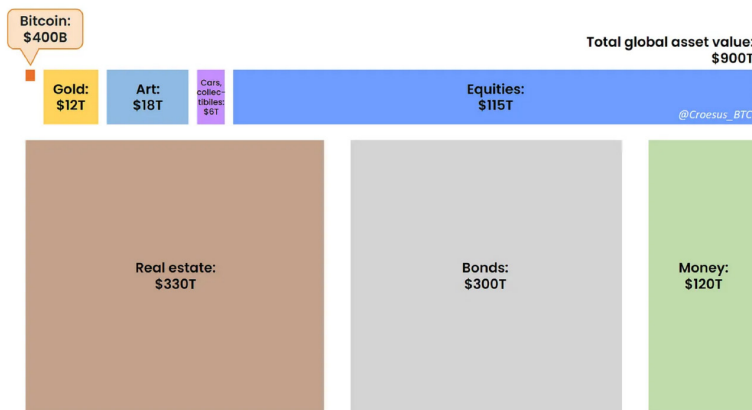
PIERRE ROCHARD, JULY 2014

"In my 43 years as a trader there has never been a move like \$BTC. The only other market that achieved a superior parabolic advance was German interest rates in 1920s. Even taking a starting point of \$1, BTC redoubled 16 times."

PETER BRANDT, JULY 2018

In short, the global economy is **over-indebted**, and the economic machine needs to be restructured so that it can begin living within its actual means again. This process is bound to be painful: a wave of bankruptcies, for one, so that business activity can focus on those areas that still can be supported by the *deleveraged* economy.

Generally speaking we can **expect for economic activity to switch from emphasizing the production of consumer goods and services, towards goods at the very beginning of the value chain**: crude oil, grains, cattle, metals, minerals... Think of what an individual family would do if the interest rates on its debt suddenly multiplied: it would only spend money on the most basic economic goods, until the debt is paid off or incomes rise. This is what now begins to happen in the world at large. And during that period of transition, that period of restructuring, investors will flee into liquid assets with low counterparty risk: real stores of value.¹³



Bitcoin's market cap compared to that of other asset classes. Feb 2023. Source: Jesse Myers

Of course, as happened in the stagflation of the 1970s, given these shifting tides investors will likely reach for **gold**, that historic store of value. However, it is our belief that in a digital, intensely globalized world, **bitcoin** will be even more desirable and in demand because of its superior ability to be stored safely, its vastly higher divisibility, its lack of a need for third party storage, its resistance to confiscation, its supreme auditability, and its provable scarcity.

11 "Real wealth" = nonfinancial assets. Source is McKinsey 2021 report, "The rise and rise of the global balance sheet".

12 See the New York Fed's 2022 report "Mortgage-Backed Securities".

13 In a recent write-up, Jesse Myers uses the same thesis to make the case that, at full valuation, one bitcoin could become worth as much as \$10M in today's dollars. See "Bitcoin's Full Potential Valuation".

SIX BITCOIN ADOPTION BY NATION STATES

After El Salvador blazed the trail by officially adopting bitcoin in 2021, a number of countries are now, hesitantly and often begrudgingly, lining up to follow its act.¹⁴ The Salvadorian president Nayib Bukele is seen as a maverick, for sure, but politicians and central bankers are waking up to the fact that, in a world of accelerating inflation, capital controls, and credit uncertainty, Satoshi's technology and network has a very unique set of features to offer. A big driver for nation states warming up to bitcoin is its grassroots use for trade, remittance, and saving. Especially in countries with high inflation and capital controls, we're seeing it gain popular and political clout.

Take **Western Asia** and **Eastern Europe** for example. In Turkey, since the January 2021 international sanctions, cryptocurrency adoption has ramped up tremendously—we're hearing that 15 million there people use it daily now. Other economies increasingly leaning on politically neutral bitcoin are Kazakhstan, Azerbaijan, Ukraine, Iran and even Dubai.

A similar dynamic is playing out in **Latin America**. Argentina's central bank recently ran out of dollars, and the country once more is veering towards hyperinflation. Will its next president run on a pro-bitcoin ticket? Other countries in the region have noticed how El Salvador's vocal bitcoin stance has unnerved the IMF and some elites are considering bitcoin adoption as a way to garner more political independence on the international stage; for example in Guatemala, Costa Rica, Nicaragua, and Colombia.

Also in **Africa**, popular bitcoin adoption could be translated politically. In inflation-plagued Nigeria for example, widespread cash shortages are pushing people towards adoption of mobile phone friendly bitcoin.

Bitcoin interest in **Asia** appears to originate from similar themes: political chaos (Myanmar), dedollarization (Indonesia), inflation (Pakistan).

In **The West**, support for bitcoin is currently a small trickle in conservative and opposition parties, some of whom see it as a way to assert independence from international authorities in D.C., Brussels, and Frankfurt. Still, the relative stability of EU and US so far relegates interest to smaller jurisdictions, for example Liechtenstein, a few Swiss cantons, Wyoming and Texas.

In conclusion, the conviction of El Salvador may stand out as the exception for a few more years. We expect nation state adoption to continue somewhat more stealthily in the coming two years, such as in the form of CBDC's backed by a collateral pool that includes bitcoin, or by central banks using bitcoin to shore up their impaired balance sheets. Later, as the bull market roars higher, we can see more bitcoin legal tender law announcements.

"We consider it necessary that international trade be established, as it was the case, before the great misfortunes of the World, on an indisputable monetary base, and one that does not bear the mark of any particular country."

CHARLES DE GAULLE,
PRESIDENT OF FRANCE, 1965

"[Declaring bitcoin legal tender] is just exercising our sovereign right. Like we adopted the US dollar in the year 2001. What's the difference? The only difference probably is the reason why we're doing this. In 2001, it was probably done for the benefit of the banks. And this decision is done for the benefit of the people."

NAYIB BUKELE, PRESIDENT
OF EL SALVADOR, 2021

"The IMF is limited in what it can do to intervene in the event that a digital currency like bitcoin is used to attack the value of a conventional currency via a "speculative attack". ... Because having a supply of bitcoins is necessary to effectively counter a speculative attack, the sooner the IMF can acquire a supply of bitcoins, the cheaper counteracting such an attack will be."

NICHOLAS A. PLASSARAS, 2013²

¹⁴ Nation state adoption of bitcoin primarily means to declare bitcoin (alongside traditional fiat currencies) legal tender, but it can also come in tandem with encouragement of local bitcoin mining, with the local central bank adding bitcoin to its balance sheet, and with the issuance of bonds backed by bitcoin or bitcoin mining activity.

² Paper published in the Chicago Journal of International Law.

SEVEN HOW TO BUILD A POSITION IN BITCOIN

Now that we've covered why Satoshi's invention is valuable to us as investors, let's talk about how to allocate a portion of bitcoin to a portfolio.

1/ THE IMPORTANCE OF A LONG-TERM STRATEGY

In the bitcoin ecosystem, **volatility** is a given; it's a phenomenon investors must learn to stomach. A successful bitcoin investor will have to weather significant downturns to achieve results. As the saying goes, "it's not about timing the market, it's about time in the market." Holding is often the hardest and most important aspect of investing. Embrace a long-term perspective and prepare psychologically for potential downturns, which can help maintain a healthy outlook and prevent impulsive selling.

Lump Sum Investing Vs. Dollar Cost Averaging

Bitcoin's notorious volatility has sparked a debate among investors on whether to enter the market with a lump-sum investment or to invest fixed amounts regularly (dollar-cost averaging).

Generally speaking, people who have irregular income or are managing a mature portfolio often lean towards buying a lump-sum—"one and done." Keep in mind that this may require extra psychological resilience, as the price can drop after your purchase and being fully allocated you won't be able to buy any more dips.

On the other hand, people who have relatively steady employment and who are still building a savings portfolio may want to consider investing in bitcoin via a dollar-cost averaging strategy. This has the benefit of accumulating a growing position over the long run, while possibly experiencing less stress when the price dips as you know that more buys are coming in anyway.

Ultimately, the choice is about personal preference and aligning with your financial, family, and life situation. We suggest choosing the method (or combination of methods) that best allows you to stay invested for the long-term.

2/ ALLOCATION STRATEGY SUGGESTIONS

In the current landscape, we recommend considering your bitcoin investment as a potential part of three distinct strategies: as an insurance policy against systemic risks, as a hedge in a broad speculative portfolio, and as a calculated bet on an early retirement. Let's break each one down:

"In investing, what is comfortable is rarely profitable."

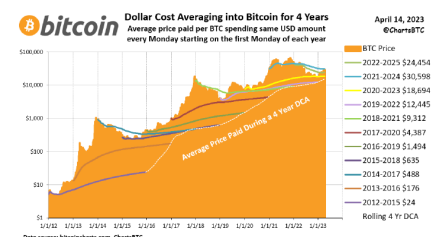
ROB ARNOTT

"Know what you own, and know why you own it."

PETER LYNCH

Time Period	Number of Periods Analyzed	Best Strategy	
		Lump Sum	DCA
1-Year	4,139	74.7%	25.3%
2-Years	3,773	79.7%	20.3%
3-Years	3,408	84.0%	16.0%
4-Years	3,043	89.8%	

Bitcoin lump sum vs. dollar-cost-averaging profitability analysis going back to 2010, by @w_s_bitcoin.



This analysis by @chartsbtc gives an idea of average prices achieved following a four year strategy of DCA'ing into bitcoin.

Bitcoin as Insurance Against Systemic Risks: 2-5% of Wealth

Making an allocation to Bitcoin can serve as an insurance policy against various systemic risks inherent in even the most conservative-looking investment portfolios. Bitcoin's decentralized nature, low counterparty risk, and global accessibility make it a robust hedge against potential crises.

Think of it like you think of having homeowners insurance, which costs about 0.25% of the home value per year. Similarly, bitcoin is a way to insure your investment portfolio. Given how in most portfolio's, the proverbial kitchen is already filling with smoke, we think it's warranted to pay a higher, one time premium (2-5% of wealth) for an insurance which can pay out in the case of an inflationary depression or other systemic crises of the financial system.

In sum, by investing a modest percentage of your portfolio in bitcoin, you can protect yourself from catastrophic losses in traditional assets by benefiting from the cryptocurrency's resilience and continued adoption during times of economic uncertainty.

Bitcoin as a Speculative Asset: 5-10% Allocation

A speculative portfolio traditionally involves betting on assets that are not (yet) inflated by the hot money of the boom-phase of the business cycle. Historically, these have been assets with relatively low counterparty risk such as precious metals, cash, deflated real estate, and agricultural commodities. However, despite the efforts of portfolio managers, assets in such a portfolio can still move in tandem during anomalous and/or crisis situations.

In comes bitcoin: a scarce and largely uncorrelated speculative asset, which has permanent liquidity (you can always find a buyer for it), which, if stored properly, has extremely low counterparty risk, and which is currently historically undervalued. By including a modest bitcoin investment in your portfolio, you can benefit from its potential for substantial resilience during periods of deflation or stagflation in the economy.

In conclusion: if you have a need for speculative safeguards in your portfolio, consider integrating a 5-10% bitcoin allocation into it in order to help offset either losses during the bust phase of the business cycle, or value erosion during aggressive spikes of inflation.

Early Retirement Bet: 10-50% of Assets

Investing 10-50% of your assets in bitcoin as an early retirement bet is a more aggressive strategy that aims to capitalize on the potential for massive wealth creation in the coming years. As a disruptive technology, bitcoin could radically transform how value is exchanged around the world.

If bitcoin achieves widespread adoption and captures a significant portion of the global market for value exchange, the potential returns can be astronomical. Keep in mind, however, that this strategy can be stressful and comes with substantial uncertainty given the volatile nature of the market.

"Seen as a form of "digital gold," bitcoin may act as a stable store of value and potentially offer protection against inflation—and even hyperinflation. ... When conditions go extreme ... no matter how big one's hedge is, it will seem not nearly enough At such times, we might wish we had been 'irresponsibly' long."

J. TIMMER, DIR. OF GLOBAL MACRO AT FIDELITY, MAR 2021

"A speculator doesn't allocate capital in order to grow a business or create something. He simply takes advantage of distortions in the market to increase his personal share of existing wealth. Most speculative opportunities have political roots, taking advantage of distortions created by laws, regulations, taxes, or other government action."

DOUG CASEY

"If inflation picks up, or even if it doesn't, and more companies decide to diversify some small portion of their cash balances into bitcoin instead of cash, then the current relative trickle into bitcoin would become a torrent."

BILL MILLER, 2021

EIGHT I'VE DECIDED TO BUY BITCOIN. HOW DO I HODL?

Bitcoin is not a company with a CEO and a physical building somewhere—it's an open source protocol. That means on the one hand enormous freedom for entrepreneurs to create a wide variety of products and services, and on the other hand a vast and confusing landscape for aspiring bitcoiners to get lost in. In this section, we provide you with some general pointers on how to approach bitcoin storage, as well as with some concrete options for safekeeping your bitcoins.

1/ Storing bitcoins yourself, using a single private key

The simplest method for securing bitcoin in self-custody is single signature self-custody on a hardware wallet. A hardware wallet is a physical device that helps the user manage his private keys and enables access to the funds. Practically speaking the device will generate a string of 24 random words, which you then write down and store in a secret place.¹⁵

While this is a quick method for storing bitcoins securely offline, this "single signature wallet" can fail due to a single event (e.g. if you lose your backup, or if someone steals your hardware wallet), which can become problematic as your bitcoin position increases in value.

Brands such as **Coldcard** and **Blockstream Jade** are examples of trusted hardware wallets. Here is an [overview article](#) that compares the features of many of the available hardware wallets.

As a general rule, always order your hardware wallet directly from the company's website or their trusted vendors. Using third parties like EBay or Amazon exposes you to a not insignificant risk of pre-installed malware.

2/ Storing bitcoins yourself, using multiple private keys

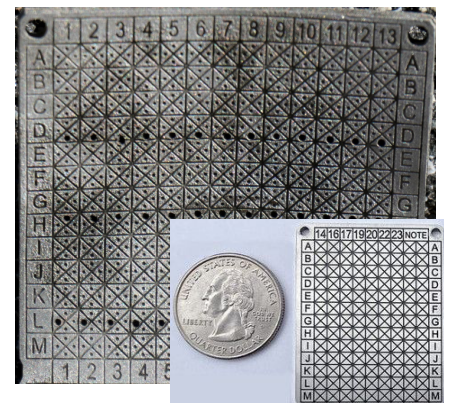
Another method of securing your bitcoins is called "multi-signature self-custody." This security technique requires multiple private keys to spend funds, ensuring the safety of the assets even if one key is lost or compromised. This method can be operationally challenging as it requires securing multiple physical keys and hardware wallets, plus additional information about how the multisignature wallet was created.

This is a great option for securing large sums of bitcoin for the long-term, but we recommend for the novice to do significant research or to connect with a reputable expert to before setting this up on one's own. Some trusted players in the space are **Nunchuk**, **BlueWallet**, **Blockstream Green** and **Caravan**.

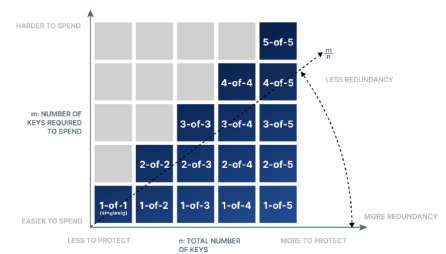
¹⁵ Of course, since their inception in 2013, many more security features have been added to bitcoin hardware wallets.

"After spending many years in Wall Street and after making and losing millions of dollars I want to tell you this: it never was my thinking that made the big money for me. It was always my sitting. Got that? My sitting tight!"

JESSE LIVERMORE



To protect bitcoin backup seeds, metal storage devices have been developed. In the background you can see one such device after it was exposed to stress tests involving heat, corrosion, and crushing. For more, see [Jameson Lopp's excellent tests and reviews](#) in this area.



Multi-signature wallets are very flexible, giving freedom to choose the total number of keys, as well as the minimum amount of keys required to spend the bitcoin balance. The **most popular formats** are 2-out-of-3 and 3-out-of-5.

3/ Storing bitcoins with a third party custodian

Third-party custody is a convenient alternative to self-custody, where savers entrust their bitcoin to a corporation such as an exchange or wallet provider. While it feels like the easiest solution, custodians have many layers of risk that should be considered:

- Always online: access to the account is a weak point in this setup. If a user's email is compromised, an attacker may be able to socially engineer their way into the custodial account even if there is physical 2-factor authentication, since an employee at the custodian can reset the 2FA.
- Counterparty risk: It's important to know how a custodian is using client funds (are they rehypothecating?), how they are securing keys, or if they outsource key security to another company, which compounds the risk.
- Exchange hacks: Many thousands of bitcoin have been irrecoverably stolen through custodial security breaches. When a custodian centralizes large sums of bitcoin, it becomes a bigger target for an attacker.

Some third party custodians which in our view are worthy of consideration: [Kraken](#), [Cash App](#), [River](#), [NYDIG](#), [BL3P](#), [Bitfinex](#) and [Fidelity](#).¹⁶

4/ Collaborative custody

Collaborative custody uses multisignature (which we discussed above as option 2) to create a **balanced solution between self-custody and third-party custody**. It allows users to store their bitcoin with a trusted selection of people who collectively hold the private keys necessary to access the funds. Another option for using assisted multi-sig is to hold a majority of the private keys yourself and to use a third-party as holder of a backup key.

Collaborative custody eliminates the risk of a single point of failure, preventing users from losing bitcoin if they make a simple mistake, and protecting their funds from hackers by keeping the private keys geographically separated, making it challenging for hackers to gain access to the funds. It also helps to reduce the complexity of doing multisignature by oneself.

At Adamant Research we feel that collaborative custody usually offers the best risk/reward mix for new bitcoin savers. That is why this report was published in partnership with a provider of this service that we use and trust: [Unchained](#), based in Austin, Texas.¹⁷

Conclusion

Securing private keys is a crucial aspect of being a bitcoin investor. Each method has its own advantages and disadvantages. Take your time to consider your personal circumstances and risk tolerance in choosing a storage method that suits their needs. Good luck!

¹⁶ Note that Fidelity's retail offering as far as we know does not currently offer bitcoin withdrawals. BL3P and Bitfinex are not available to US Citizens. NYDIG focuses on institutional investors.

¹⁷ Other such providers are [Casa](#) and [Bitgo](#). Also worthy of note are forms of collaborative custody that use MPC models instead of multi-sig and have a lot of the same value proposition. Examples in that category are [Anchorage](#) and [Fireblocks](#).

"There are only going to be 21 million coins, there are billions of people in the world, some reasonable percentage of whom might find it interesting to own a piece of Bitcoin."

PROOF-OF-WORK INVENTOR
ADAM BACK, 2018

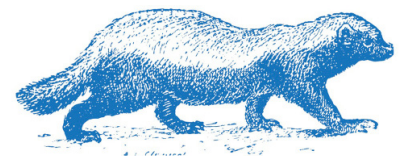
"We are really lucky to be in at the beginning of a possibly explosive new phenomenon. Considering the odds against most money-tripling investments, Bitcoin looks like a good place for a percentage of your portfolio."

HAL FINNEY, 2011

"One possibility [for tamper resistant ecash] is to make the double-spending database public ... [with] a measurable amount of computational work to produce. It therefore can't be forged."

ANONYMOUS COMMENTER ON
THE CYPHERPUNKS LIST, 1999

Bitcoin



The honey badger of money³

³ Bitcoin's unofficial mascot is the fearless honey badger. With a strong immunity to venom and able to withstand attacks from lions, this creature is a living embodiment of bitcoin's resilience.



This work is titled "The Power of the Peace." It was created in 1577 to convey the hope of a young beleaguered nation to achieve peace in its territories, which was eventually achieved in 1648 with the formal recognition of the independent Dutch Republic.

The etch, by Wierix-van Cleve, is full of symbolism. It shows how Prudence, Reason, Force and Time can work together to control violence in society. The swords and lances from the war are transformed into sickles and plowshares, retooling society for peace. In the grand furnace displayed center stage, we see a display of technology as a force for good.

This is also our hope for and expectation of the cypherpunk project and its current apex, bitcoin: channeling human effort in a way that encourages society to grow more orderly and peaceful.

Bitcoin contributes to a harmonious world by serving as a scarce and robust money which protects families' wealth through space and time, and by acting as an incorruptible tool for builders, supporting them in creating honest and enduring institutions.