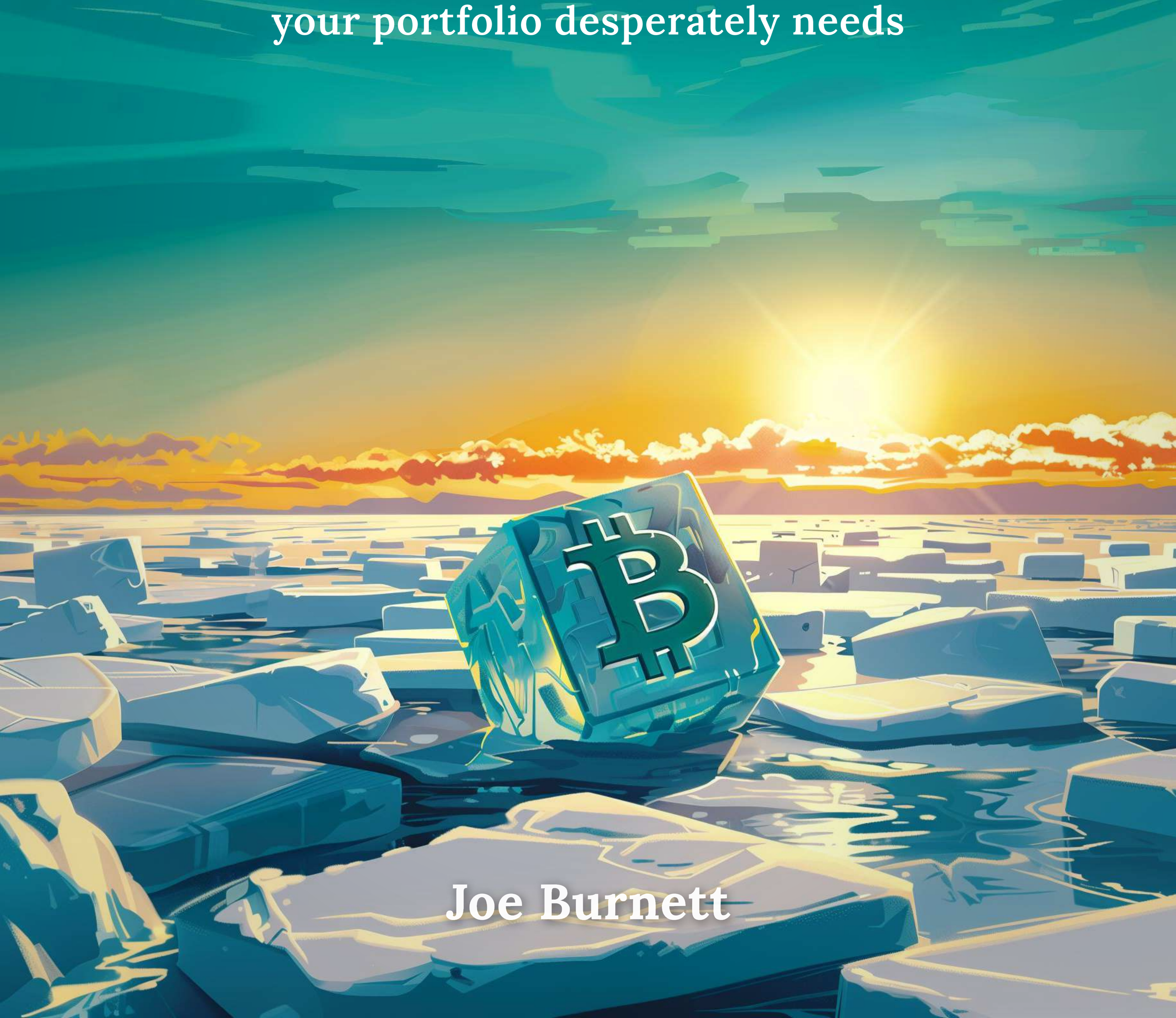
Your wealth is melting.

Why bitcoin is the deep freeze your portfolio desperately needs



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I. Introduction

In a time of rapidly advancing technology and exponential growth in productivity, saving for the future faces increasing uncertainty. The prevailing belief is that you can safely invest in the Magnificent Seven tech stocks or single family homes and expect substantial returns. This approach has indeed performed well for investors for many decades[1]—but will this trend continue into the future?

A reason that many instinctively say “yes” is the constant drumbeat of innovation. Swift technological progress over the last 200+ years has made humanity incredibly wealthy. Human ingenuity has significantly enhanced our ability to produce almost everything—from food to residential homes—and investing in this neverending march seems like common sense.

This innovation can be a double-edged sword, however. The traditional avenues of saving what we earn from this productivity are being relentlessly challenged, so even if one can make a lot of money in the short term, all asset classes are vulnerable to what we’ll call the “innovation trap”—innovation-driven market forces that erode your ability to save in the long run.

This report explores the changing relationship between production and saving, applying the

> *“Bitcoin is 0.1% of the human race’s liquid energy. There are $400 trillion dollars of other assets floating around in our current fiat system. They are leaking energy.”*
>
> Michael Saylor

economic theories and perspectives of Jeff Booth, Saifedean Ammous, Adam Smith, and Eugene Fama among others, to propose a framework for thinking about how humanity's relationship with wealth is changing with the introduction of bitcoin—the only immutably scarce monetary tool.

We have not, until now, had an adequate asset to transfer our modern wealth through time without a leak. Humans have been depending on assets that can be perpetually produced or devalued with natural free market forces for far too long.

Because bitcoin is a new tool that will reintroduce the ability for people to clearly distinguish between investing and saving, we propose that holding cold storage bitcoin may provide the highest long term risk-adjusted return for centuries to come. In this world, bitcoin raises the bar for what will be a profitable investment, making humanity's pile of savings expand rapidly relative to productive enterprises and all other traditional assets.

Bitcoin may be the only asset that can stop from the free market from inevitably melting your wealth.

"Bitcoin is the hardest money ever invented: growth in its value cannot possibly increase its supply."

Saifedean Ammous, The Bitcoin Standard

II. Most of today's wealth will accrue to bitcoin

Originally, calculators were luxury physical objects found in wealthy households. In the early 1970s, the first calculators cost ~$400, or $3,000 adjusted for inflation.[2] Today, calculators are freely available on every computer, in Google Search, on the iPhone, and even via smart home devices.

While there may have been opportunities to invest in calculator producers along the way, in the long term, the financial gains and newfound wealth did not accrue to the enterprises that produced these devices and software for calculators. Instead, the advantage shifted to the consumer, who now enjoys the convenience of a free calculator.

The various advancements in technology that completely transformed the design and distribution of calculators over time, drastically cut the cost of producing a calculator. Companies now include calculators for free as a value-add to their primary services or goods—meaning you can now effectively buy infinite calculator apps for zero dollars (or zero bitcoin!).

Amid the gradual evolution of calculator technology, individuals might have initially speculated on the stocks or bonds of various calculator companies, anticipating profits from this innovation. Yet, as the industry evolved to universally offer free calculators, the expected financial returns on such investments would evaporate. Wealth stored in these assets melted away due to innovation-driven market forces.

But this concept isn't just confined to the calculator industry—free competitive markets are relentlessly trying to extract value from all traditional assets and industries.

Imagine a series of advancements in AI and robotics that fully automate strawberry farming and distribution, bridging decades of recent digital innovation into the physical world and eliminating the need for human labor in these processes. Initially, companies leveraging this technology would experience a dramatic drop in production costs, falling ~99%, while still being able to sell strawberries at current market prices. This scenario would create a temporary windfall in profits, attracting substantial investment and interest in the strawberry industry.

However, these high profits are unlikely to sustain on a long enough time horizon. As new entrants in the industry adopt the same technology, competition intensifies, driving down the selling price of strawberries for all. The market, moving towards efficiency, would see excess profits gradually erode toward zero.

Like with calculators, the main beneficiaries of these technological advancements are not necessarily the producers or investors in these companies, but the consumers.

In a world with a fixed money supply, prices must decrease as abundance increases, accurately reflecting the new technology, market efficiency, and reduced cost of production.

In the context of the strawberry farming and distribution breakthroughs, most people today would be holding and rebalancing equities or bonds in various competing strawberry companies, anticipating a share in the profit from technological advancements, temporary monopolies, or the short term advantages conferred by intellectual property law.

"With abundance comes price deflation. This is simple supply-and-demand economics: the more abundant something is, the more likely it is that its price falls."

Jeff Booth, The Price of Tomorrow

However, in a world with finite money, the actual value accrual would favor bitcoin savers in the long run. As technology advancements and competitive markets drive real strawberry prices down by 99% and excess profits toward zero, the price of strawberries may fall from 100 sats to 1 sat.[3]

In other words, the relative value of bitcoin per strawberry would increase by 100 times. Michael Saylor is famous for saying that saving your wealth in bitcoin—and only bitcoin—is not about conviction, but about rational thinking.

Where does this new wealth go if it doesn't accrue to bitcoin? Even if the wealth was temporarily captured by a shorter-term store of value, that tool too eventually erodes against a perfectly finite monetary asset. In the short run, the strawberry farms' equities and bonds may have offered higher than expected returns, but in the long run, most of the wealth did not accrue to the equity or bond holders. The wealth accrued to the consumer holding bitcoin, the only asset that cannot be perpetually produced or devalued by natural free market forces.

> *"You're on a ship, the ship is sinking, there's ten boats in front of you. One of the boats doesn't have a hole in it. The other nine boats have holes in them. You have ten members of your family. Are you going to put one kid in each of the nine boats? Or are you going to put everybody in the boat that doesn't have a hole in it? It's not conviction, it's just rational thinking."*
>
> Michael Saylor

This is the innovation trap. Like with the calculator industry, strawberry farm equities, bonds, real estate, and strawberries can be produced in greater quantities or devalued by competitive markets, so they should not be used as a de facto savings account. Ultimately, magnitudes more wealth could end in bitcoin instead of these assets. You can still invest in these assets if you know what you're doing and you buy them at the right valuation, but because we have bitcoin you can also choose to just save. With the introduction of the opportunity cost of simply saving bitcoin, both of these outcomes are better than what happens today.

With the examples of calculators and strawberry farms in mind, we can begin to see how the rapid acceleration of production impacts our ability to save, and how bitcoin may be the asset class that increasingly captures a significant share of total global wealth, all at a time when global wealth is rapidly increasing due to the relentless acceleration of innovation. In a world of abundance, hyper-productivity, and intensely competitive markets, storing significant wealth outside of bitcoin will be increasingly difficult.

Effectively anybody who holds bitcoin is going to hold a future claim on the productivity of the planet in perpetuity discounted to the present.

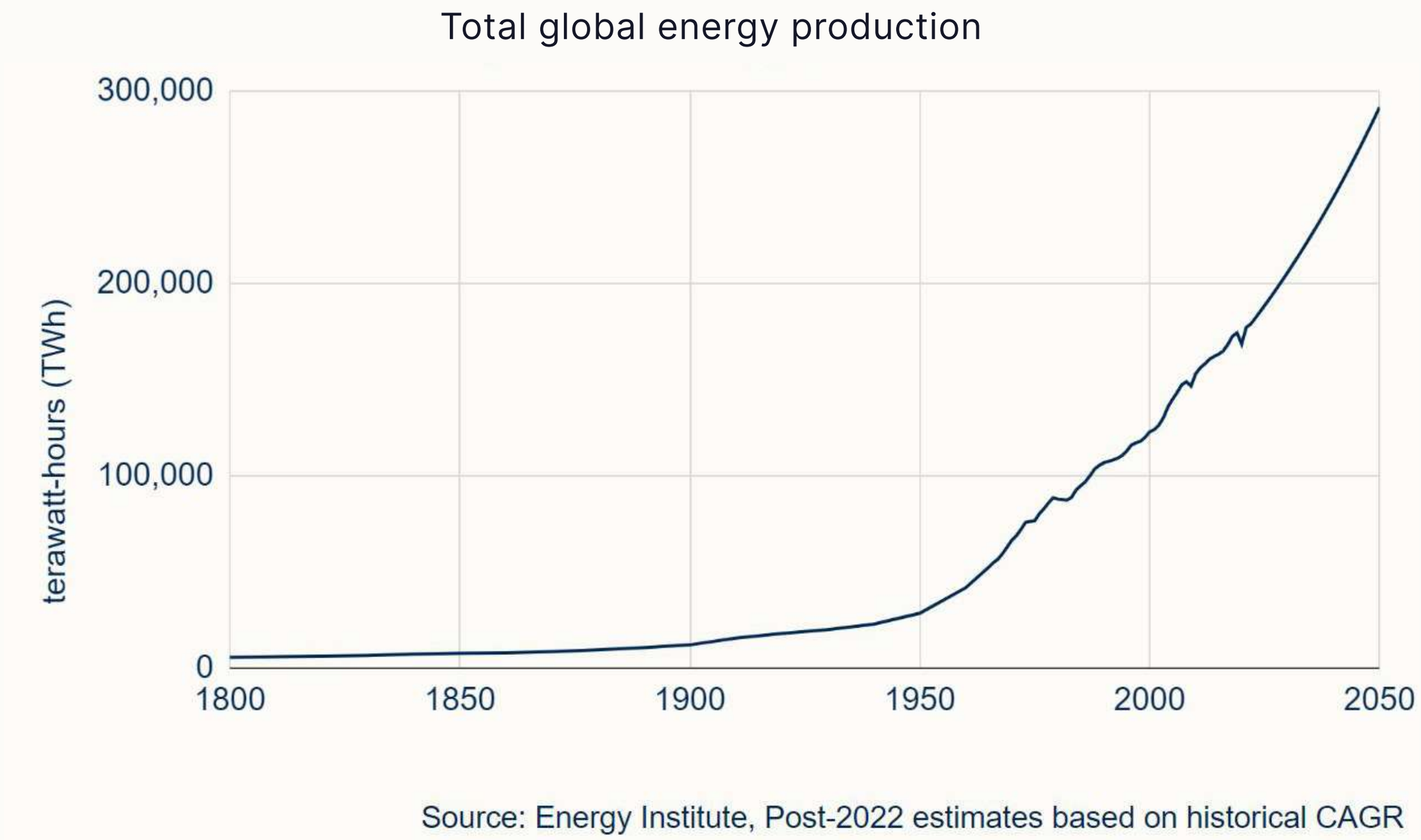
That's what the price of bitcoin is really showing us.

Trace Mayer

III. The acceleration of production

From plows to pixels, technology's relentless march has reshaped industries, propelling human productivity to new heights. Since the year 1900, global energy production increased from 12,132 TWh to 178,899 TWh in 2022, nearly a 15x increase in production.[4] This section explores the dramatic strides made in several key sectors: farming, data storage, telecommunications, energy, and residential housing, each serving as a testament to human ingenuity and the relentless pursuit of efficiency.

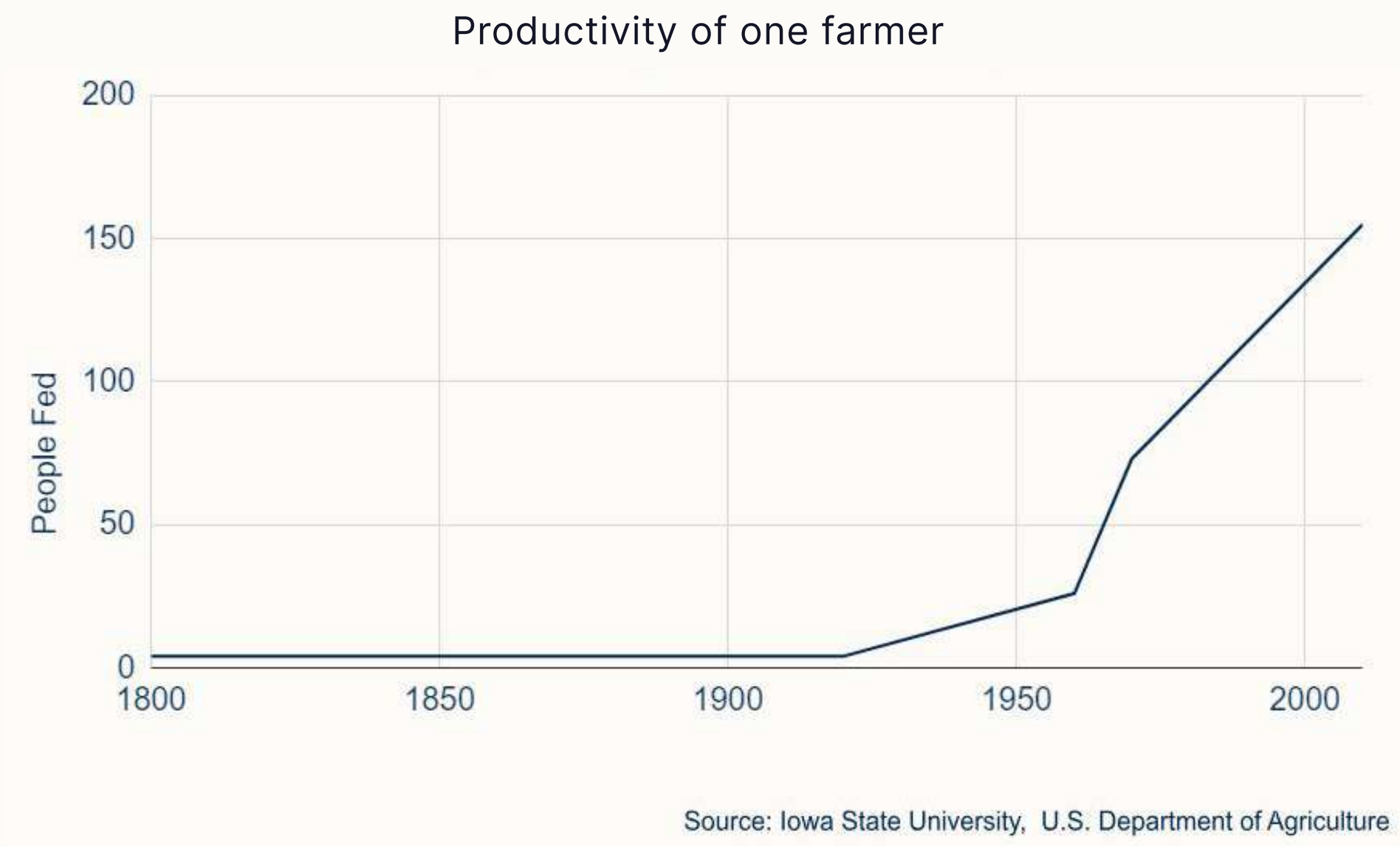
> *Technology is deflationary, we are entering into an age of deflation unlike any the world has ever seen.*
>
> Jeff Booth, The Price of Tomorrow



Farming

The evolution of farming is a striking example of accelerated productivity. In the 1930s, one American farmer could feed approximately four people, a limitation imposed by the era's reliance on manual labor and basic agricultural techniques.[5] By the 1970s, this number had surged to 73, as machines and improved agronomic practices began to reshape the industry.

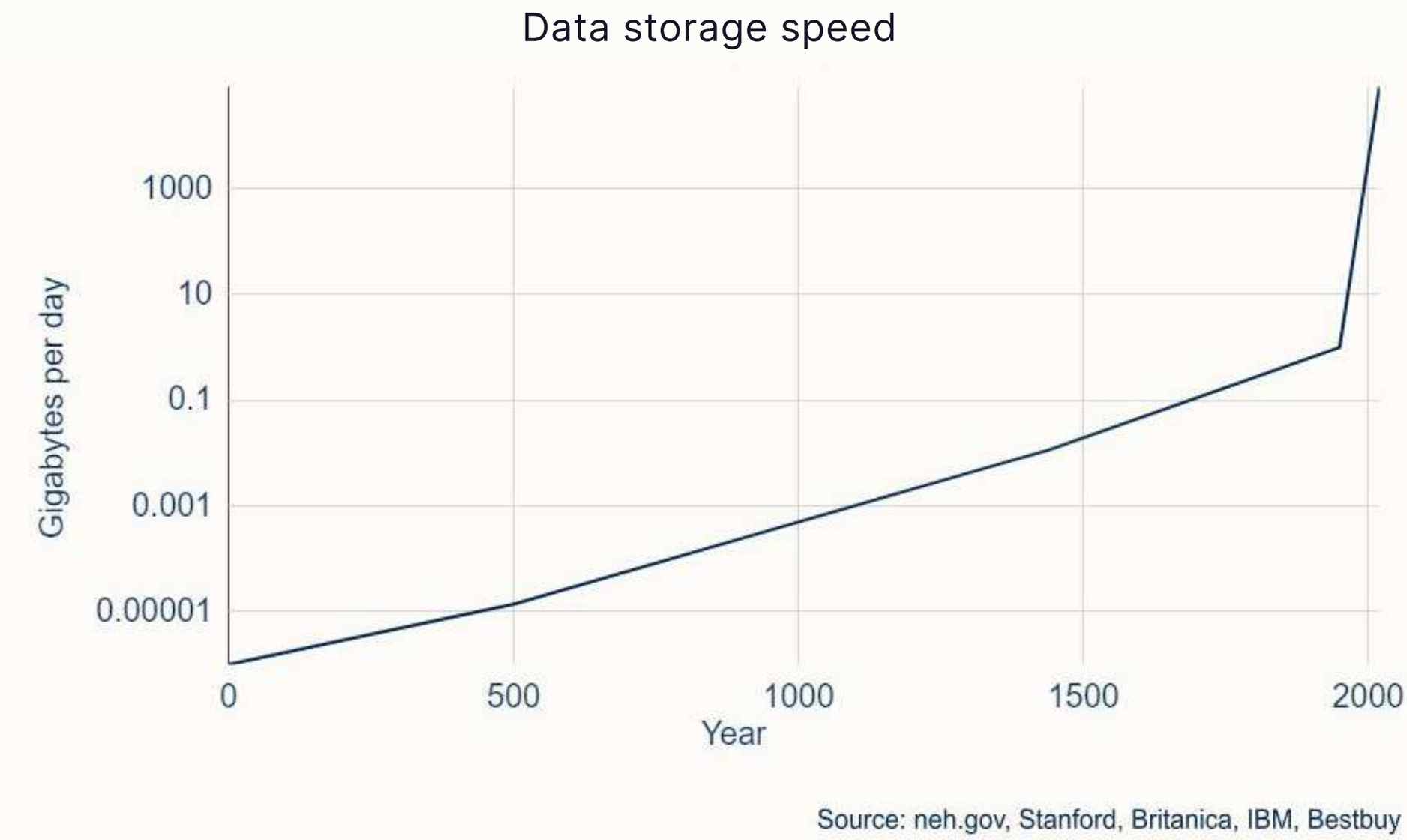
The 21st century has seen this trend continue. By the 2010s, one American farmer was feeding 155 people, an astounding increase in productivity.[6] This leap can be attributed to a confluence of advanced technologies, such as genetically modified crops, precision farming, and sophisticated machinery, all of which have contributed to unprecedented efficiency in food production. Thanks to these advancements, the global risk of death from famine has plummeted from approximately 7% in the 1930s to well below 1% today.[7]



Data storage

The history of data storage offers another stark illustration of production acceleration. Ancient civilizations, which relied on clay tablets for record-keeping, encapsulated the early stages of data storage. "Clay tablets in the ancient Near East... large enough to hold up to 60 lines of cuneiform," represent the beginnings of information storage. These tablets each hold roughly 1 KB of data when translated into modern text.[8] To write 1 GB of data, you'd need one million clay tablets. Making a single tablet (writing and drying) might take a day, which means this would take 1 million days or about 2,739 years.

Data storage underwent a revolutionary transformation in the 21st century with the advent of modern solid-state drives (SSDs). Available at your local Best Buy, today's SSDs, especially those utilizing NVMe technology, can write data at astonishing speeds exceeding 6000 MB per second.[9] This velocity marks an extraordinary advancement from the early days of computing. In practical terms, this means that storing 1 GB of data, a once-daunting task taking days or even years with previous technologies, can now be accomplished in less than a second with modern SSDs. This remarkable efficiency significantly impacts how we manage and access digital information in the modern era.



Telecommunications

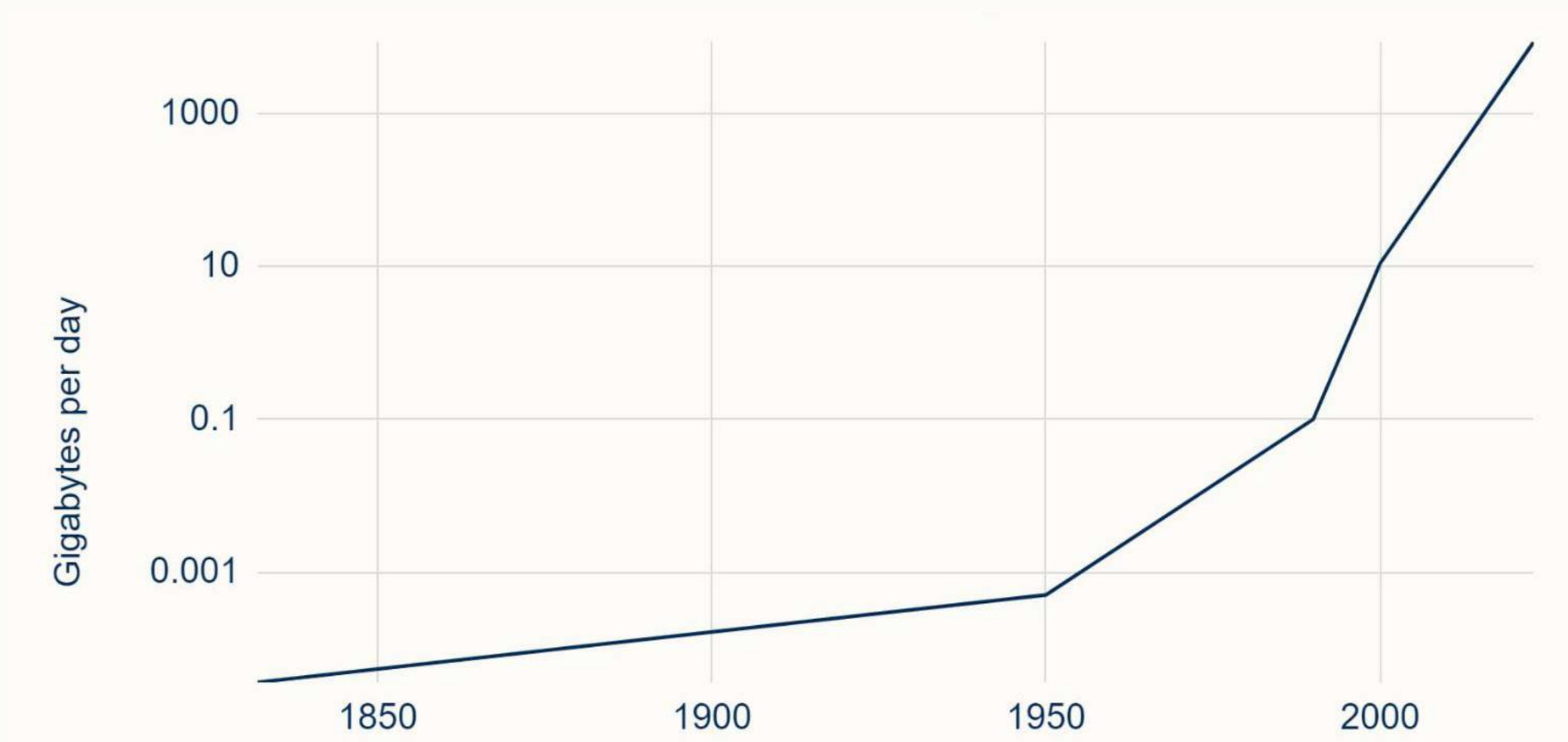
In ancient times, communication over long distances relied heavily on runners, like the Greek hemerodromoi and the Roman cursus publicus.[10] These runners were adept at delivering messages, but using them to transmit the equivalent of 1 gigabyte (GB) of data would amount to millions of scrolls. Given a reasonable running speed of 10 km/h (6.2 mph)[11] and the need for rest stops, the time required for such a task is effectively incalculable, essentially infinite.

Carrier pigeons, another early method of communication, were known for their reliability in transporting small notes. If one assumes a pigeon could carry a note representing about 10 kilobytes (KB) of data, it would require an astronomical 100,000 pigeon trips to transfer 1 GB.

Considering their flight speed of 50-60 mph, even the shortest trips would make this feat practically impossible, resulting in an infinite amount of time.[12]

Contrast this with introduction of early broadband technologies like DSL in the late 1990s, offering speeds of about 1 megabit per second (Mbps).[13] This speed would enable the transfer of 1 GB of data in approximately 2.2 hours. The latest advancement in telecommunications is 5G technology, which, according to Qualcomm, can achieve speeds ranging from 1 to 10 gigabits per second (Gbps) under ideal conditions.[14] Using a conservative estimate of 1 Gbps, the time required to transfer 1 GB of data is reduced to a mere 8 seconds.

Data transmission speed



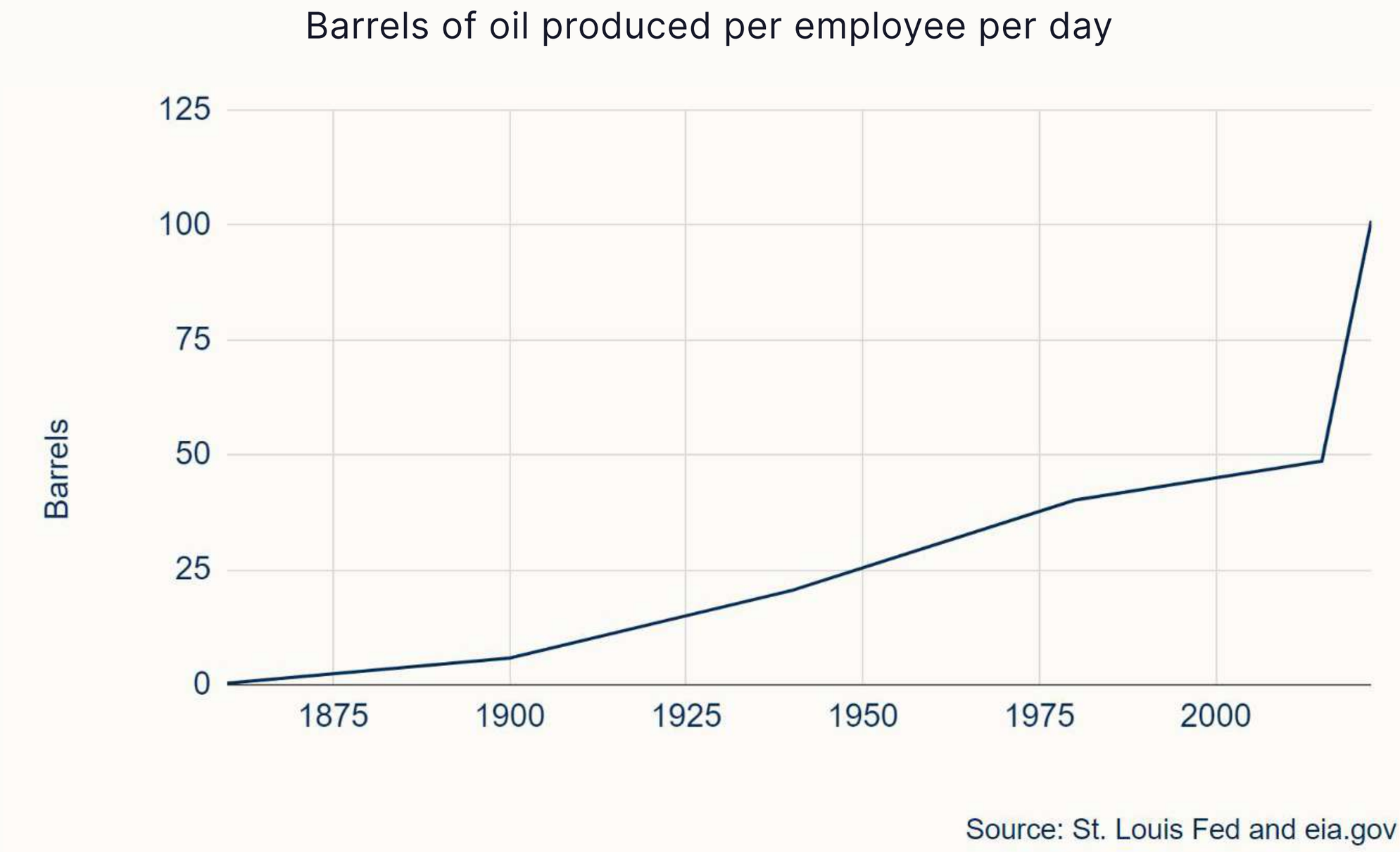
Source: University of Pennsylvania, Elon University, Nokia, Qualcomm

Oil production

The evolution of oil productivity is a compelling story of technological progress. In 1860, the infancy of the oil sector was marked by a highly labor-intensive approach. The entire US oil industry, with a workforce of ~3,000 employees, managed to produce one thousand barrels of oil per day. By 1900, there was a notable leap in efficiency. The US oil industry's workforce had grown to ~30,000, but their productivity had significantly increased, producing 174 thousand barrels of oil per day. This meant that it took approximately 1 employee to produce ~5 barrels of oil daily, a significant improvement from the industry in 1860.[15]

In 2015, with a workforce of 194,000, the US oil industry was capable of producing 9,439,000 barrels of oil per day, which meant approximately 1 employee to produce ~47 barrels of oil daily. However, the most substantial efficiency improvement was observed by 2022. The workforce had reduced to 118,000 employees, yet its production capacity had soared to 11,911,000 barrels of oil per day. This meant that it took only about 1 employee to produce 100 barrels of oil daily.[16][17]

From a scenario where thousands of employees were needed to produce a single barrel of oil in the 19th century, the industry evolved to a state where just a handful of employees were needed in the 21st century.

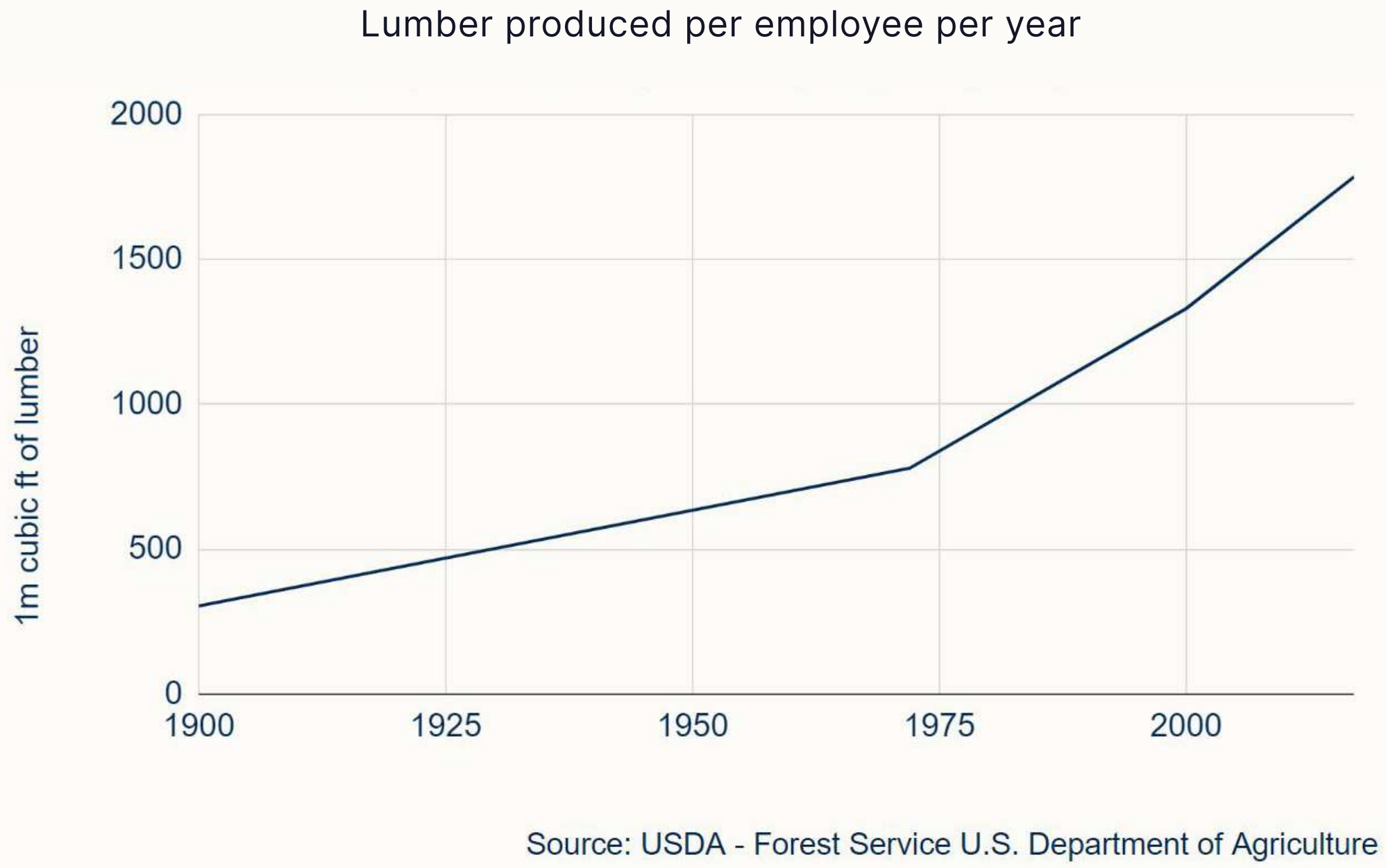


Lumber production

The evolution of lumber productivity in the United States tells of technological progress and its impact on residential real estate input costs, given that lumber is a major cost component in home building. This narrative, drawn from U.S. Department of Agriculture data spanning 1972 to 2017, provides insights into the industry's productivity improvements over time.

In 1900, based on extrapolated calculations using data from 1972 onwards, it's estimated that approximately 32.84 employees were needed to produce 1 million cubic feet of lumber annually.

By the year 2000, productivity had further improved. The industry now needed only about 12.89 employees to produce 1 million cubic feet of lumber annually. This reflected ongoing technological advancements, including the widespread adoption of computerized sawmill technology in the late 1970s and 1980s and enhanced forestry management techniques utilizing GPS and GIS from the 1990s onwards. [18] Coming to more recent times, in 2017, the lumber industry's efficiency reached new heights. It took just 8.91 employees to produce 1 million cubic feet of lumber.[19]



IV. Bitcoin is a deep freeze

As humanity continues to excel in producing goods, services, knowledge, and financial assets, we're now made painfully aware of a new problem: how ineffective our saving is when everything we save can be produced in greater quantities or devalued by competitive markets.

Traditional saving methods, from dollars to real estate, are increasingly challenged by our own capacity for production, which in turn devalues these assets. Another way to think about this is that these assets are simply “bad money,” but compared to what?

Bitcoin is the only thing in the world that is inelastic to price.

Michael Saylor

Enter bitcoin, a paradigm shift in the concept of saving. Bitcoin stands apart as a novel monetary tool with unique properties that redefine what we consider to be money. Unlike traditional assets, bitcoin is designed with an immutable, fixed supply—there will only ever be 21 million bitcoin—making it immune to the inflationary tendencies that plague fiat currencies and all other asset classes.

There are two common arguments against bitcoin being scarce:

1. *It's not scarce because people can still create other currencies*
2. *It's not scarce because I don't understand fractions*

Phil Geiger

Bitcoin operates on a programmatic, exponentially decreasing supply schedule, enabling its initial distribution, cementing its long term scarcity, and ensuring that as more miners attempt to mine more bitcoin, mining difficulty increases indefinitely to keep the predetermined supply schedule on track.

Immutable scarcity is at the core of bitcoin's value proposition as a savings tool. In a world where other assets can be perpetually produced or devalued, bitcoin’s fixed supply offers a permanent solution. Bitcoin's monetary properties align with the economic principle that systems tend to converge on the one most marketable tool as money. In contrast to all the melting assets people use as savings vehicles today, bitcoin is a deep freeze at absolute zero.

Parker Lewis explains bitcoin’s credibly enforced fixed supply as well as as anyone in his book, *Gradually, Then Suddenly*:

> *Recognize that there is nothing about a blockchain that guarantees a fixed supply, and bitcoin’s supply schedule is not credible because software dictates it be so. Instead, 21 million is only credible because it is governed on a decentralized basis and by an ever increasing number of network participants. 21 million becomes a more credibly fixed number as more individuals participate in consensus, and it ultimately becomes a more reliable constant as each individual controls a smaller and smaller share of the network over time.*
>
> Parker Lewis, Gradually, Then Suddenly

But just because something has a scarce supply doesn’t make it valuable. What makes bitcoin valuable is that it is the best money due to its superior monetary properties. It is the world’s first and only perfectly scarce good with sufficient monetary properties.

Money solved the double coincidence of wants—the problem of requiring two people in a barter system to have precisely what the other wants at the same time. In a barter system, if you have apples and want bananas, you must find someone who not only has bananas but also wants your apples. This makes trading incredibly difficult. Money eliminates this issue by acting as one universal tool for trading. The double coincidence of wants problem is solved by individuals within economic systems converging on one best tool to be used as money, and that best tool is now bitcoin. This is objectively true, given its superior monetary properties.

While all value is ultimately derived from the fact that there will only ever be 21 million bitcoin, its improvement on prior money doesn't stop there: it's also fungible (no unit of bitcoin can be distinguished from another), portable (it can be moved permissionlessly and globally at very low cost), durable (it's data that can be physically preserved in many mediums), and divisible (one bitcoin equals 100,000,000 satoshis, allowing bitcoin to be used for commerce at many scales).

With bitcoin's superior monetary properties in mind, we can begin to look at the landscape of the market through the lens of bitcoin. Because these properties stand in stark contrast to the properties of every other good, and because monetary systems converge on one money, it's not only reasonable, but prudent to visualize traditional storeholds of wealth as measured in this superior asset.

	BITCOIN	CRYPTO	GOLD	USD
SCARCE	HIGH	LOW	MODERATE	LOW
FUNGIBLE	HIGH	LOW	HIGH	HIGH
PORTABLE	HIGH	HIGH	LOW	HIGH
DURABLE	HIGH	LOW	HIGH	MODERATE
DIVISIBILE	HIGH	HIGH	MODERATE	HIGH

V. Your wealth is melting

As human ingenuity and technological innovation drives greater efficiency in producing commodities, services, and information, we find that we predominantly save in assets that we, as a society, can create more of. Traditional saving methods, including holding fiat currency, bonds, stocks, gold, and real estate, are all either themselves vulnerable to being increased in quantity or devalued over time or fundamentally linked to assets that can be.

Of course there are still short, medium, and even longer term profits to be made by investing in various asset classes. How much of a given asset could exist in the world—its supply—is not the only factor affecting its price, even in the long term. However, in a world with bitcoin, we must begin to ask if they might be overvalued in light of their risk-adjusted returns:

- Is holding the US dollar wise when, if there is a 2x increase in the production capacity of CPI goods, the Federal Reserve must respond to that productivity increase by debasing the currency to maintain their 2% inflation target?
- Bonds are simply contracts for a future amount of US dollars. Is holding a fixed amount of future US dollars, with added potential default risk, wise when these dollars will be debased by design as well?
- Is Apple a good long-term storehold of wealth at a 30 P/E ratio (pay $30 for every $1 of annual earnings) when a plethora of consumer technology companies could produce similar devices or disrupt their walled garden ecosystem, diminishing the unique value proposition ultimately shrinking margins and potentially revenue?
- Gold, despite its physical scarcity, is a commodity that could be mined indefinitely with sufficient technology. Is holding it wise when it can be perpetually produced?
- Is investing in an apartment complex a sound long-term store of wealth, considering the potential for real estate market saturation, where the influx of new developments could lead to a commoditized housing market, filled with fierce competition and shrinking rental yield margins?

All of these investments may be logical for some time, however, on a long enough timeline, they all face the innovation trap—their streams of future cash flows or yield can and will be competed away—or their supply can be simply increased—by free market forces. This ruthless competition is part of why we live in a time of such severe financialization: None of these investment vehicles sufficiently preserve your wealth for the long run, so you must hire or become a money manager.

The promise of bitcoin is that it reintroduces the concept of true savings:

> *There is and always has been a fundamental difference between saving and investment; savings are held in the form of monetary assets and investments are savings which are put at risk. The lines may have been blurred as the economic system financialized, but bitcoin will unblur the lines and make the distinction obvious once again. Money with the right incentive structure will overwhelm demand for complex financial assets and debt instruments..*
>
> Parker Lewis, Gradually, Then Suddenly

Once you begin to accept that using traditional assets for long-term savings isn't wise because bitcoin exists and has a credibly finite supply, bitcoin itself only further illuminates the problems it solves by serving as a constant to measure other asset classes against.

When measured in a perfectly scarce asset like bitcoin, the ways the long-term value of all these asset classes is challenged becomes clearer than ever, particularly in an age where production capabilities are rapidly expanding and markets are increasingly global, interconnected, and highly competitive.

Dollars and other fiat currency

A common form of savings is dollars or other fiat currencies. While stable in the short term, these currencies are designed to debase over time against basic consumer goods. The Federal Reserve, for example, targets an inflation rate of around 2% or more annually. This 2% rate is not the growth rate in the supply of money directly. In the US, the long term growth rate of the supply of dollars in checking and savings accounts is actually ~7%,[20] and this 2% inflation target is simply the inflation rate against a basket of consumer goods.

As you'll notice, the dollar is designed to lose value against those very goods that we are capable of producing at a faster and faster rate including shelter, food, and energy, three of the four largest expenditure categories in the consumer price index. However, most people recognize that a money designed to debase against basic consumer goods is not a great savings vehicle, so they try to preserve their purchasing power in other assets.

Data source: pricedinbitcoin21.com

The US Dollar is down 92.8% over the last 5 years.

Bonds and debt

The case with bonds and debt is similar. A bond is just a promise for a fixed amount of future dollars, which as explained, are designed to debase against basic consumer goods.

Now bonds typically offer positive nominal yields to account for the duration of the loan, but these positive yields come with counterparty risk of the borrower. Will the business of the borrower succeed? Will the business or government borrower default? Will the government borrower pay you back with printed money? Will inflation be higher than expected?

This means that while you may potentially receive a positive nominal return, denominated in a fiat currency that is designed to debase against basic consumer goods, there is risk associated with this return as the borrower has the potential to default, resulting in a potentially negative nominal return.

In addition, globally accessible free markets trend to maximum efficiency, which means in the long run, the potential for excess profit (alpha) from bonds trends towards zero due to the competitive nature of free markets. As more investors seek out safer bonds with higher yields, the demand for these bonds increases, driving up their prices.

> *The proposition is that prices reflect all available information, which in simple terms means since prices reflect all available information, there's no way to beat the market.*
>
> Eugene Fama

This increase in price lowers the yield for new investors, reducing the potential for excess profit. Over time, as more investors enter the market and information becomes more accessible and accurately reflected in bond prices, the opportunity for above-average returns diminishes. This convergence towards market efficiency means that the long-term real risk-adjusted profitability of bonds is squeezed.

There is no free lunch in competitive markets, and if there is a free lunch, it wouldn’t last long as individual market participants would be eating it.

Data source: pricedinbitcoin21.com

20+ Year Treasury Bond ETF is down 94.8% over the last 5 years.

Stocks

Adam Smith's concept of the "invisible hand" is a metaphor used to describe how an individual's pursuit of self-interest can lead to positive outcomes for society as a whole. According to Smith, when individuals seek to maximize their own gain, they inadvertently contribute to an efficient allocation of resources in the economy, which benefits everyone. This happens because in a free market, consumers will choose the products and services they prefer, and businesses will compete to supply what consumers want at the lowest possible prices. This competition leads to innovation and improvements in quality, while keeping prices and profits down.

Investing in stocks means buying a legal claim on distributions from future free cash flows of companies. However, these future cash flows may diminish over time due to the brutally competitive nature of capitalism. As one company releases a new profitable product, many other companies begin competing to build an even higher quality product or build a similar product at a lower cost. As markets become more efficient and competition intensifies, excess profits (alpha) are ultimately driven down toward zero in the long run, along with the market value of the equity.

This doesn't require that you completely accept the Efficient Market Hypothesis, rather, it hinges on the belief that free markets represent the most effective mechanism for allocating capital, and over time, market prices evolve towards states of greater efficiency. Again, there is no free lunch in competitive markets.

> *The existence of economic profits attracts entry, economic losses lead to exit, and in long-run equilibrium, firms in a perfectly competitive industry will earn zero economic profit. [21]*
>
> Principles of Economics, University of Minnesota

This trend of brutal competition and creative destruction is evidenced by a McKinsey study, which found that the average lifespan of companies listed in the S&P 500 has drastically decreased, from 61 years in 1958 to less than 18 years today. In 2016, they projected that 75% of the companies quoted on the S&P 500 will have disappeared by 2027.[27] This dynamic highlights the inherent risk in relying on stocks for long-term savings, as even successful companies can rapidly lose their competitive edge.

For example, by holding ~$3,000,000,000,000 of wealth in $AAPL, civilization is effectively putting a massive bounty on creating better and less expensive consumer electronics. Or by holding ~$1,700,000,000,000 of wealth in $NVDA, civilization is effectively putting a massive bounty on creating better and less expensive GPUs. If one believes in the principles of free markets, creative destruction, and Adam Smith's invisible hand, it becomes inevitable that, over time, the future cash flows of these companies will be competed away, leading to a scenario where the ultimate winners are the consumers, benefiting from innovation and reduced costs.

The critical issue to consider is not merely that businesses may decline, but rather that the timing risk associated with the ascent and descent of companies is intensifying. This growing challenge makes it increasingly difficult for investors to confidently time long-term holdings of businesses, suggesting that the traditional "Buffett model" of investing might be losing its viability as creative destruction is occurring faster and faster and markets are becoming more globally connected and more competitive. This also massively disrupts passive investing by exposing it to the risk of holding obsolete assets in rapidly changing industries, potentially leading to underperformance. Additionally, it struggles to capture the early growth of emerging companies before they become mainstream and are included in indices, thus limiting potential gains.

AI will make it possible for one person to build a billion dollar company very soon.

Sam Altman

Additionally, the value of stocks can be significantly impacted by the dilution of equity. This occurs when a company decides to issue more shares, which can be executed swiftly, often at the stroke of a pen during board meetings. The issuance of additional shares dilutes the ownership percentage of existing shareholders and can potentially reduce their claim on future cash flows and earnings per share. This dilution effect represents another layer of risk for stock investors, as it can lead to a decrease in the value of existing shares.

Data source: pricedinbitcoin21.com

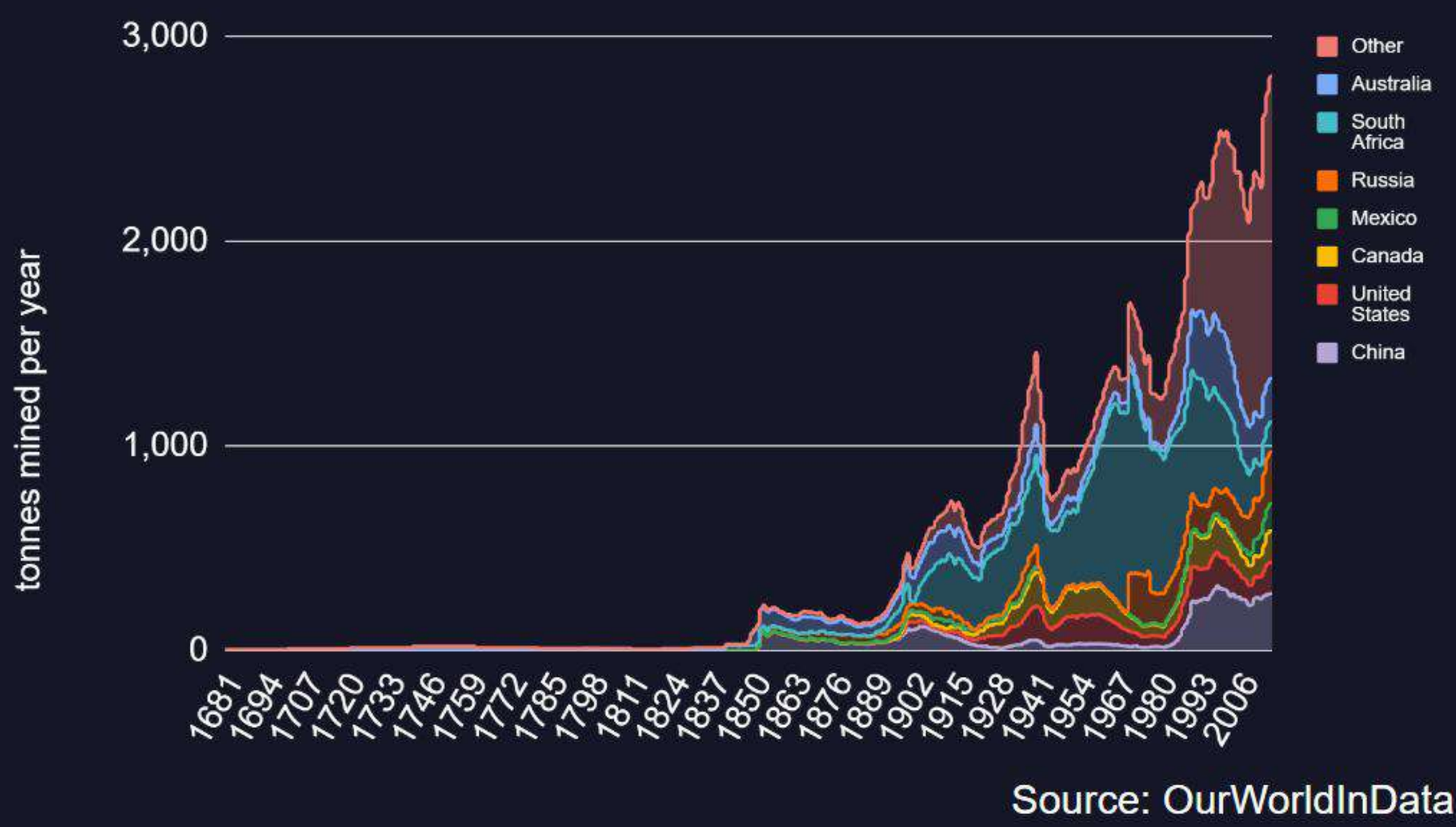
The S&P 500 is down 87.6% over the last 5 years.

Gold and silver

Even physical monetary metals like gold and silver are not immune to the effects of increased production capabilities. Technological advancements in mining and processing have made it easier and more efficient to extract these metals, contributing to a gradual increase in their supply, but gold's supply is fairly immune to relatively fast price increases.

While gold and silver supply may not immediately respond to significant price increases, which has made them historically relatively good stores of value, the supply of all monetary metals still perpetually increases, and they are not immune to advancements in mining and exploration technology.

Centuries of annual global gold production



Source: OurWorldInData

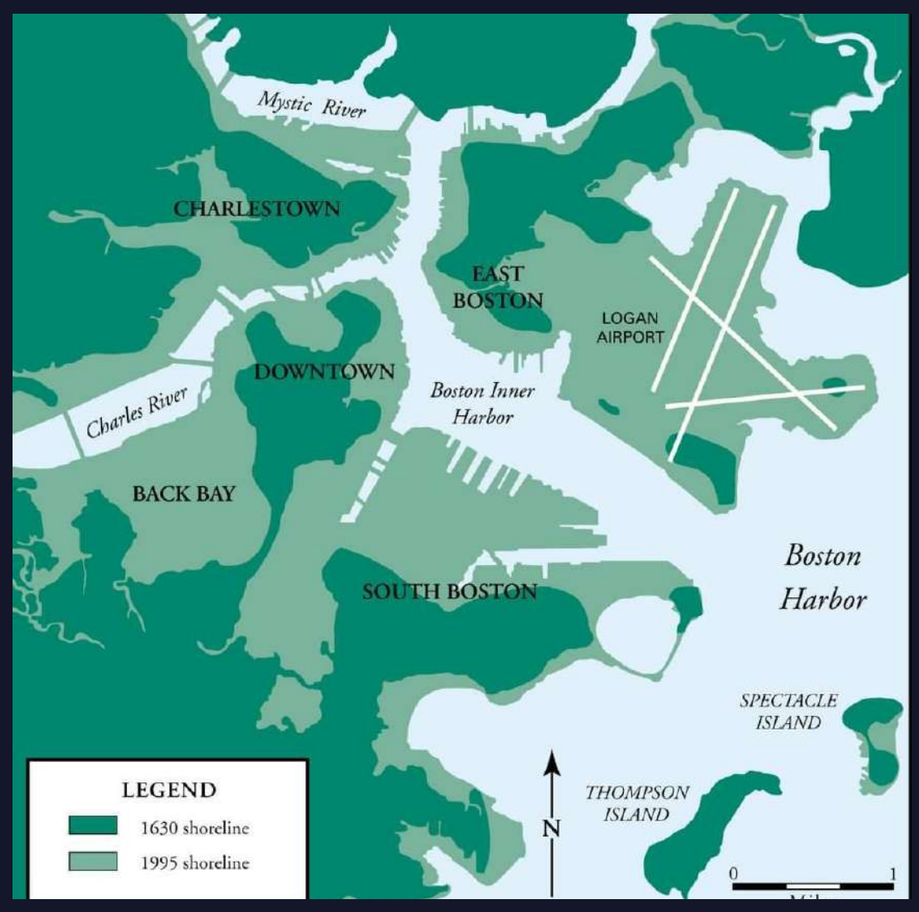
As you can see in the graphic below, a steady 1-2% annual supply increase still compounds significantly over the long run. As humanity and technology progresses, we find new ways to mine more gold. There's practically infinite gold in the universe, and there's even an estimated ~$771 trillion worth of gold just in Earth's oceans (~70x the current circulating supply).[23] The potential circulating supply of gold has no serious limit, and gold holders will have their savings endlessly devalued as humanity becomes more productive at mining and extracting gold.[24]

Data source: pricedinbitcoin21.com

Gold is down 92.4% over the last 5 years.

Real estate

Real estate is often perceived as an adequate investment due to everyone's need for housing, yet just because humans need housing, doesn’t mean investors should own housing. Humans need oxygen, but nobody stores wealth in oxygen. Just like other consumer goods and other financialized assets, the potential for creating more real estate cannot be overlooked. With advancements in construction technology and the availability of undeveloped land, the supply of real estate can expand, debasing its value. It’s worth noting that roughly 50% of Earth’s land remains relatively untouched by humans.[25] There is still a significant amount of undeveloped land that could be used for a variety of purposes including housing, farming, manufacturing, and energy production. But even relatively scarce land in ideal climates can be debased, as artificial islands can already be developed successfully. Off the coast of Dubai, Palm Jumeirah is an artificial archipelago that has over 10,000 residents.[26] Consequently, in the event that land becomes scarce, humanity possesses the capabilities to either create additional land on Earth or to explore the possibility of space travel.



Boston is a great example of the ocean receding over time as more land was developed.[27]

Additionally, square feet is not limited by surface land on Earth. The Burj Khalifa is the tallest building in the world standing at 2,716 ft and 164 floors.[28] Humans can build up too. This expansion upwards in construction was enabled by Henry Bessemer, often regarded as the father of the steel industry. His one-step process, introduced in 1855, revolutionized the production of cheap, high-quality steel.[29]

Moreover, the concept of owning real estate is often more of a legal construct as it is an immovable object, involving a ledger entry in a government database, and more easily subject to taxes and regulations. This means during times of war or excess government spending real estate may be taxed more heavily. The Economic History Association states, “During the war (American Revolution) colonial tax rates increased several fold and taxation became a matter of heated debate and some violence. Settlers far from markets complained that taxing land on a per-acre basis was unfair and demanded that property taxation be based on value.”[30]

This doesn't imply that real estate lacks potential opportunities for generating returns, whether through development, investing in undervalued areas, or leveraging other exogenous short to medium-term market fluctuations. It simply highlights that concentrating a significant portion of wealth in real estate bets against human ingenuity and entrepreneurial ability to innovate and expand supply, devaluing the wealth stored in physical property.

Data source: pricedinbitcoin21.com

US Real Estate is down 87.7% over the last 5 years.

VI. Bitcoin's certainty is a new economic reality

The discovery of bitcoin in January 2009 ultimately created a new economic reality. It's a novel tool for savings, trade, and economic calculation. If you ignore it, and continue saving in inferior assets at high valuations, your economic competitors will adopt it and outcompete you.

The most famed example is someone like Michael Saylor, who has outcompeted the S&P 500, big tech, and other enterprise software companies just by adopting bitcoin. But a more subtle example might be a friend of yours—someone who adopted bitcoin as a savings vehicle 5 years ago, is now debt free, and can now take risks and build businesses they might not have otherwise been able to.

If you choose to ignore bitcoin, you should expect similar consequences to people who may have ignored the discovery of gunpowder. When civilizations first discovered gunpowder, adopting it was not optional. It was not a new consumer app when it comes to war and defending land and citizens. If you failed to adopt gun powder or you simply ignored it, your enemies adopted it and physically conquered you.

> *We can ignore reality, but we cannot ignore the consequences of ignoring reality.*
>
> Ayn Rand

Bitcoin is no less optional than gunpowder. Bows and arrows will not protect you. Gunpowder is objectively better than bows and arrows. Bitcoin is objectively better than gold or the US dollar. Failing to recognize this doesn't make it less effective. It just means you will lose and others will win.

Like gunpowder, bitcoin has objective properties that one must contend with. The former is highly combustible, storable, energy dense, stable under normal conditions, but also sensitive to ignition. The latter is immutably scarce, portable, durable, divisible, and fungible.

We're living through hyperbitcoinization, and you can already choose to start denominating your wealth in bitcoin—objectively superior money.

The core of the argument is not just speculation that we'll eventually discover more efficient ways to mine gold, build homes, or manufacture and sell GPUs—although all of those are likely. It's that unlike bitcoin savers, owners of these assets must face the **possibility** that their supply will continue to increase in the future or creative destruction will devalue the present value of their future cash flows.

As these asset holders begin to recognize these truths and begin to understand that bitcoin is a superior alternative because it certainly **cannot** be debased and touts the necessary properties of good money, then the price of these assets relative to bitcoin could begin to fall significantly even before any massive supply increase or creative destruction occurs, just from a few holders "cashing out" for bitcoin. Markets are forward looking.

If bitcoin is going to be more resistant to debasement compared to gold, real estate or other assets, even if it occurs very slowly, then you should still "cash out" to bitcoin sooner rather than later. That's why bitcoin has a compound annual growth rate of 138% over the last 13 years. [31] The world is rushing out of inferior assets and funneling capital into the apex form of property.

With this understanding, the only way to safely invest in innovation is by adopting bitcoin as your unit of account and measuring your opportunity cost against it. Currently, amidst vast global speculation and a hyperfinancialized economic system due to bad money, there aren't many clearly viable risk-adjusted opportunities outside of cold storage bitcoin.

YOUR WEALTH IS MELTING

There are early directional signals of what good risk-adjusted investments will look like in a world that has converged on bitcoin. Even as bitcoin itself is going through its monetization, bitcoin companies, miners, bitcoin development companies (MicroStrategy), world-changing innovations (Nvidia), and some early-stage startups all show bitcoin-denominated outperformance on various timelines. And perhaps most importantly, anything that's profitable will of course still be valuable—you'll just have to make sure you purchase profitable assets at the right valuation that incorporates an appropriate risk premium over holding cold storage bitcoin.

> *Satoshi broke economics with digital scarcity. No supply response destroys every model.*
>
> Nik Bhatia

As this century unfolds with its remarkable technology advancements, the traditional methods of saving increasingly fall short. All assets can be perpetually produced or devalued with natural free market forces. Except bitcoin.

Bitcoin emerges not just as an alternative, but arguably as the best tool—a novel tool—for saving in this new era, because it is the best money. Its credibly fixed supply, coupled with its other superior monetary properties, positions it as a solution to the innovation trap humanity faces today, and the very fact that we've discovered the trap means we're close to the economic singularity, where most wealth ends up in bitcoin. Bitcoin may be the only asset that can stop the free market from inevitably "melting" your wealth.

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