

Bitcoin: A Unique Diversifier

Why bitcoin's appeal to investors
lies in its detachment from
traditional risk and return drivers

BlackRock

Foreword

Bitcoin has undergone a historic journey over its 15 years of existence, rising from obscurity to become an asset held in varying degrees across the world by an expanding number of individuals and institutions. While BlackRock's first client offerings around bitcoin first launched in 2022, the years preceding that represented an important period of study, monitoring, and client engagement for us.

As a fiduciary, we seek to provide exposure and choice to clients to meet their individual needs. As with any other asset class, when clients express a need for exposure, we work to offer them more investment options. But offering our clients choice is a first step: we must also closely examine performance and engage in our own research to educate clients.

In the case of bitcoin, we strive to bring this same measured approach to our clients as they seek our insights on this highly unique and relatively novel asset. We believe that bitcoin, via its nature as a global, decentralized, fixed-supply, non-sovereign asset, has risk and return drivers that are distinct from traditional asset classes, and that are fundamentally uncorrelated on any long-term basis. We maintain this conviction even as short-term market trading behavior occasionally diverges (in some cases profoundly) from what bitcoin's fundamental characteristics would suggest.

We observed this as recently as Aug. 5, 2024, when bitcoin saw a one-day drop of 7% alongside a 3% fall in the S&P 500, as global markets experienced a sharp pullback related to the unwinding of the Japanese Yen carry trade. This episode coincided with a series of bitcoin-specific events related to long-pending bankruptcy distributions and liquidations (Genesis, Mt. Gox) that had already been unfolding over the preceding three days. That was then exacerbated by the scramble for liquidity caused by the global market sell-off that was taking hold.¹

As has been a common pattern during these occasional episodes of short-term, sharply negative co-movement with equities, bitcoin's price rebounded, overtaking its level from before the sell-off within three days.² We view this pattern as instances of fundamentals eventually prevailing over short-term leveraged trading reactions. As Warren Buffett has said, "The stock market is a device for transferring money from the impatient to the patient." This wisdom has also tended to be true for the bitcoin market throughout its history.

We present in the enclosed our best attempt to capture, in response to great interest from our clients, the dynamics of bitcoin today as it pertains to risk, return, and portfolio interactions. We do so in recognition of the early stage bitcoin is at in its journey, and the rapidity with which its adoption and understanding by the global investor community is evolving.

¹. Bitcoin fell 5% on Aug. 2, 2024, after Genesis announced the distribution of \$1.1B in BTC to creditors. On Aug. 3 and 4, 2024, bitcoin fell a combined 5% as a large market maker began undertaking forced liquidations of its BTC and ETH holdings. Bitcoin fell a further 7% on Aug. 5, 2024, the same day that equity markets endured a sharp correction. Source: Bloomberg Bitcoin Spot Price as of Aug. 2024.

². Bitcoin reclaimed its Aug. 5 losses by Aug. 8, 2024, and regained its level from the start of the month on Aug. 25, 2024. The S&P 500 reclaimed its Aug. 5 losses by Aug. 13, 2024. Source: Bloomberg Bitcoin Spot Price, as of Aug. 2024. **Past performance does not guarantee future results.**

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Key points

01

Investors considering allocating to bitcoin are grappling with how to analyze it relative to traditional financial assets, given bitcoin's unique properties and limited history.

02

Bitcoin, with its high volatility, is obviously a "risky" asset on a standalone basis. However, most of the risk and potential return drivers bitcoin faces are fundamentally different from traditional "risky" assets, making it unfitting for most traditional finance frameworks – including the "risk on" vs. "risk off" framework employed by some macro commentators.

03

Bitcoin's nature as a scarce, non-sovereign, decentralized global asset has caused some investors to consider it as a flight to safety option in times of fear and around certain geopolitically disruptive events.

04

Over the long term, bitcoin's adoption trajectory is likely to be driven by the intensity of concerns over global monetary stability, geopolitical stability, U.S. fiscal sustainability, and U.S. political stability. This is the inverse of the relationship that is generally attributed to traditional "risk assets" with respect to such forces.

Introduction

Is bitcoin a 'risk on' or 'risk off' asset? That's one of the most prevalent questions our clients ask us as they consider investing in bitcoin for the first time. The answer, we believe, is that bitcoin's unique nature makes it unsuitable for this and most other traditional finance frameworks, and that bitcoin's long-term return drivers are fundamentally uncorrelated with other sources of portfolio returns.

While bitcoin has been volatile and has seen short episodes of co-movements with equities (particularly during episodes of sharp shifts in

U.S. dollar real interest rates or liquidity), bitcoin's long-term correlation to equities and bonds has been low and its long-term historical returns have been vastly higher than all major asset classes.

Over extended time horizons, we believe bitcoin's adoption drivers are likely to be distinct from, and in some cases inverted with, the global macro factors that drive most traditional financial assets. In this paper, we seek to explain this dynamic.

Why Bitcoin matters

First, it's important to ground ourselves in the fundamentals of what gives bitcoin its relevance. With its creation in 2009, bitcoin became the first internet-native monetary instrument to gain broad global adoption.³ Its technological innovation was the creation of a form of currency that was digitally native, global, scarce, decentralized and permissionless. Because of these attributes, it produced major breakthroughs to multiple centuries-old problems that other forms of money have struggled with:

- 1) Bitcoin's hard-coded supply cap at 21 million units means it cannot be easily debased.
- 2) Its global, digitally native nature means it can be transported anywhere in the world at near real-time at near-zero cost, transcending the frictions long inherent in moving value across political borders.
- 3) Its decentralized, permissionless nature made it the world's first truly open-access monetary system.

What makes bitcoin relevant?

Persistent historical challenges around money

- 1** Prone to **inflation and debasement** given a non-fixed supply
- 2** **Difficult to transact** across borders
- 3** **Access limited** to one's particular country; controlled by central authority

What bitcoin made possible

-  Fixed maximum supply of **21 million units**, with supply growth declining every 4 years¹
-  Digitally-native and borderless, permitting **near-instantaneous, global transfers of value**
-  First truly **open-access** global monetary system

For illustrative purposes only. 1.Bitcoin White Paper "Bitcoin: A Peer-to-Peer Electronic Cash System" (2008), and CoinGecko, as of July 2024. Forward looking estimates may not come to pass. There is no guarantee that the current 21 million supply cap for outstanding bitcoin, which is estimated to be reached by approximately the year 2140, will never be changed.

While other cryptoassets have since been built on the back of bitcoin's original breakthrough, in many cases in pursuit of a wider breadth of use cases, there has been a global coalescence around bitcoin as the preeminent asset in the space.⁴ This has given it a position, uniquely amongst the cryptoasset universe, as a global monetary alternative and an asset with credible scarcity.

Bitcoin's path to \$1 trillion in market capitalization

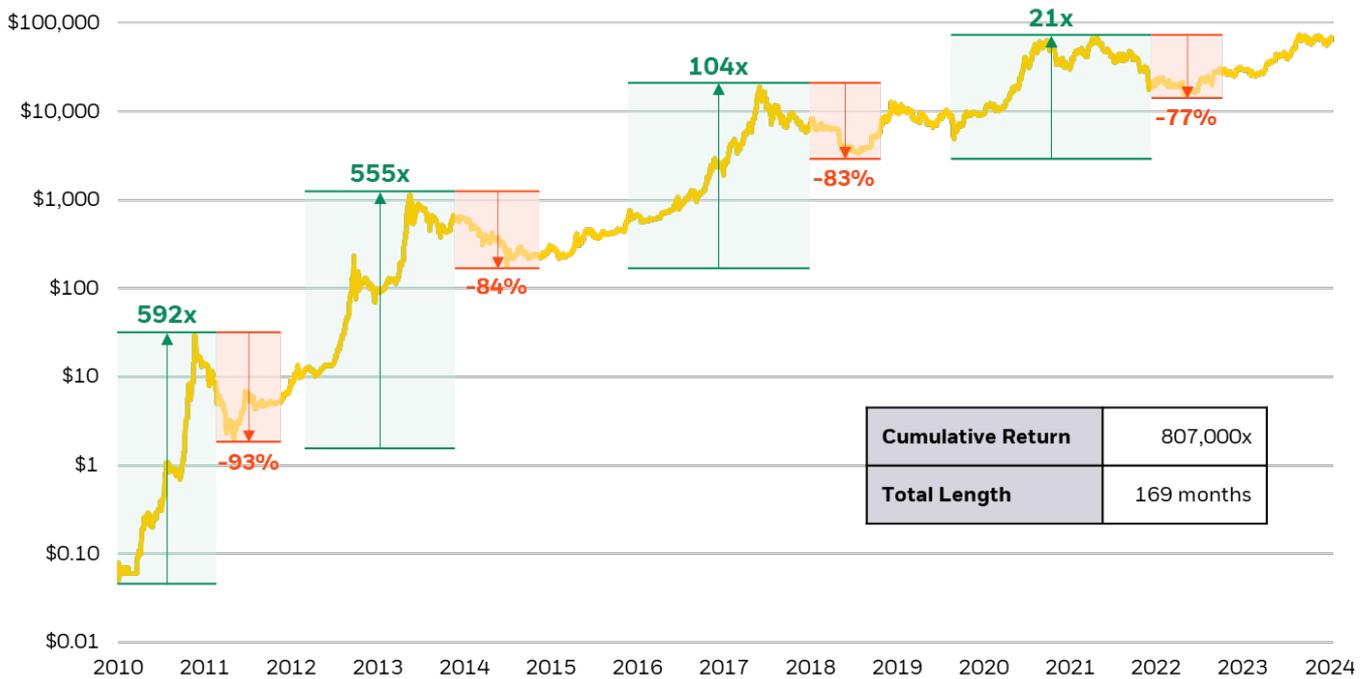
Despite bitcoin's remarkable rise and significant global adoption to date, its potential ultimate development into a widespread store of value and/or global payment asset remains uncertain, and bitcoin's evolving market value reflects that uncertainty.

Bitcoin outperformed all major asset classes in 7 out of the last 10 years, leading it to an extraordinary return in excess of 100% annualized over the last decade. This performance was achieved despite bitcoin also being the worst performing asset in the other three of those 10 years, with four drawdowns in excess of 50%.^{5,6} Through these historical cycles, it has shown an ability to recover from such drawdowns and reach new highs, despite these extended bear market periods.

These movements in bitcoin's price continue to reflect, in part, its evolving prospects through time of becoming adopted on a widespread basis as a global monetary alternative.

3. The most notable previous attempt to create a decentralized, digital monetary alternative was led by cryptographer David Schaum, who founded company DigiCash in 1990 to launch the first fully electronic money "eCash" in 1993. eCash peaked at ~5,000 users by 1998, leading the company to eventually shutter and declare bankruptcy in 1999. Meanwhile, an estimated 580 million people around the world today own crypto, of which bitcoin maintains a >50% market share. Source: European Commission, "The story of DigiCash and its eCash," as of Sept. 18, 2019; Bitcoin Magazine via Nasdaq, "The Genesis Files: How David Chaum's eCash Spawned a Cypherpunk Dream," as of April 24, 2018; Crypto.com, "Global Cryptocurrency Owners Grow to 580 Million Through 2023," as of Jan. 22, 2024. 4. Bitcoin represents >50% of the market capitalization of the cryptoasset universe, despite there being more than 20,000 other cryptoassets now in existence. Source: Coin Metric, as of June 30, 2024. 5. **Past performance does not guarantee future results.** Performance of Bloomberg Bitcoin Spot Price compared to performance of major liquid asset classes available to U.S. investors as reflected by the S&P 500 Index, Dow Jones Emerging Markets Index, Bloomberg U.S. Aggregate Bond Index, Bloomberg U.S. High Yield Corporate Index, Dow Jones Commodity Index, and Bloomberg Gold Spot Rate. Source: Bloomberg and BlackRock calculations, as of April 30, 2024. 6. While bitcoin's returns through the first 5 years of its existence (2009-2014) were even more extraordinary, we believe it is most appropriate to focus only on the most recent 10 years of returns (2014-2024), given the unique circumstances around Bitcoin's emergence from nothing to a real, working network.

Bitcoin's long-term performance

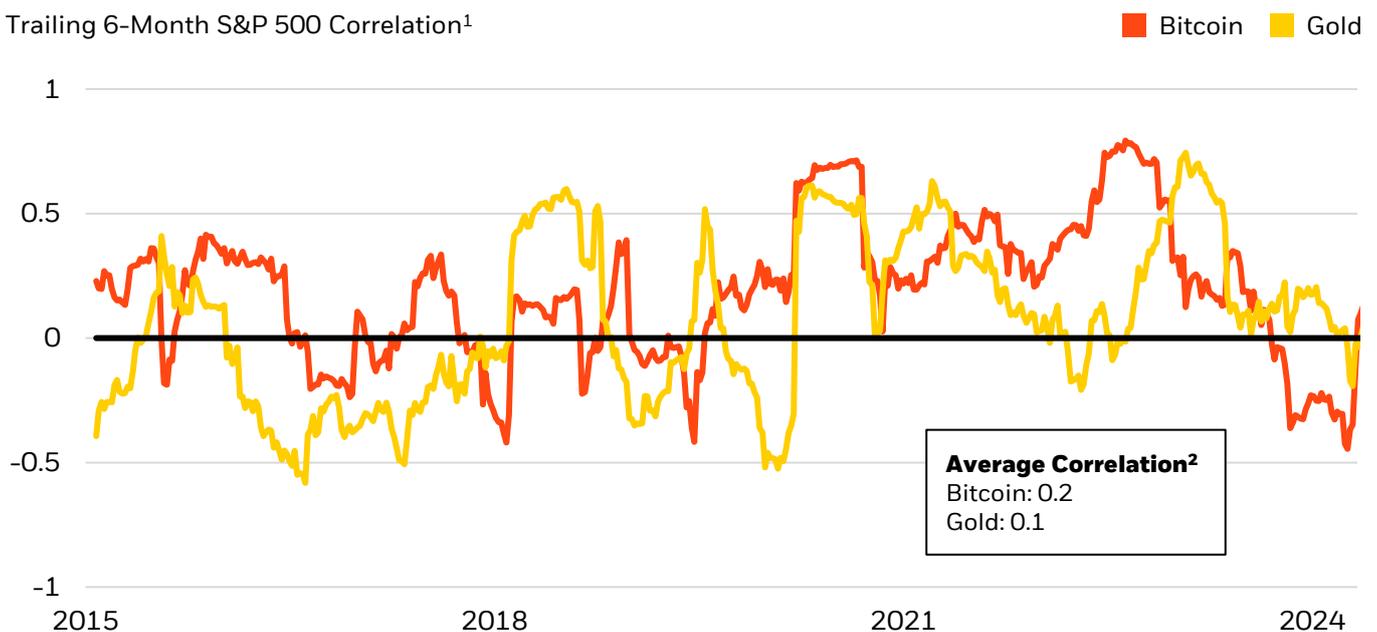


Past performance does not guarantee future results. Represents bitcoin's price performance from July 19, 2010 to July 31, 2024; the inception date reflects the launch of the first bitcoin exchange, Mt. Gox. Source: Bloomberg Bitcoin Spot Price, as of July 31, 2024.

An uncorrelated asset

Bitcoin reflects little fundamental exposure to other macro variables, explaining its low long-term average correlation with equities and other "risk assets." While there have been brief periods where bitcoin has seen its correlation spike – particularly around episodes of sudden shifts in U.S. dollar real interest rates or liquidity – these episodes have been short-term in nature and have failed to produce a clear long-term statistically significant correlation relationship.

Bitcoin has exhibited low historical correlation with U.S. equities, similar to gold, with periods of dislocation



Spot price and index performance do not reflect any management fees, transaction costs, or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. 1. 6-month trailing correlation of bitcoin and gold weekly returns to the S&P 500 from Jan. 1, 2015 to July 31, 2024. Source: Bloomberg Bitcoin Spot Price, Bloomberg Gold Spot Price, S&P Global, and BlackRock calculations, as of July 31, 2024. 2. Average 6-month trailing correlation of bitcoin and gold weekly returns with the S&P 500 over the period displayed (Jan. 1, 2015 to July 31, 2024).

Bitcoin, as the first decentralized, non-sovereign monetary alternative to gain widespread global adoption, has no traditional counterparty risk, depends on no centralized system, and is not driven by any one country's fortunes.⁷ These properties make it an asset that is largely detached (on fundamentals) from certain critical macro risk factors, including banking system crises, sovereign debt crises, currency debasement, geopolitical disruption, and other country-specific political and economic risks. Over the long term, bitcoin's adoption trajectory is likely to be driven by the degree to which concerns rise and fall over global monetary instability, geopolitical disharmony, U.S. fiscal sustainability and U.S. political stability.

Because of these attributes, bitcoin has been seen by some investors as a "flight to safety" in times of fear amid some of the most disruptive global events over the last five years. Notably, in some of these instances, bitcoin first exhibited a temporary *negative* reaction before subsequently rallying. In our view, these short-term trading reactions, which are often difficult to explain based on fundamentals, can be attributed to a combination of:

- i. The fact that bitcoin is an asset that trades 24x7 and settles to cash near instantaneously, making it a highly saleable asset during periods of stressed liquidity in traditional markets, particularly over weekends
- ii. A function of the still-immature nature of bitcoin and cryptoasset markets, and of investors' understanding around bitcoin.

In most instances, including with the recent global market sell-off of Aug. 5, 2024, bitcoin has recovered back to its prior level within days or weeks, and in many cases has rallied further as a recognition of the positive potential impact of such disruptive events on bitcoin's fundamentals begins to predominate.

S&P 500, gold, and bitcoin through major geopolitical events

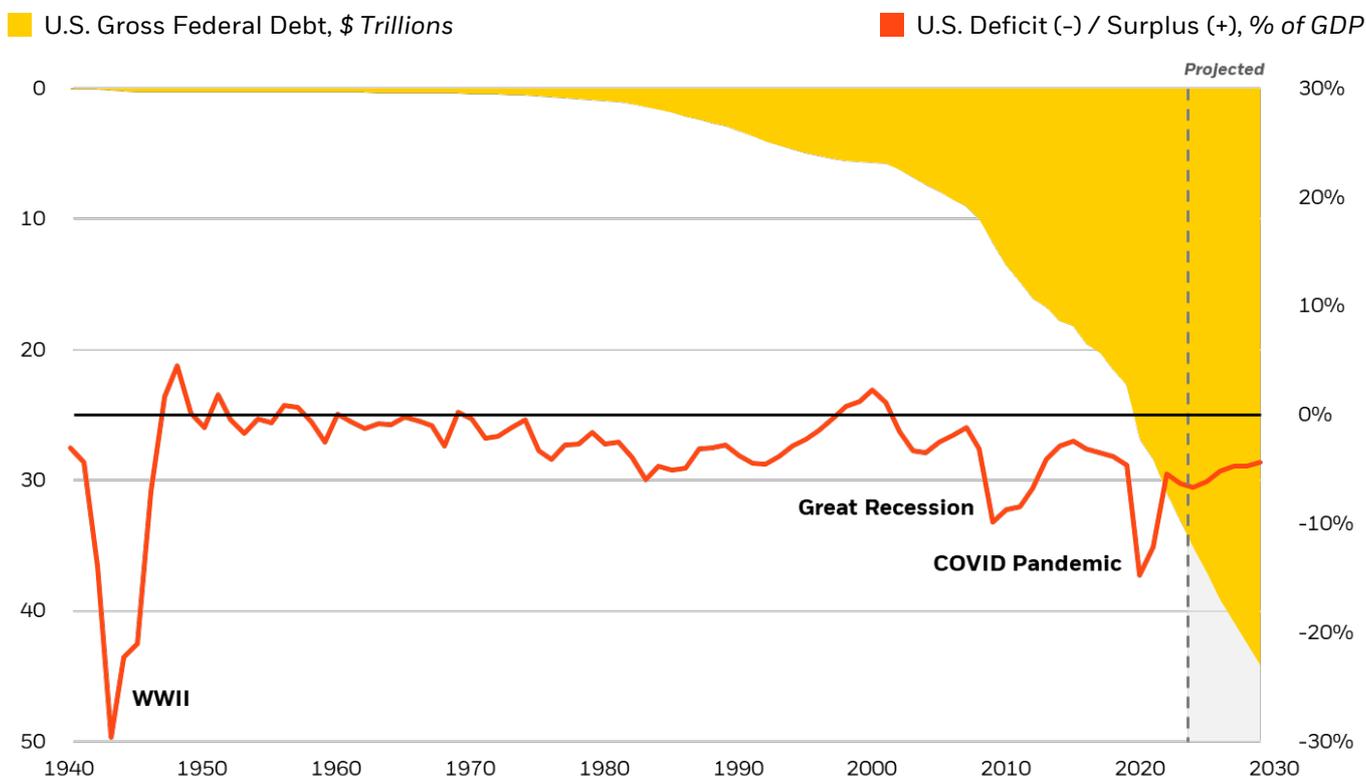
Event	Date ¹	10D Return ²			60D Return ²		
		SPX	Gold	BTC	SPX	Gold	BTC
U.S.-Iran Escalation	Jan. 3, 2020	2%	0%	12%	-7%	6%	20%
COVID Outbreak	Mar. 11, 2020	-20%	-9%	-25%	2%	3%	21%
2020 U.S. Election Challenges	Nov. 3, 2020	7%	-1%	19%	12%	-1%	131%
Russia Invasion of Ukraine	Feb. 24, 2022	1%	2%	-6%	3%	9%	15%
U.S. Regional Banking Crisis	Mar. 9, 2023	-2%	10%	25%	4%	11%	32%
Yen Carry Trade Unwinding	Aug. 5, 2024	2%	0%	0%	7%	9%	3%

Index performance is for illustrative purposes only. Index performance does not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. Index performance does not represent actual Fund performance. For actual fund performance, please visit www.iShares.com or www.blackrock.com. 1. The U.S. government killed Iranian commander Qasem Soleimani in a drone strike on Jan. 3, 2020, leading to a subsequent escalation in U.S.-Iran tensions. Source: Council on Foreign Relations. The Dow Jones Industrial Average fell 10% on March 11, 2020 amid COVID-19 fears, the index's worst drop since Black Monday of 1987. Source: CNBC. The 2020 U.S. presidential election was held on Nov. 3, 2020, with Joe Biden defeating incumbent president Donald Trump. Source: Pew Research. On Feb. 24, 2022, Russia launched a full-scale land, sea, and air invasion of Ukraine. Source: Council on Foreign Relations. On March 9, 2023, depositors initiated \$42 billion of withdrawals from Silicon Valley Bank (SVB), marking the largest bank run in U.S. history. SVB was seized by federal regulators on March 10, 2023; at the time, SVB's collapse was the second-largest U.S. bank failure. Source: WSJ. Japanese stocks collapsed on Aug. 5, 2024 in the largest single-day rout since Black Monday of 1987, reflecting the impact of the Bank of Japan's decision to raise interest rates and subsequent unwinding of yen-funded carry trades. Bitcoin was down 7% in 24 hours, before recouping losses from Aug. 5 by Aug. 8, 2024. Source: Reuters. 2. Bitcoin and gold returns calculated using Bloomberg Bitcoin Spot Price and Bloomberg Gold Spot Price, respectively; SPX is represented by the S&P 500 Index (TR). All returns rounded to the nearest percent. Source: Bloomberg and BlackRock calculations, as of Sept. 30, 2024. Returns are rounded to the nearest percent. Pink indicates negative returns. Yellow indicates returns between or equal to 0% and 10%. Green indicates returns greater than 10%. Source: Bloomberg, as of Oct. 4, 2024.

U.S. debt dynamics re-enter focus

Along this vein, the growing concerns in the U.S. and abroad over the state of U.S. federal deficits and debt has increased the appeal of potential alternative reserve assets as a potential hedge against possible future events affecting the U.S. dollar. This dynamic appears to be also taking hold in other countries where debt accumulation has been significant. In our experience with clients to date, this explains a substantial portion of the recent broadening institutional interest in bitcoin.

Accelerating U.S. debt growth



Based on historical data from 1940 to 2023 and estimates for 2024 to 2029. Source: Office of Management and Budget, *Historical Tables, Summary of Receipts, Outlays, and Surpluses or Deficits (-) as Percentages of GDP: 1930-2029*; Office of Management and Budget, *Historical Tables, Federal Debt at the End of Year: 1940-2029*, accessed on July 31, 2024.

Bitcoin is still a *risky* asset

None of the prior analysis negates the fact that bitcoin, on a standalone basis, is still very much a *risky* asset. It is an emerging technology that is still early in its adoption journey toward potentially becoming a global payment asset and store of value. Bitcoin has also been volatile and subject to myriad risks that include regulatory challenges, uncertainty over the path of adoption, and a still-immature ecosystem.

The key point, however, is that these risks are *unique* to bitcoin and not specifically shared by other traditional investment assets. Bitcoin, as such, is a particularly poignant case study in why simple “risk on” vs. “risk off” frameworks can lack the nuance to be broadly useful.

From a portfolio perspective, this is why bitcoin exposure held at modest allocations can have a diversifying effect on portfolios, whereas at larger position sizes its elevated standalone volatility starts to have an outsized impact in increasing portfolio risk.⁸

8. Historically, the impact of adding bitcoin to a traditional 60/40 portfolio of equities and fixed income, respectively, at low single digit percentages had a material positive impact on the Sharpe Ratio (as well as various other metrics of risk-adjusted return) while at large percentages, it contributed to a significant increase in portfolio volatility. Equities represented by allocation to MSCI ACWI Investable Market Index (IMI). Fixed income is represented by allocation to Bloomberg US Aggregate Bond Index. Allocations to bitcoin are funded from equities, and portfolios are assumed to be rebalanced on a quarterly basis. Source: Bloomberg, Morningstar, and BlackRock analysis from May 1, 2014 to April 30, 2024. Sharpe Ratio is a measure of return per unit of risk. It is calculated by subtracting the risk-free rate from the total return and dividing the result by the standard deviation. A higher Sharpe Ratio implies greater efficiency.

Conclusion

While bitcoin has shown instances of short-term co-movements with equities and other “risk assets,” over the longer term its fundamental drivers are starkly different, and in many cases inverted, versus most traditional investment assets.

As the global investment community grapples with rising geopolitical tensions, concerns over the state of U.S. debt and deficits, and increased political instability around the world, bitcoin may be seen as an increasingly unique diversifier against some of these fiscal, monetary and geopolitical risk factors investors may face elsewhere in their portfolios.

The iShares Trusts are not investment companies registered under the Investment Company Act of 1940, and therefore are not subject to the same regulatory requirements as mutual funds or ETFs registered under the Investment Company Act of 1940.

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