



Bitcoin's Role in Corporate Treasuries, AI Finance, and Machine Economies

From Store of Value to Digital Infrastructure

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Executive Summary

This report, the second in a three-part Bitcoin series, examines Bitcoin's evolving position as a strategic digital asset amid intensifying global debt pressures and shifting reserve management paradigms. Building on prior analyses, it highlights how mounting fiscal challenges, particularly in the U.S., underscore the urgent need for diversification away from traditional safe havens like U.S. Treasuries.

We identify Bitcoin's growing stability through volatility convergence with gold and increasing integration into corporate treasury strategies, marking its transition toward a credible store of value. The report projects Bitcoin could reach \$126,000 based on volatility-adjusted valuations as institutional adoption accelerates. Additionally, we explore the transformative potential of emerging technologies, including AI-driven finance and machine economies, positioning Bitcoin as foundational infrastructure for next-generation digital economic systems.

By situating Bitcoin within macroeconomic pressures, corporate adoption trends, and emerging AI-driven economies, this report demonstrates Bitcoin's transition from speculative asset to essential financial infrastructure and foundational layer for next-generation digital commerce.

Introduction

Bitcoin's institutional adoption is accelerating against a backdrop of unprecedented fiscal strain in developed economies. This report examines three converging forces reshaping Bitcoin's role: mounting sovereign debt pressures driving reserve diversification, Bitcoin's declining volatility profile approaching that of traditional safe havens, and emerging technological infrastructure, particularly AI-driven finance and machine economies, that positions Bitcoin as a strong candidate to become a foundational layer for next-generation economic systems.

The analysis reveals that as U.S. debt trajectories become unsustainable and traditional reserve assets face repricing risks, Bitcoin is viewed by a growing number of strategists as an increasingly compelling alternative for treasury diversification. Simultaneously, Bitcoin's maturation as measured by volatility metrics and corporate adoption patterns demonstrates its evolution from speculative instrument to strategic reserve asset.

Looking forward, the integration of Bitcoin into autonomous AI systems and machine-to-machine payment networks could fundamentally expand its utility beyond store of value toward becoming the operating currency layer for digital economies. These intersecting trends suggest Bitcoin's trajectory has the potential to extend well beyond current market dynamics, positioning it to become a form of critical infrastructure in the global financial system.

Sovereign Debt Pressures and Treasury Diversification

U.S. debt dynamics and the shift away from Treasury securities

For decades, both sovereign and corporate global treasuries have depended on U.S. Treasury securities as the foundation of their reserve portfolios, valuing them for their exceptional liquidity and reputation as reliable "safe haven" assets. Recent declines in U.S. Treasury holdings can be linked to external factors such as the ongoing trend of de-dollarization, as explored in the previous report. More recently, prominent voices in the asset management sector have begun raising alarms over a looming U.S. debt crisis, which could accelerate the shift toward alternative reserve assets.

Amid a prolonged era of increased economic uncertainty and stagnation, governments worldwide have increased their borrowing and budget deficits in an effort to achieve a "soft landing" for their economies. The United States is not unique in adopting this traditional approach; major economies including the UK, the EU, and China are grappling with comparable debt and deficit challenges. Japan, in particular, is frequently noted for having the highest debt-to-GDP ratio at 215%. However, the rapid expansion of U.S. borrowing carries potentially greater consequences given its status as the global reserve currency.

The U.S. currently faces severe fiscal imbalances: annual expenses exceed revenues by approximately 40%, total debt approaches \$30 trillion, and debt servicing costs now consume roughly double the government's annual revenue. Projections from leading fiscal analysts suggest the debt could surge to \$55-60 trillion over the next decade, compounding fiscal strain and dampening demand for U.S. debt instruments. Ray Dalio, founder of Bridgewater Associates, has issued stark warnings about these trajectories in his book *How Countries Go Broke: The Big Cycle*, arguing that today's fiscal imbalances are more severe than historical precedents and that the U.S. appears to be following a path where reserve currencies lose status amid rising debt and currency devaluation.

Even short of a catastrophic collapse or return to the gold standard, the attractiveness and returns on U.S. Treasuries are expected to decline sharply. Drawing parallels to Japan, where investors in Japanese government bonds have incurred losses of up to 45% relative to U.S. bondholders between 2013 and 2024, U.S. debt investors could face comparable steep losses globally if current fiscal trends persist.

In light of a likely continued trajectory of fiscal expansion and less restrained government spending, investors face a powerful incentive to diversify their reserve holdings to mitigate the risks of costly asset repricing. Dalio recommends portfolios underweight debt assets while increasing allocations to gold and "a bit of Bitcoin."

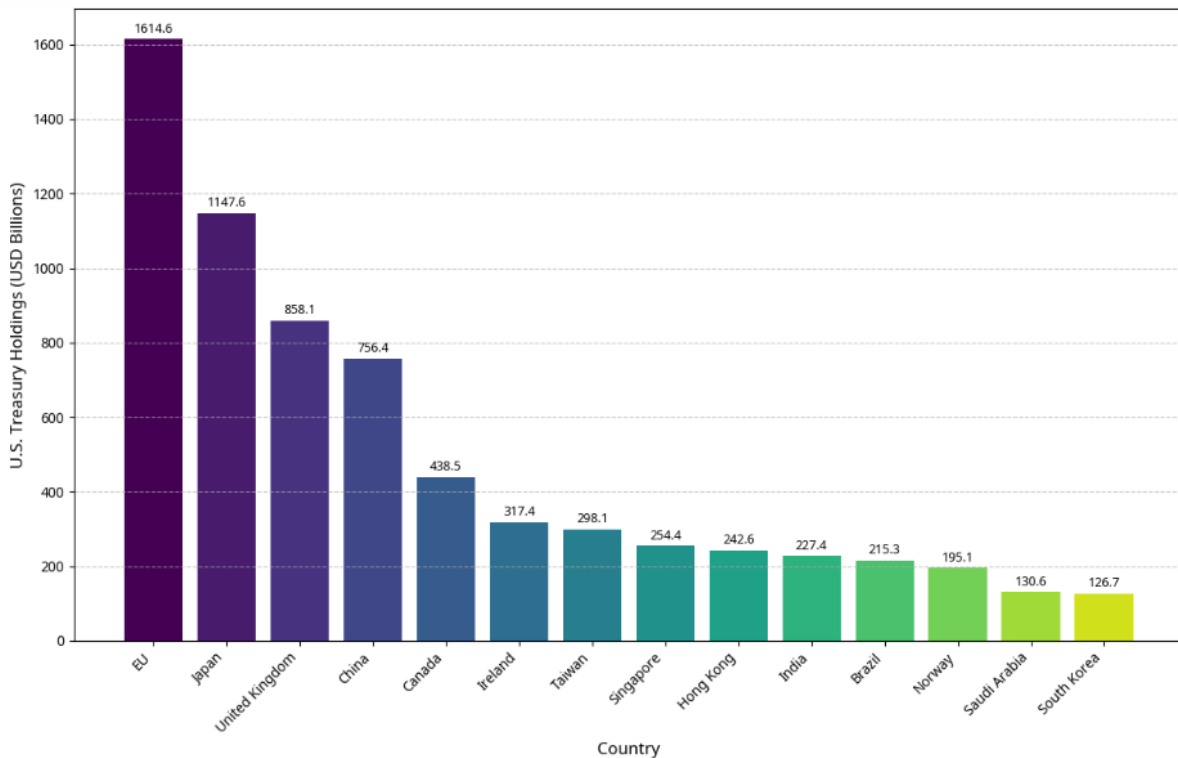


Fig 1. Top Foreign Holders of U.S. Treasury Securities as of 06/2025, ex-offshore centers

While Dalio's recommendation of "a bit of Bitcoin" lacks precise allocation guidance, even modest portfolio rotation would generate substantial capital flows. Foreign holders currently maintain approximately \$6.8 trillion in U.S. Treasury securities, excluding offshore financial centers. A 1% reallocation into Bitcoin would represent over \$68 billion in inflows, significant relative to Bitcoin's market capitalization and capable of materially impacting price discovery. While geopolitical factors will inevitably influence this dynamic, gradual divestment from U.S. Treasuries by less politically aligned countries could substantially elevate Bitcoin's role in treasury reserve management in the foreseeable future.

Volatility Convergence and Growing Institutional Confidence

Bitcoin is increasingly seen as a maturing asset as its price volatility converges with that of gold, a traditional safe-haven investment. In 2025, Bitcoin's annualized six-month rolling volatility plummeted to a record low of around 30%, narrowing the volatility ratio between Bitcoin and gold to just below 3:1. This marks a dramatic decline from approximately 60% at the start of the year, narrowing the gap toward gold's typical 15% volatility range. Average volatility for Bitcoin has also been trending down over multi-year periods, suggesting that the risk profile for Bitcoin may be undergoing a fundamental shift.

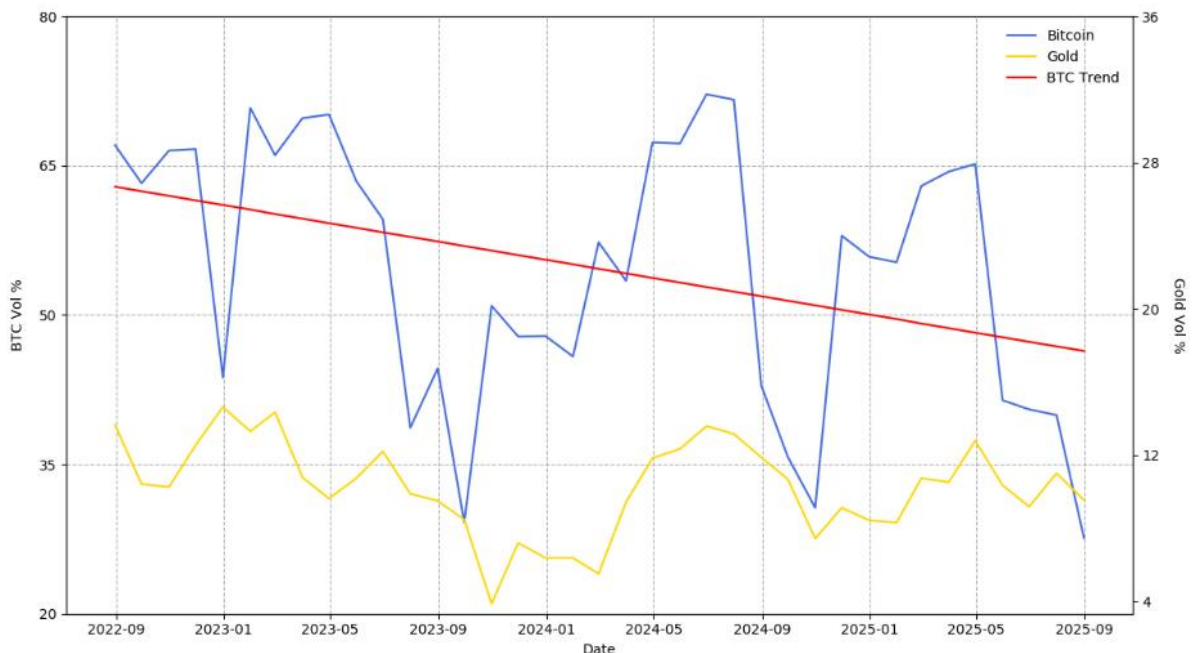


Fig 2. 3-year rolling 6-month annualized volatility for Bitcoin & Gold

As a result, Bitcoin's risk profile is becoming more comparable to that of gold, making it an increasingly attractive option for institutional investors seeking stable store-of-value alternatives amid ongoing macroeconomic uncertainties. JPMorgan analysts estimate that based on volatility-adjusted valuation, Bitcoin could reach a fair value near \$126,000, underscoring potential upside as volatility collapses and adoption increases.

Driving this newfound stability is the growing role of corporate treasuries in Bitcoin markets. More than 6% of Bitcoin's total supply is now held by publicly traded companies and other corporate entities, whose cumulative purchases have contributed to dampening price swings. This trend mirrors past financial

phenomena, such as how central bank quantitative easing calmed bond market volatility.

Leading companies like MicroStrategy, which holds over 629,000 Bitcoins valued near \$72 billion as of September 2025, continue aggressive accumulation strategies despite market fluctuations. Other firms, including Japan's Metaplanet which has been added to global benchmarks by FTSE Russell following its upgrade to mid-cap status, are joining this adoption wave, further institutionalizing Bitcoin as a reserve asset alongside traditional holdings like gold.

This corporate treasury involvement coupled with recognition by major index providers has increased passive capital inflows, reinforcing Bitcoin's market liquidity and stability. The institutional embrace is widening as over 180 companies now hold Bitcoin as part of their strategic reserves, and industry surveys project that by year-end 2025, institutional portfolio allocations to Bitcoin could reach significant penetration levels. This represents a significant evolution from Bitcoin's earlier characterization as an ultra-volatile speculative asset to one increasingly recognized for stability and strategic value in diversified institutional portfolios.

Overall, the convergence in volatility between Bitcoin and gold, paired with substantial corporate treasury adoption, signals Bitcoin's transition toward a more established store-of-value role. As Bitcoin stabilizes and becomes entrenched in corporate treasury strategies, it complements gold in new reserve management paradigms, offering diversified, volatility-adjusted investment opportunities for a broadening set of institutional stakeholders in an evolving financial landscape.

Bitcoin as infrastructure for autonomous digital economies

The future of Bitcoin lies at the intersection of emerging technologies and evolving economic systems. As artificial intelligence takes on greater roles in financial decision-making and autonomous machines conduct billions of micro-transactions daily, Bitcoin is well-positioned to serve as a key infrastructural layer underpinning these activities.

AI agents and Bitcoin's role in autonomous financial systems

Bitcoin's role in autonomous financial systems became tangible in August 2024 when the first AI-to-AI cryptocurrency transaction occurred on

Coinbase's platform, with one artificial intelligence agent purchasing LLM tokens from another under developer supervision. As Coinbase CEO Brian Armstrong noted, the efficiency of AI agents fundamentally depends on their capacity for autonomous transaction execution without human intermediation.

Although the infrastructure to support large-scale AI-to-AI transactions remains in its early stages, the ongoing advancement of AI technology is expected to fundamentally reshape global financial markets and economic systems over the next several decades. Increasingly capable AI agents are anticipated to manage investment portfolios, operate as autonomous economic entities, and carry out transactions on behalf of users, such as purchasing digital content for marketing campaigns or enabling automated devices like drones to negotiate payment for services.

While stablecoins currently dominate as the primary medium for these transactions, Bitcoin's distinctive features, particularly its neutrality and predictable monetary policy, make it a prime candidate to emerge as a foundational asset for the future digital asset ecosystem. As the crypto-ecosystem expands, a new generation of stablecoins backed by diversified baskets of digital assets, rather than fiat money, is likely to emerge.

Bitcoin's fixed supply and established reputation as a durable store of value position it as a critical backing asset for these next-generation stablecoins. This characteristic enables the maintenance of stablecoin pegs over time, providing long-term value stability. Moreover, Bitcoin's extensive transaction volume and deep market liquidity, evident across both centralized and decentralized exchanges, demonstrate its capability to support the operational and security demands of this evolving digital financial infrastructure.

Together, these factors underpin Bitcoin's growing role as an essential digital store-of-value and suggest its continued inclusion and strategic importance within future digital economies.

Machine-to-machine transactions and Bitcoin's scaling solutions

Closely linked to AI-driven finance is the concept of machine economies powered by the Internet of Things, wherein billions of interconnected devices engage in micro-transactions autonomously, without human involvement.

The proliferation of Internet-of-Things devices and autonomous systems creates demand for micropayment infrastructure capable of processing

billions of transactions at near-zero cost. Consider electric vehicles automatically compensating charging stations in real time, weather sensors selling discrete data points to autonomous drones, or industrial equipment streaming per-second payments for maintenance services. Traditional financial infrastructure is neither designed nor economically viable to process these minuscule, high-frequency payments.

Bitcoin's second-layer scaling solutions, especially the Lightning Network, are exceptionally well-suited to address these barriers by enabling instant, near-zero-fee micropayments.

Lightning operates as a payment scaling protocol built atop Bitcoin that allows off-chain peer-to-peer payment channels, bypassing on-chain transaction delays and fees. It supports near-instant transactions with completion times averaging less than half a second and transaction fees that can approach zero, making it economically feasible for machine-to-machine (M2M) microtransactions.

The "Lightning Network: Expanding Bitcoin Use Cases" report published by Fidelity Digital Assets in early 2025 highlighted that since its inception in 2016 and full launch in 2018, the Lightning Network has increasingly gained adoption momentum, particularly in 2024 with integration into major U.S. cryptocurrency exchanges such as Kraken and Coinbase.

The report documented significant network growth: public channel capacity has grown 384% in bitcoin terms since 2020, reaching over 5,358 BTC by January 2025. Additionally, the network experienced average node capacity growth of approximately 251% from mid-2021 to late 2024, with some enterprise-managed channels reaching capacities as high as 10 BTC.

This machine adoption of Bitcoin and the Lightning Network could exponentially increase transaction volume and value flow across the Bitcoin ecosystem, with the potential to expand Bitcoin's role from a store of value to a critical settlement and reserve asset for machine economies.

Conclusion

Building on the insights from "Bitcoin at an Inflection Point," this report illuminates Bitcoin's evolution amid fiscal uncertainty, shifting reserve dynamics, and technological innovation. Mounting U.S. debt and global economic pressures highlight an urgent need for diversification away from traditional safe havens like U.S. Treasuries. Bitcoin is emerging as a credible alternative store of value, supported by converging volatility with gold, growing institutional adoption, and increasing corporate treasury integration.

Bitcoin's declining price volatility, substantial corporate holdings, and passive capital inflows underscore its transition from speculative asset to strategic portfolio component. Recognition from major index providers and accelerating adoption among publicly traded companies reflect a fundamental shift in market perception and institutional confidence.

The integration of Bitcoin with emerging technological infrastructure, particularly AI-driven finance and machine economies, signals transformative expansion beyond traditional investment paradigms. Bitcoin's fixed supply, established liquidity, and scalable Lightning Network capabilities position it as backbone infrastructure for autonomous, high-frequency microtransactions foundational to the emerging digital economy.

As global debt burdens intensify and technological systems gain autonomy, Bitcoin's combination of monetary scarcity, network security, and programmable infrastructure becomes critical financial infrastructure for the coming decades. The convergence of fiscal necessity, institutional adoption, and machine economy development represents fundamental expansion of Bitcoin's role from alternative asset to essential digital reserve layer. Investors and institutions recognizing this transition early will be positioned to capitalize on Bitcoin's evolution from digital commodity to foundational monetary protocol of the digital age.

Data and information as of Sept 2025

