From theory to allocation:

MANAGING DIGITAL ASSETS IN CLIENT PORTFOLIOS





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21shares
BY FALCONX

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KEY TAKEAWAYS

01 Strategic integration

The central challenge has shifted from whether to include digital assets to how to optimize sizing and positioning for specific client profiles.

02 Distinct portfolio roles

Bitcoin functions as a macro diversifier within alternatives, while Ethereum and Solana provide targeted exposure to digital financial infrastructure.

03 Execution over timing

Historically, small, disciplined allocations have enhanced risk-adjusted returns with manageable volatility. Systematic rebalancing keeps the allocation at its intended size, so outcomes rest on discipline rather than market timing.

Digital assets have moved from speculative curiosities to institutional holdings with distinct strategic roles. Despite that maturity, many advisors still find it hard to settle on allocation sizes and explain the rationale to clients. This report offers a pragmatic framework: we define clear portfolio roles for Bitcoin, Ethereum and Solana, then test them in a back-tested 60/40 model, where small, disciplined allocations paired with systematic rebalancing were associated with better risk-adjusted returns and manageable drawdowns.



01

STRATEGIC ALLOCATION AND PORTFOLIO DYNAMICS

As digital assets enter mainstream financial markets, their portfolio behavior has become clearer: a return stream largely independent of traditional assets, and a risk profile that has improved materially. Together, these strengthen the case for a strategic allocation.

LOW LONG-TERM CORRELATION

The diversification case for digital assets

A well-built portfolio relies on assets that do not move in lockstep. Over the last three years, rolling monthly correlations between traditional assets have stayed high. US equities and emerging markets sit at 65%, with real estate at 52%. Digital asset correlations can spike during short bouts of stress, but over the full period Bitcoin, Ethereum and Solana have kept low average correlations of 31% to 34%. These assets may move with broader markets over a few weeks, but over three years they provide a largely independent return stream.

Looking at each asset individually, Bitcoin's correlation to US equities is 38%, and it remains effectively uncorrelated to gold at 4%, although the two have moved more closely in recent months. Ethereum and Solana are more sensitive to equities, at 49% and 39%, which fits their role as tech-growth assets, yet they remain far from the tight clustering seen in traditional markets. The link between traditional and digital markets has strengthened since COVID, but in our view it remains modest and regime-dependent. For advisors, this means that even a small crypto allocation brings a real diversification benefit.

Figure 1

Digital assets can offer significant diversification benefits

	US equities	Tech equities	Emerging equities	US long-term treasuries	Real estate	Gold	Bitcoin	Ethereum	Solana
US equities	100%								
Tech equities	94%	100%							
Emerging equities	65%	65%	100%						
US Long-term treasuries	19%	10%	25%	100%					
Real estate	52%	33%	42%	70%	100%				
Gold	2%	-6%	30%	12%	13%	100%			
Bitcoin	38%	34%	8%	-4%	11%	4%	100%		
Ethereum	49%	45%	12%	-7%	9%	-12%	83%	100%	
Solana	39%	32%	8%	12%	24%	2%	82%	72%	100%
Average correlation	45%	38%	32%	17%	32%	6%	32%	31%	34%

Source: 21shares, Data from TradingView. Correlation calculated on a 1M rolling return window from October 1, 2023 to September 30, 2026.

VOLATILITY TRENDS

From speculative risk to manageable factor

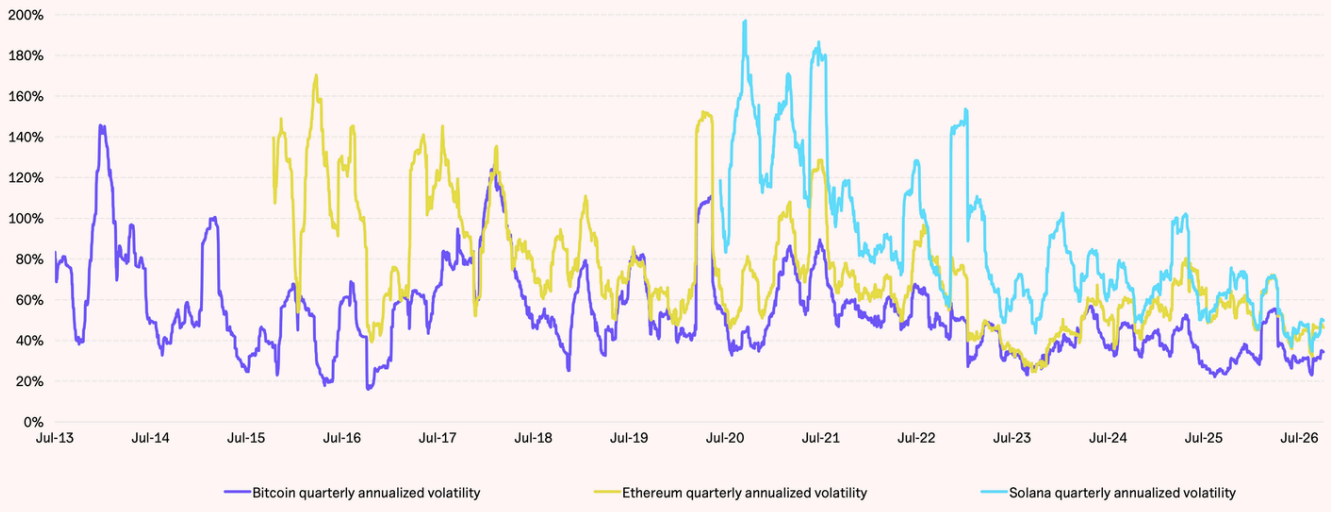
Volatility is a common objection to digital assets, yet the trend suggests this is a reflection of the past rather than the future. Bitcoin's volatility has shifted structurally. Its rolling three-month volatility averaged close to 60% before 2024, with peaks well above 100% in earlier cycles, and has averaged around 38% since US spot ETFs launched in January 2024. It currently sits around 34%, after dipping into the low 20s in August.

That puts Bitcoin in the same range as high-growth US stocks that many advisors already hold without treating volatility as a disqualifying factor. Measured over the past twelve months on US trading days, to compare like for like with equities, Bitcoin's volatility of 44% was below Tesla's (46%) and well below Palantir's (59%). Ethereum and Solana remain more volatile as earlier-stage assets, at around 46% and 50% on the three-month measure, but they are following a similar maturing path as institutional participation deepens. We think this shift is structural rather than cyclical: patient capital via ETFs has replaced speculative flows as the dominant marginal buyer.

Within the model in this report, appropriately sized digital asset sleeves combined with systematic rebalancing showed a favorable trade-off between volatility and portfolio returns over the observation period.

Figure 2

The crypto market's volatility continues to trend down as the industry matures



Source: 21shares, data from TradingView from July 16, 2013 to September 30, 2026.



02

DEFINING PORTFOLIO ROLES AND ASSET CLASSIFICATIONS

While Bitcoin, Ethereum, and Solana all leverage blockchain technology, they serve distinct roles in a portfolio dictated by their respective classifications and maturity levels.

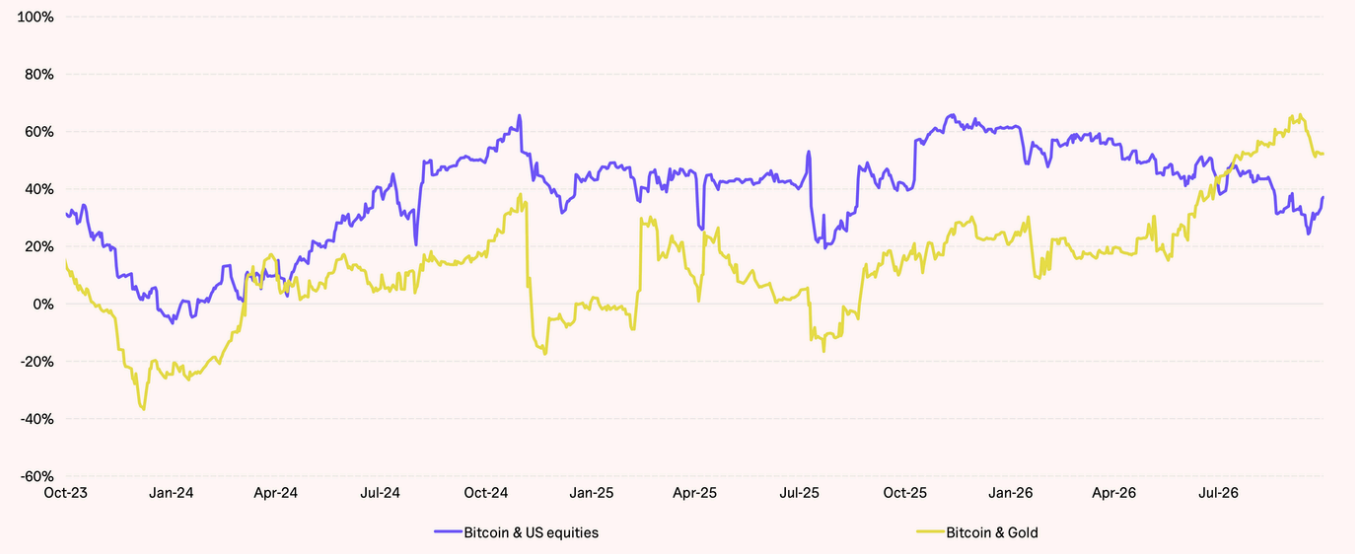
BITCOIN: THE DIGITAL RESERVE ASSET

Bitcoin is best understood as an emerging digital store of value, and a debasement hedge by design. Its supply is capped at 21 million, enforced by code rather than by any central bank, so it cannot be diluted as fiscal deficits and balance-sheet expansion erode the value of fiat currencies. It is also a hedge with no counterparty: it can be held and moved anywhere with an internet connection, outside the reach of the confiscation, debasement and capital controls that tend to follow stressed banking systems. At the same time, it keeps a positive beta to technology, capturing the wider adoption curve as blockchain becomes part of financial infrastructure.

We think this is why demand for neutral, non-sovereign assets is rising structurally. Governments find it hard to cut spending or let rates rise without triggering a crisis, so the path of least resistance is to inflate the debt away, which hurts cash and bonds and rewards scarce assets. August's Treasury buybacks reinforced this regime, and gold and Bitcoin rallied together: Bitcoin's short-term correlation to gold rose to around 50% by quarter end, from 44% in June, while its correlation to equities eased below 40%. Over three years, though, its correlation is still only 4% to gold and 38% to equities. In other words, Bitcoin moves on its own drivers over time but can trade with gold when debasement fears rise. In our view, that is why it belongs in the alternatives category, alongside gold and other hard assets, rather than as an extension of a typical equity playbook.

Figure 3

Bitcoin's rolling quarterly correlation to traditional risk-on and risk-off assets



Source: 21shares, Data from TradingView from October 1, 2023 to September 30, 2026.

ETHEREUM AND SOLANA: DIGITAL INFRASTRUCTURE EXPOSURE

Ethereum and Solana belong in the tech equities category because of what they represent as investments. Both are programmable networks whose value rests on adoption, network effects and usage fees, much like a growth-stage platform technology business, offering exposure to blockchain-native infrastructure that traditional equity indices do not capture.

Their market behavior fits that role. Over three years, their correlations to tech equities were 45% and 32%, enough to reflect shared roots in innovation but well below the 94% between US and tech equities. These links also shift: Ethereum's quarterly correlation to the Nasdaq fell from 54% at the end of June to 26% by the end of September. In our view, that is a feature rather than a flaw, as protocol-specific drivers offer a different and potentially more asymmetric source of growth.

The difference between the two comes down to maturity and risk appetite. Ethereum, a neutral global computer for payments, lending and trading, is a core innovation holding. Solana, with a more nascent ecosystem, is a higher-beta growth satellite for investors with higher risk tolerance and conviction in the next wave of application adoption.

Figure 4

Broader crypto market's rolling quarterly correlation to traditional tech



Source: 21shares, Data from TradingView from October 1, 2023 to September 30, 2026.

CLIENT ALLOCATION FRAMEWORK

The hypothetical illustrations below show how digital asset exposure can be structured across different risk tolerances. They are educational examples, not investment advice. Actual allocations should reflect each investor's individual circumstances.

- **Conservative: small, opportunistic exposure (1% to 3% Bitcoin)**. For cautious clients, the conversation typically starts with Bitcoin only. The framing is simple: it is the most established digital asset, with more than a decade of history, regulated ETF access and growing adoption by sovereign and corporate investors.
- **Moderate: broader digital asset exposure (3% to 4% Bitcoin and Ethereum)**. For clients ready to look beyond Bitcoin, adding Ethereum builds on the conservative foundation. It extends the portfolio's reach to the infrastructure layer of the digital financial system through a core, liquid asset.
- **Growth-oriented: full digital asset allocation (4% to 5% Bitcoin, Ethereum and Solana)**. These three assets make up roughly 81% of the digital asset market (excluding stablecoins).[2] This suits clients with higher risk tolerance and conviction in the long-term direction of the industry. The framework becomes a complete three-asset allocation: Bitcoin as the alternatives anchor, Ethereum as core infrastructure and Solana as a growth satellite.

BITCOIN, ETHEREUM, AND SOLANA COMPARED

	Behavioral profile	Portfolio role
Bitcoin (BTC)	Non-sovereign store of value with a supply fixed at 21 million by protocol; low long-run correlation to equities and bonds.	Alternatives sleeve: alongside gold and other hard assets; the natural entry point for conservative clients.
Ethereum (ETH)	Foundational infrastructure layer for the digital financial system; correlated with tech equities, driven by developer adoption and network usage.	Tech equities sleeve: core blockchain exposure alongside core innovation holdings, adding a layer of the digital economy that Nasdaq constituents don't capture.
Solana (SOL)	Higher-throughput, lower-cost network; high beta to the tech complex, driven by more pronounced volatility and an asymmetric growth profile.	Tech equities sleeve: growth satellite as a selective position for clients with higher risk tolerance; sized accordingly.



03

THE IMPACT OF DIGITAL ASSETS ON A 60/40 PORTFOLIO

To isolate the impact of digital assets, we tested each allocation within a standard 60% equities and 40% bonds portfolio. All digital asset allocations were funded from the equity sleeve:

- **Conservative**: 2% BTC
- **Moderate**: 3% BTC + 1% ETH
- **Growth**: 3% BTC + 1.5% ETH + 0.5% SOL

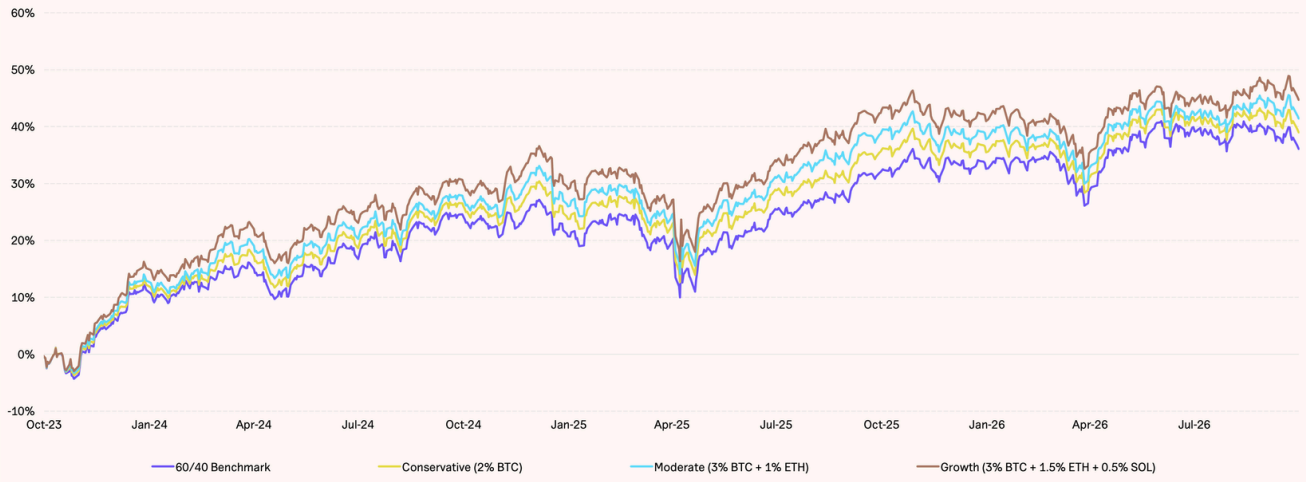
We tested five rebalancing frequencies over the three-year observation period, and every one of them improved risk-adjusted returns once digital assets were added. We use quarterly rebalancing as the main sample because it is a common institutional cadence and it keeps every portfolio close to its target risk. As with any historical analysis, results reflect the specific period and assumptions modeled and are not indicative of future performance.

IMPROVED RETURNS ACROSS ALL CLIENT PROFILES

Under quarterly rebalancing, the last three years give a clear picture: digital assets improved portfolio outcomes across all three profiles.

Figure 5

Crypto is additive to a traditional 60:40 portfolio



Source: 21shares, Data from TradingView from October 1, 2023 to September 30, 2026.

The three sample allocations point to four consistent findings:

- **Stronger risk-adjusted returns**: With quarterly rebalancing, the benchmark delivered an annualized return of 10.86%, a Sharpe ratio of 0.57 and a Sortino ratio of 0.81. All three test portfolios improved on every risk-adjusted measure, with returns of 11.64% to 13.17%, Sharpe ratios of 0.64 to 0.74 and Sortino ratios of 0.91 to 1.08.
- **Manageable volatility**: Despite the higher standalone volatility of digital assets, total portfolio volatility barely moved, rising by only 0.02% to 0.43%. Crypto volatility does not carry through one-for-one when the sleeve is sized appropriately.
- **Contained downside risk**: The conservative portfolio's maximum drawdown stayed within 0.12% of the benchmark. The growth portfolio added only 1.34% of drawdown while delivering 2.31% of additional annualized return, a trade-off we think most investors would accept.
- **Rebalancing as risk control:** Periodically resetting to target weights keeps the crypto sleeve at its intended size. Over this window, a steady uptrend favored portfolios left to drift, so the "rebalancing alpha" often associated with these assets was less visible. Its value showed in risk instead, as the next section shows.

Figure 6

Traditional 60/40 portfolio vs. digital asset portfolios

Performance metrics	Benchmark Quarterly rebalance	Conservative portfolio Quarterly rebalance	Moderate portfolio Quarterly rebalance	Growth-oriented portfolio Quarterly rebalance
Annualized return	**10.86%**	**11.64%**	**12.30%**	**13.17%**
Annualized volatility	**11.25%**	**11.27%**	**11.48%**	**11.68%**
Sharpe ratio	**0.57**	**0.64**	**0.68**	**0.74**
Sortino ratio	**0.81**	**0.91**	**0.98**	**1.08**
Max drawdown	-13.48%	-13.60%	-14.26%	-14.82%
Max drawdown vs benchmark	—	-0.12%	-0.78%	-1.34%

Source: 21shares, Data from TradingView from October 1, 2023 to September 30, 2026.

REBALANCING: KEEPING RISK WHERE IT WAS INTENDED

Over the last three years, a steady rise in digital assets favored portfolios that were left to drift, as the crypto sleeve grew on its own. That extra return came with additional risk: without rebalancing, the growth portfolio's maximum drawdown was 17.83% against 14.82% with quarterly rebalancing, and its volatility rose from 11.68% to 13.48%.

The value of rebalancing shows most clearly across a full cycle. From September 2020 to September 2023, a period covering both the 2021 rally and the 2022 drawdown, quarterly rebalancing held the growth portfolio's maximum drawdown to 31.37%, close to the benchmark's 28.69%, compared with 50.56% without it. Volatility was 13.99% rather than 22.87%. The moderate portfolio showed the same pattern, with a 30.59% drawdown against 36.78%.

The best frequency varies with market conditions. In a steady decline, such as the one from November 2021 to the end of 2022, unrebalanced portfolios lost slightly less, by under one percentage point a year, as their crypto weight shrank naturally. In our view, the key benefit of rebalancing is that it keeps the allocation at the size the client chose, whatever the market does next. A consistent rule matters more than the exact frequency.

Figure 7

Conservative: 2% Bitcoin allocation

Performance metrics	Benchmark	Conservative Portfolio				
	Quarterly rebalance	Weekly rebalance	Monthly rebalance	Quarterly rebalance	Annual rebalance	No rebalance
Annualized return	**10.86%**	**11.47%**	**11.32%**	**11.64%**	**11.87%**	**13.18%**
Annualized volatility	**11.25%**	**11.33%**	**11.27%**	**11.27%**	**11.27%**	**12.00%**
Sharpe ratio	**0.57**	**0.62**	**0.61**	**0.64**	**0.66**	**0.72**
Sortino ratio	**0.81**	**0.89**	**0.87**	**0.91**	**0.94**	**1.05**
Max drawdown	-13.48%	-13.59%	-13.65%	-13.60%	-13.30%	-14.78%
Max drawdown vs benchmark	—	-0.11%	-0.17%	-0.12%	0.18%	-1.30%

Moderate: 3% Bitcoin and 1% Ethereum allocation

Performance metrics	Benchmark	Moderate Portfolio				
	Quarterly rebalance	Weekly rebalance	Monthly rebalance	Quarterly rebalance	Annual rebalance	No rebalance
Annualized return	**10.86%**	**11.94%**	**11.84%**	**12.30%**	**12.21%**	**13.48%**
Annualized volatility	**11.25%**	**11.51%**	**11.46%**	**11.48%**	**11.50%**	**12.50%**
Sharpe ratio	**0.57**	**0.65**	**0.64**	**0.68**	**0.67**	**0.72**
Sortino ratio	**0.81**	**0.94**	**0.93**	**0.98**	**0.97**	**1.04**
Max drawdown	-13.48%	-14.26%	-14.30%	-14.26%	-13.92%	-15.81%
Max drawdown vs benchmark	—	-0.78%	-0.82%	-0.78%	-0.44%	-2.33%

Growth-oriented: 3% Bitcoin, 1.5% Ethereum, and 0.5% Solana allocation

Performance metrics	Benchmark	Growth-oriented Portfolio				
	Quarterly rebalance	Weekly rebalance	Monthly rebalance	Quarterly rebalance	Annual rebalance	No rebalance
Annualized return	**10.86%**	**12.39%**	**12.38%**	**13.17%**	**12.85%**	**13.98%**
Annualized volatility	**11.25%**	**11.69%**	**11.64%**	**11.68%**	**11.70%**	**13.48%**
Sharpe ratio	**0.57**	**0.68**	**0.68**	**0.74**	**0.72**	**0.70**
Sortino ratio	**0.81**	**0.98**	**0.98**	**1.08**	**1.03**	**1.02**
Max drawdown	-13.48%	-14.78%	-14.81%	-14.82%	-14.47%	-17.83%
Max drawdown vs benchmark	—	-1.30%	-1.33%	-1.34%	-0.99%	-4.35%

Source: 21shares, Data from TradingView from October 1, 2023 to September 30, 2026.

Footnotes:

1. Source: 21shares, Data from TradingView from October 1, 2023 to September 30, 2026.
2. Combined market capitalization of Bitcoin, Ethereum, and Solana as a percentage of total cryptocurrency market capitalization (excluding stablecoins). Source: CoinGecko, as of September 30, 2026.

FROM THEORY TO ALLOCATION:

For advisors, the question has moved from whether digital assets belong in client portfolios to how they should be sized and held. Over the three years to September 2026, Bitcoin, Ethereum and Solana kept average correlations of 31% to 34% to traditional assets, and Bitcoin's volatility has compressed since US spot ETFs launched. In our back-tested model, small allocations funded from the equity sleeve lifted annualized returns by 78 to 231 basis points and improved Sharpe and Sortino ratios across every profile, while portfolio volatility barely moved and drawdowns stayed within 1.34% of the 60/40 benchmark.

Clear roles make the case easier to explain to clients: Bitcoin as the alternatives anchor, Ethereum as the innovation core and Solana as a selective growth satellite. Discipline matters as much as size. Rebalancing did not lift returns in every test, but it kept each portfolio at the risk level the client chose, most visibly across the full 2020 to 2023 cycle. In our view, a consistent rule matters more than the exact frequency.

These results reflect a specific period and set of assumptions and are not indicative of future performance. We will revisit the framework as correlations, volatility and market structure evolve.

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