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Introducing COIN50

What's "the market" doing?
The Coinbase 50 Index is built to tell you.

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Our team: allocators-coverage@coinbase.com

Introducing COIN50

What's "the market" doing? The Coinbase 50 Index is built to tell you.

SUMMARY

Crypto curious investors can be overwhelmed by the nuances of the digital asset market. The price swings and complex technological jargon can be off putting for the uninitiated, who frequently don't have the time to analyze every name in this burgeoning asset class.

That's where the Coinbase 50 Index comes in.

Instead of picking individual tokens, an investor can own the index, which automatically and dynamically selects the top 50 crypto assets based on clear rules. With one simple step, they can gain diversified exposure to the growing crypto market, giving them confidence and peace of mind.

Chart 1. The Coinbase 50 Index tracks the performance of the 50 largest tokens

Asset inclusion based on fundamental eligibility criteria.
Sources: MarketVector Indexes, as of October 31, 2024.

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Background

Although Charles Dow created the world's first market index in 1884, it took another 87 years before an index fund was launched by Wells Fargo in 1971. It was later mastered by Vanguard in 1976 with the creation of the S&P 500 Index Investment Trust.

However, these funds initially proved unpopular – derided by critics as "un-American" due to their passive nature. Another two decades would pass before index funds gained significant traction. Since then, these passive funds have grown to more than US$5.8T or over 40% of the actively managed funds covering unique sectors, regions, assets, and investment styles – even greater when including exchange-traded funds (ETFs).

The trajectory of disruptive innovations is difficult to foresee at the time they're created. Crypto technologies have been in the process of transforming the financial industry for the better part of 15 years. Many still disparage their utility, despite surveys showing that 87% of Americans believe the current financial system doesn't work for them.

Enter crypto indexes – the benchmarks for measuring the portfolio performance of digital assets.

Why Do We Need Indexes?

It's early. Today's total crypto market capitalization of $2.8T is only 2% of the global equity capitalization, and far below NVIDIA Corporation's $3.6T. But bitcoin, ether, and US dollar stablecoins – comprising two-thirds of the crypto market cap – are rapidly integrating into the mainstream through exchange-traded products and payments.

Moreover, the innovation happening below the surface is far broader and far more complex. There are more than two million unique crypto assets, many of which don't resemble each other. The historical use of bitcoin as a proxy for this asset class is thus not only becoming less practical but also provides fewer diversification benefits from a systematic risk perspective.

Instead, we see investor demand for a benchmark that adjusts to lasting shifts in crypto trends and captures a broader representation of the market. One reason why equity index investing has become so popular is that it provides an easy way to gain broad diversified exposure and capture structural shifts in the market trend.

For example, the S&P 500 index is regularly rebalanced, culminating in removals of anywhere between 10 to 30 names per year – or a conservative estimate of 180-190 stocks over the last 10 years (roughly a third of the index). In 2024 alone, fifteen names were removed and replaced with companies like NVIDIA, Palantir Technologies and KKR & Co.

A dynamic and durable benchmark means investors can automatically adjust to similar structural shifts in crypto asset markets. Investors need a benchmark.

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How Do You Build a Crypto Index?

Coinbase Indexes are built with two key rules-based principles in mind: fundamental screening and dynamic selection.

Crypto asset markets are young and so are their financial architectures. Building a benchmark must take into account fundamental differences to ensure its constituents satisfy common standards.

THREE CATEGORIES OF FUNDAMENTAL SCREENING ARE APPLIED TO COINBASE INDEXES:

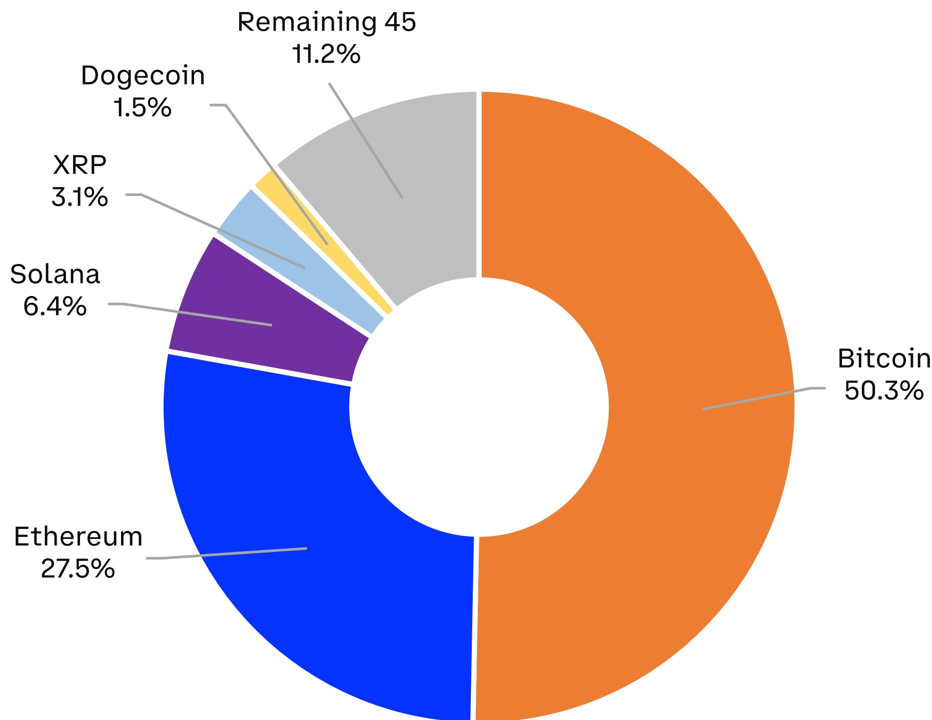
- **Token Economics**
  This refers to the economic design structure of the token. Assets pegged to other digital assets, a fiat currency, a group of those currencies, or any hard asset are disallowed. Assets must also have most of their token supply in public circulation.
- **Blockchain Architecture**
  This refers to the inherent design of the blockchain, where applicable. Critical features that categorize a network as a public blockchain must be adhered to – transparency, immutability, cryptographic algorithms, permissionless consensus, pseudonymity, and peer-to-peer networks
- **Security**
  Only digital assets with no known security vulnerabilities, including critical bugs, undue exposure to 51% attacks where applicable, or other factors, are allowed. Assets must also be eligible for custody under Coinbase Asset Management's qualified custodians.

The young nature of crypto markets means that asset inclusion must also be dynamic. Just because an asset satisfies fundamental criteria today does not mean it will do so in the future. Dynamism also fosters competition – not all fundamentally sound assets make it into a benchmark. Among all of the cryptocurrencies available today, only 42% meet the criteria listed above.

The fundamental and dynamic principles are applied in a quantitative, rules-based process led by the Coinbase Index Committee, revaluated on a quarterly basis or under exigent conditions.

The Committee has been active since 2022, through the downturn in crypto asset markets, with the process tested under arduous conditions. Defunct protocols like Terra Luna (LUNA) and FTX's token (FTT) failed to pass fundamental criteria then and would have been excluded from the COIN50 despite their high market capitalization.

Chart 1. The Coinbase 50 Index tracks the performance of the 50 largest tokens



Sources: MarketVector Indexes.
Last index rebalance as of August 31, 2024.

What is the Coinbase 50 Index?

The Coinbase 50 Index (COIN50) is the broadest of the crypto benchmarks – aiming to be the market standard.

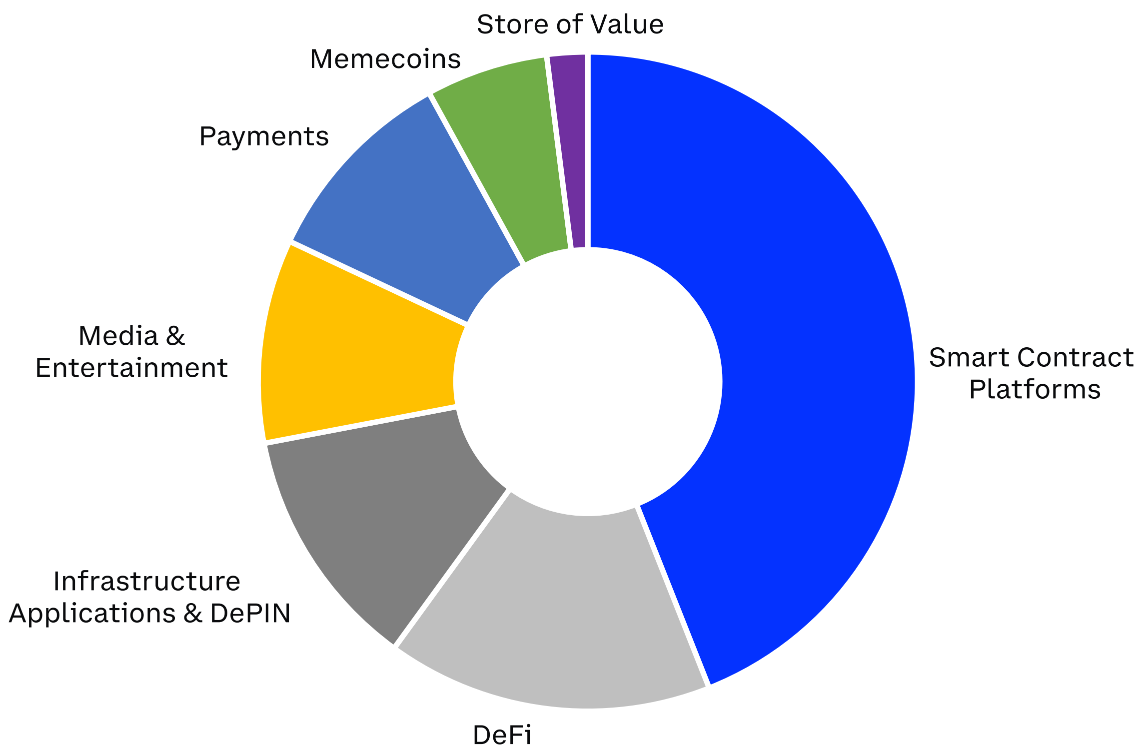
It takes the thousands of tokens comprising the crypto universe and narrows eligible assets based on fundamental filters with the top 50 in market size entering the index. Assets are weighted by market capitalization, with a constraint that the largest asset is capped at 50%.

Investors shouldn't underestimate the significance of how the Coinbase 50 has been constructed. Existing indices in this space have tended to be heavily concentrated in crypto infrastructure (e.g. overexposure to layer-1 or smart contract platform tokens). By comparison, the Coinbase 50 is the first index that truly covers all the main sectors in the space.

The Coinbase 50 Index is aspirational, as was the start of the S&P 90 Index in 1923 – before it grew into the S&P 500 in 1957, becoming the global bellwether. The capitalization of the index, at 80% of the crypto market total, is similar to the share of the S&P 500 Index relative to the overall US market.

Governance and regulatory factors are vital to the creation and longevity of a benchmark. Third-party providers are the critical check-and-balance to the approach.

Chart 3. The Coinbase 50 constituents by category



Sources: MarketVector Indexes.
Last index rebalance as of August 31, 2024.

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How Is Crypto Additive to a Portfolio?

Passive investment led to the rapid adoption of indexes in part because of balanced portfolios focused on risk characteristics. Investors are attentive to returns relative to portfolio volatility. This is especially important in the face of market downturns and the advent of disruptive technologies.

A classic portfolio with 60% stocks and 40% bonds has its roots in Modern Portfolio Theory. Over the past 60 years, this balanced portfolio has generated a similar return to holding stocks while reducing volatility by a third, making it an attractive benchmark.

Those attributes have lessened in the recent past with persistent inflationary pressures alongside other factors that have driven a positive correlation between stocks and bonds. Balanced portfolios have reached for alternatives, like commodities and crypto assets. Tables 1 and 2 demonstrate the benefits. In the past seven years, substituting 2% of the bond allocation away from bonds and into crypto assets has yielded both stronger returns and lower portfolio volatility. We discuss this further in the section "Why Not Stick with Stocks?" below.

Table 1. Performance by asset (2021 to 2024)

Summary Statistics	Bonds Bloomberg US Treasury Total Return	Equities S&P 500	Commodities Bloomberg Commodity Index	Bitcoin CME Bitcoin Reference Rate	Crypto Coin50 Index
Total Return	-9.8%	51.9%	25.7%	143.7%	202.8%
Annualized Return	-2.7%	11.5%	6.1%	26.1%	33.5%
Annualized Volatility	6.1%	16.7%	16.5%	64.1%	68.7%
Annualized Downside Volatility	4.4%	14.1%	14.8%	43.4%	52.5%
Sharpe Ratio	-0.93	0.51	0.19	0.36	0.44
Sortino Ratio	-0.91	0.58	0.28	0.88	0.96
Largest Monthly Gain	3.5%	9.1%	8.8%	44.2%	45.3%
Largest Monthly Loss	-3.5%	-9.3%	-10.9%	-39.3%	-41.0%
Information Ratio (w.r.t. COIN50)	-0.52	-0.33	-0.40	-0.13	-
Correlation to COIN50	-4.6%	22.7%	13.0%	60.2%	-
Correlation to Equities	7.8%	-	19.4%	35.9%	22.7%

Sources: Bloomberg, MarketVector and Coinbase.
Data from January 1, 2021 to October 31, 2024.

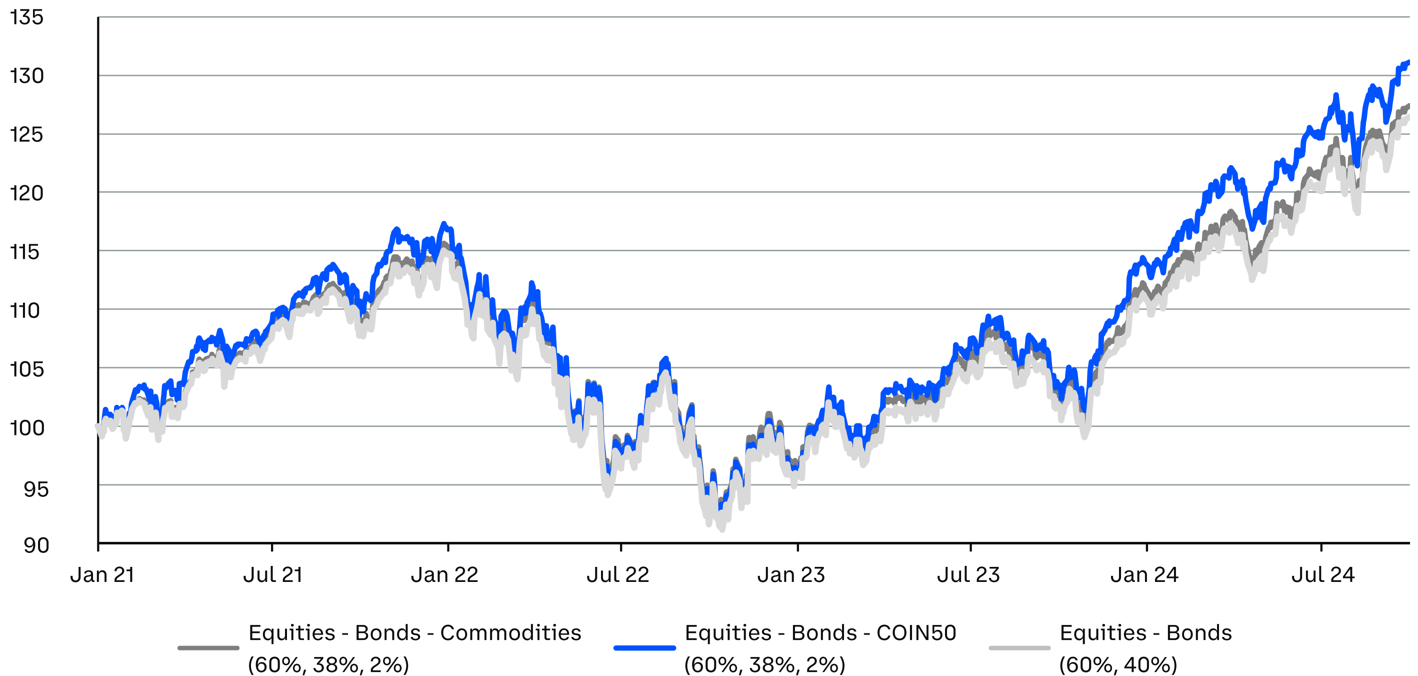
Our previous work reinforces the same point. Not only are digital assets additive from a systematic risk perspective, but they contribute to factor diversification at a non-linear pace.

Two sources of improved performance stand out.

First, crypto technologies are gaining market share. There are various macro forces and sector factors behind the trend. But even a small allocation with quarterly rebalancing (to reduce crypto exposure on appreciation and vice versa) can yield substantive benefits.

Second, bonds are no longer performing a diversification function. The secular decline in bond yields drove most of the past performance characteristics in balanced portfolios. Those became less relevant in the recent past due to aggressive central bank tightening, rewarding commodity assets that performed with the stronger trend in inflation.

Chart 4. Historical performance of various portfolios rebalanced quarterly



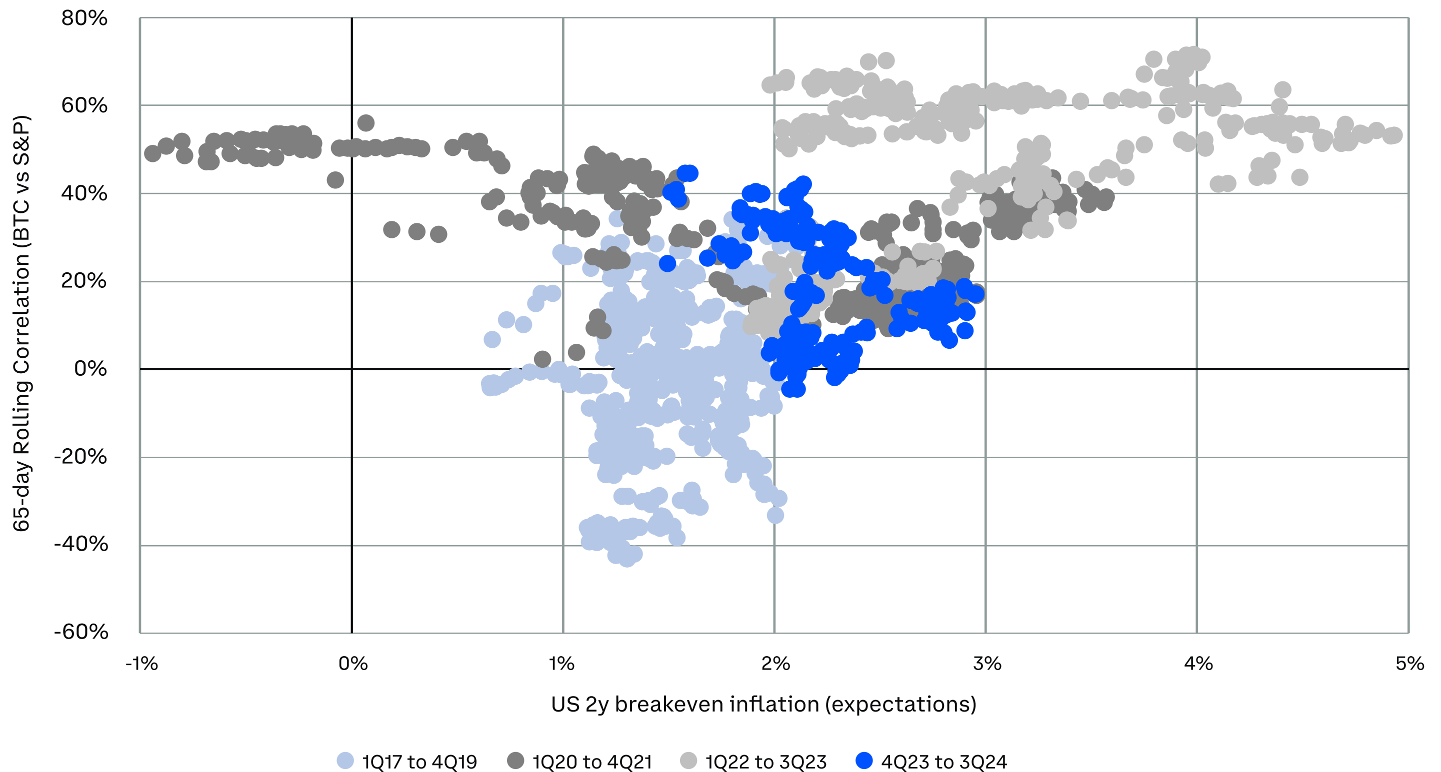
Sources: MarketVector Indexes, Bloomberg and Coinbase.

Why Not Stick with Stocks?

One of the most common investor questions we receive is "why not just own stocks?"

The reality is that the correlation between certain assets like crypto and stocks can be asymmetric. When central banks rushed to hike interest rates in 2022, nearly all assets suffered. This has given some investors the impression that crypto is just "equity beta" to a portfolio.

Chart 5. Bitcoin-S&P 500 correlation vs 2y breakeven inflation



Sources: Bloomberg and Coinbase.

We address this issue with a litany of portfolio analytics highlighted by segments of Table 2. Adding 2% crypto exposure through the Coinbase 50 Index to a balanced portfolio is highly correlated with equities – 97% on average over the last four years. However, the risk characteristics are meaningfully different.

We separate the correlation of model portfolios in months where bitcoin is up in value versus down. In positive bitcoin months, the correlation of including crypto in a balanced portfolio rises to 15.5% compared to only 8.1% for traditional equity-bond allocations. Meanwhile, the correlations of these portfolios to bitcoin during negative bitcoin months are comparable, demonstrating unique upside participation.

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The downside volatility characteristics are also improved. Over the last four years, the largest monthly loss for an equity-bond-crypto portfolio is 7.2% – approximately the same for an equity-bond portfolio. This speaks to the even nature of crypto cycles versus traditional markets.

In turn, the volatility of a portfolio including crypto is materially lower both on average and during periods where returns are negative. As a result, the Sortino ratio, which scales returns by downside volatility, is 1.3-times higher when the Coinbase 50 Index is included than without.

Table 2. Theoretical portfolio summary (rebalanced quarterly)

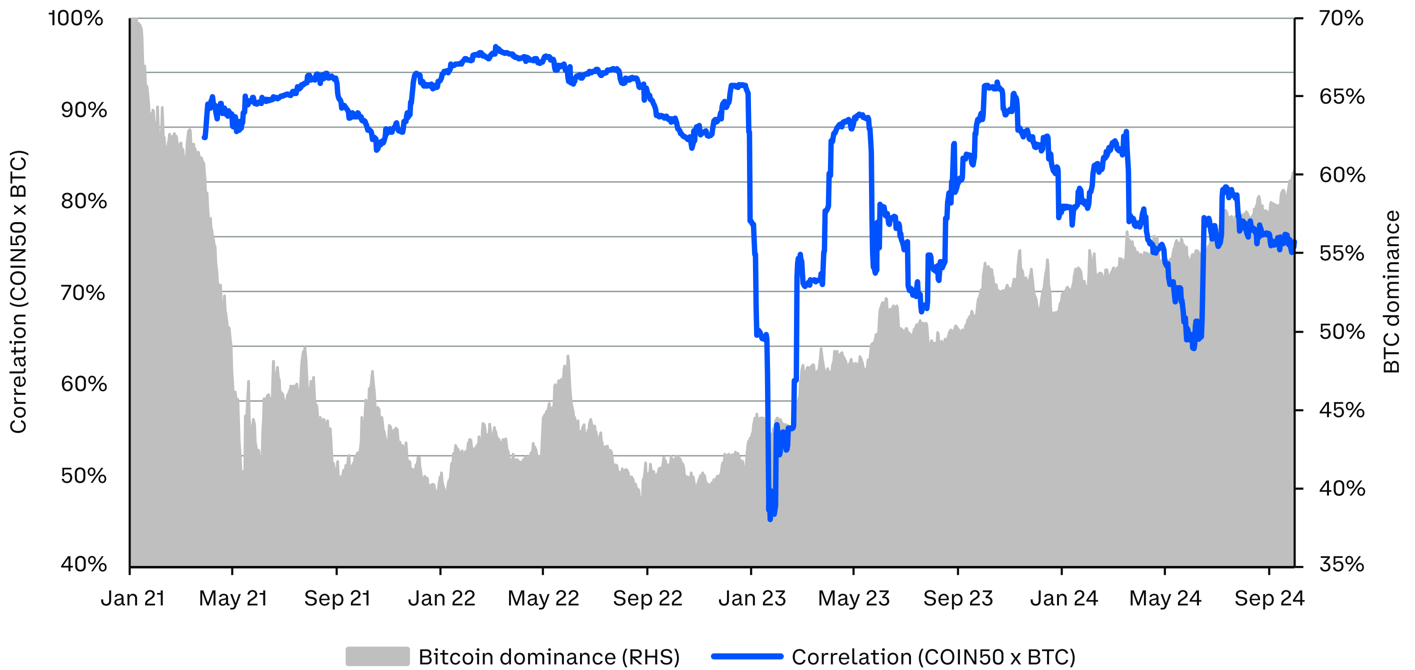
Summary Statistics	Equities - Bonds - Commodities (60%, 38%, 2%)	Equities - Bonds - COIN50 (60%, 38%, 2%)	Equities - Bonds (60%, 40%)	Equities - Bonds - Bitcoin (60%, 38%, 2%)
Total Return	25.5%	30.2%	24.5%	29.4%
Annualized Return	6.1%	7.1%	5.9%	7.0%
Annualized Volatility	10.5%	10.8%	10.5%	10.7%
Annualized Downside Volatility	8.8%	9.1%	8.8%	9.0%
Sharpe Ratio	0.30	0.39	0.28	0.37
Sortino Ratio	0.35	0.43	0.33	0.42
Largest Monthly Gain	6.4%	6.7%	6.5%	6.7%
Largest Monthly Loss	-7.3%	-7.2%	-7.2%	-7.2%
Percentage of Positive Days	52.2%	53.0%	51.9%	53.2%
Information Ratio (w.r.t. COIN50)	-0.34	-0.33	-0.34	-0.33
Correlation to COIN50	20.6%	33.2%	20.3%	31.1%
Correlation to COIN50 when COIN50 is Positive	4.2%	14.3%	4.2%	12.9%
Correlation to COIN50 when COIN50 is Negative	9.2%	18.6%	8.9%	16.5%
Correlation to BTC when BTC is Positive	8.0%	15.5%	8.1%	15.9%
Correlation to BTC when BTC is Negative	27.6%	34.4%	27.4%	33.5%
Correlation to Equities	97.5%	96.9%	97.3%	97.0%

Sources: Bloomberg, MarketVector and Coinbase.
Data from January 1, 2021 to October 31, 2024.

Adding crypto assets to historical portfolios at the expense of bonds has been additive to returns relative to risk. This is partly because of two factors: the megatrend tied to the adoption of new technologies and a pivot towards less orthodox policy that reduces the attractiveness of bond investments.

But why not just add bitcoin? After all, there is a high correlation (around 75%) between the Coinbase 50 Index and bitcoin returns. This is the byproduct of a nascent asset class, not a correlation to be extrapolated. Indeed, this correlation has declined from 90% in early 2021 and has tested 55% as recently as early 2023. With the cap on the weight of bitcoin to 50% and the growth of the overall asset class – including the addition of new sectors – we expect to see more unique volatility going forward.

Chart 6. Correlation between COIN50 and bitcoin daily returns



Based on a 90-day rolling window.
Sources: MarketVector, CoinMetrics and Coinbase.

What About the Future?

Past performance is not indicative of future outcomes. But let's consider the implications of the rising adoption of crypto technologies.

Bitcoin dominance may fall. So too may market volatility. New execution layers and applications will emerge, building on the growing confidence in base layers like Bitcoin, Ethereum and the use-case of stablecoins for payments.

Indexes will likely expand. Demand for style and sector benchmarks will likely emerge. And the risk attributes will likely change just as they did with the S&P Index, whose performance in the 1920s looks nothing like its performance today.

So, the next time you ask what the "crypto market" is doing and why, the Coinbase 50 Index may be your guide, built to dynamically adjust with the winds of market change.

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