



Bitwise Asset Management <> WW Advisors

Ethereum in a Portfolio

November 2024

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Agenda



1. About Bitwise Asset Management
2. Crypto 101 review
3. What is Ethereum?
4. Ethereum, Bitcoin, or Both?
5. Closing Thoughts and Q&A



Why Bitwise? Your guide to the crypto market.



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Bitwise at a glance



Pioneer

Founded in 2017, it's one of the largest crypto index fund managers in the world.¹

Trusted brand

Groundbreaking original research & education. Authored CFA Institute's "Guide to Crypto."

Professional-focused

Focus on RIAs, institutions, hedge funds & family offices.

Dedicated

Sole focus on crypto asset management, indexing, and research.

Experienced

Team of over 90 professionals helps thousands of investors access and understand this fast-moving market.



(1) By fund AUM, based on company filings as of September 30, 2024.

Executive team: Bridging expertise in tech & asset management



Hunter Horsley

CEO

Technology Expertise

Fmr. Product Manager, Facebook



Katherine Dowling

General Counsel & CCO

Legal Expertise

Fmr. Asst. US Attorney, Department of Justice



Teddy Fusaro

President

Expert in Alts Portfolio Mgmt

10-year ETF Veteran. Fmr. SVP
NYLife Investments



Hong Kim

Chief Technology Officer

Software Security Expertise

Fmr. Software Security Research,
Korean Military. Software Engineer, Google

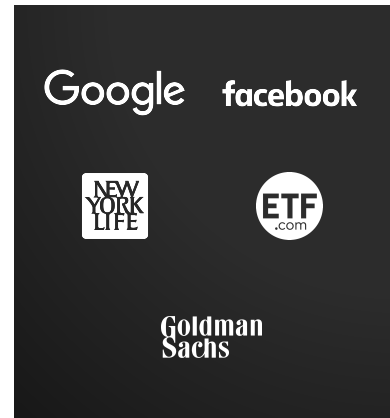


Matt Hougan

Chief Investment Officer

Renowned ETF Expert

Fmr. CEO, ETF.com and Inside ETFs



Connect with our dedicated team of crypto experts, nationwide



Scan to contact
your representative.

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High-quality educational materials



Bitcoin and Ethereum Libraries



Weekly CIO Memo



Quarterly Crypto Market Reports



Webinars



Educational Videos



Portfolio Simulations



Bitwise offers a broad set of crypto ETFs, funds, and SMA strategies



Publicly Traded

BITW	Bitwise 10 Crypto Index Fund
BITB	Bitwise Bitcoin ETF
BTOP	Bitwise Bitcoin and Ether Equal Weight Strategy ETF ¹
BITC	Bitwise Bitcoin Strategy Optimum Roll ETF ¹
BITQ	Bitwise Crypto Industry Innovators ETF
ETHW	Bitwise Ethereum ETF
AETH	Bitwise Ethereum Strategy ETF ¹
BWEB	Bitwise Web3 ETF ¹

Separately Managed Account Strategies

Bitwise Crypto Category Leaders Strategy
Bitwise 10 Crypto Index Strategy
Bitwise BTC/ETH Equal Weight Strategy

Institutional Strategies¹

Active Strategies ²

Private Funds

Bitwise DeFi Crypto Index Fund
Bitwise 10 ex Bitcoin Crypto Index Fund
Bitwise 10 Crypto Index Fund (non-OTC Trust)
Bitwise 10 Index Offshore Fund
Bitwise Blue-Chip NFT Index Fund
Bitwise Bitcoin Fund
Bitwise Ethereum Fund
Bitwise Uniswap Fund

(1) The Bitwise Bitcoin Strategy Optimum Roll ETF (BITC), Bitwise Web3 ETF (BWEB), Bitwise Bitcoin and Ether Equal Weight Strategy ETF (BTOP), Bitwise Ethereum Strategy ETF (AETH), and Bitwise's institutional strategies are managed by Bitwise Investment Manager, LLC, a Registered Investment Adviser.

(2) Available to Qualified Purchasers only.

BITB and ETHW are not suitable for all investors. An investment in either fund is subject to a high degree of risk, has the potential for significant volatility, and could result in significant or complete loss of investment. BITB and ETHW are not investment companies registered under the Investment Company Act of 1940 (the "1940 Act") and therefore are not subject to regulation under the 1940 Act, unlike most mutual funds or ETFs.



Why crypto? What crypto is and why it matters.



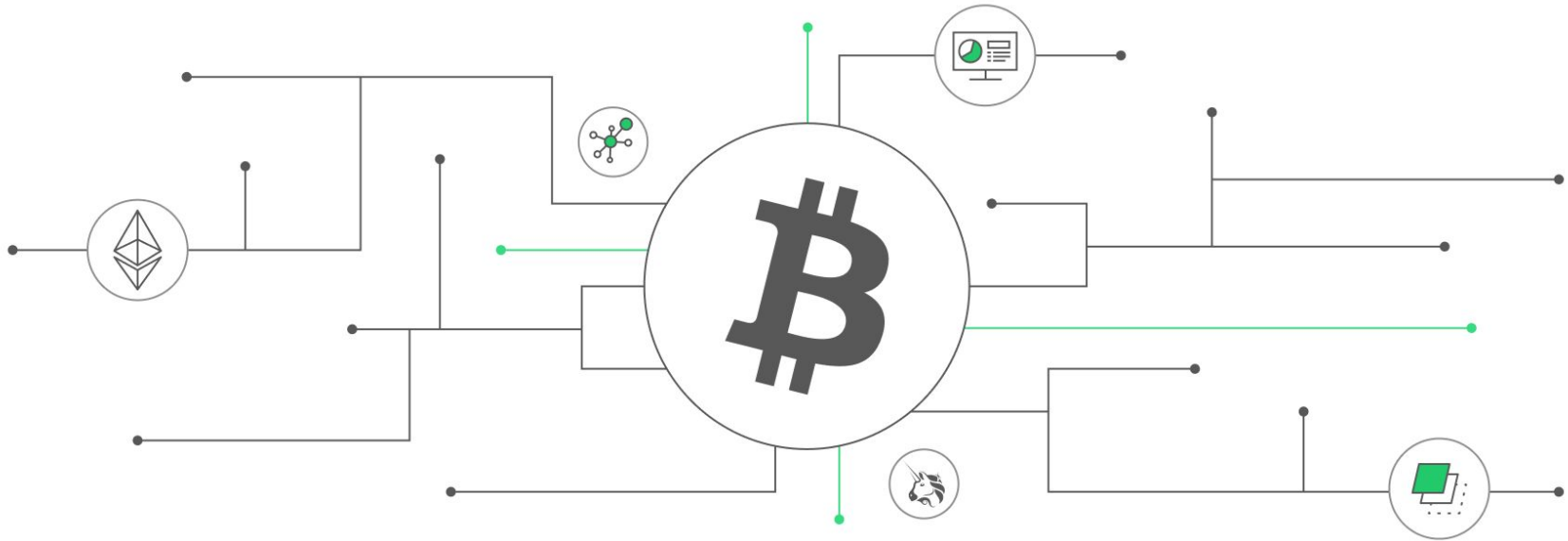
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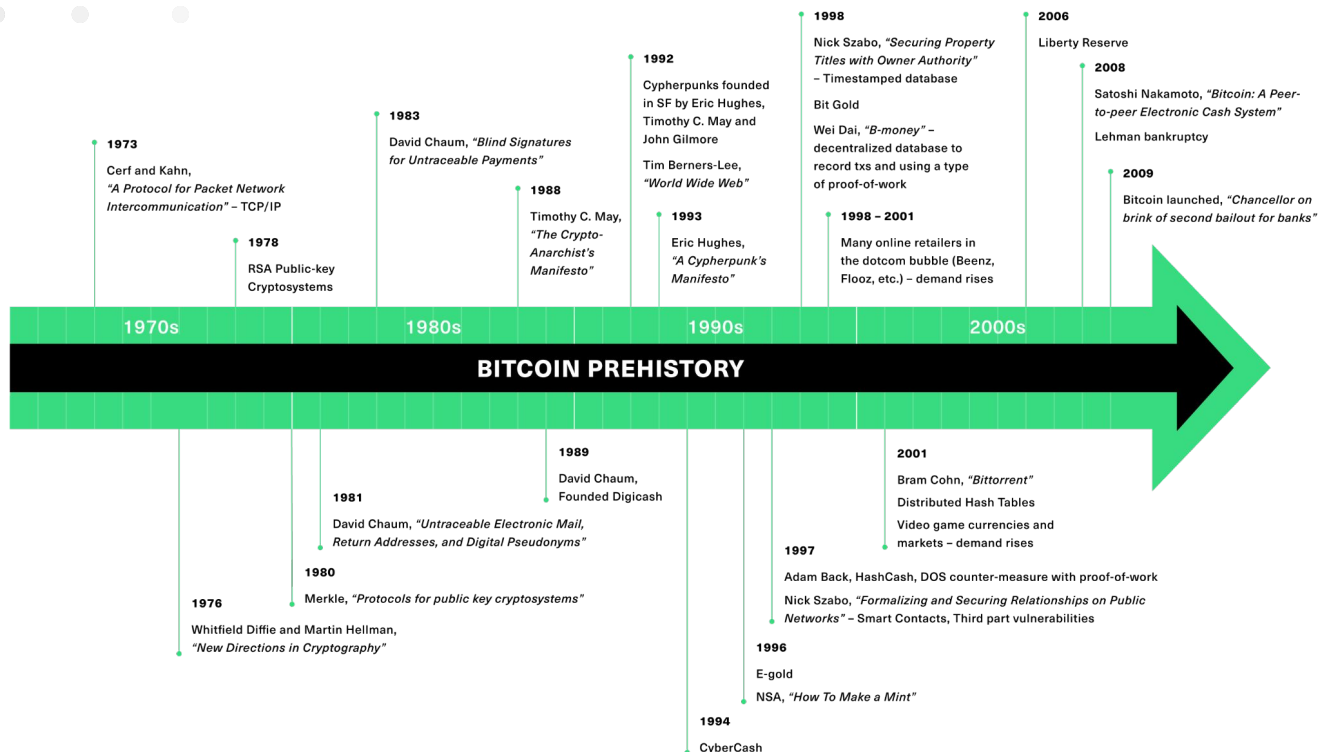
Crypto is not about paying for coffee



It's a once-in-a-generation technological breakthrough that brings money and property into the internet era



Importantly, it did not come easily



Source: @ansellinder and @btcmrkt via Twitter

Breakthrough #1: Crypto lets you move financial goods over the internet



Blockchain databases allow financial goods to settle essentially instantly.

By comparison, traditional financial systems are extremely slow.



Stocks settle in 1 day



Bank wires take 2-4 days



Bill pay takes 1-5 days

Blockchains work 24/7/365, settle within minutes, and have minimal fees in comparison.

Breakthrough #2: Crypto allows you to “program money”



**Imagine if you could program the dollar.
Or stocks. Or your mortgage.**

Crypto can automate high-cost financial functions at extremely low price points (“decentralized finance”).

Some experts believe it could disrupt finance much like how the internet disrupted retail, advertising, etc.¹

This market already supports billions of dollars in trading, loans, money market-style investments, asset fundraising, and more.

(1) Source: Joichi Ito, Neha Narula, and Robleh Ali, “The Blockchain Will Do to the Financial System What the Internet Did to Media,” *Harvard Business Review*, March 9, 2017.



Breakthrough #3: Crypto creates digital property rights for the first time ever

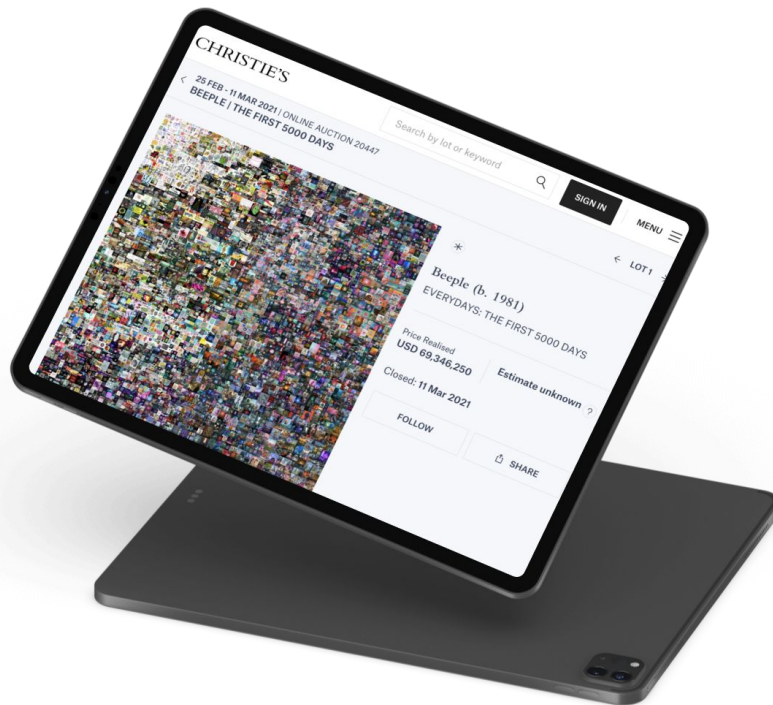


You can own a digital good without any trusted third party (like a bank) saying you own it.

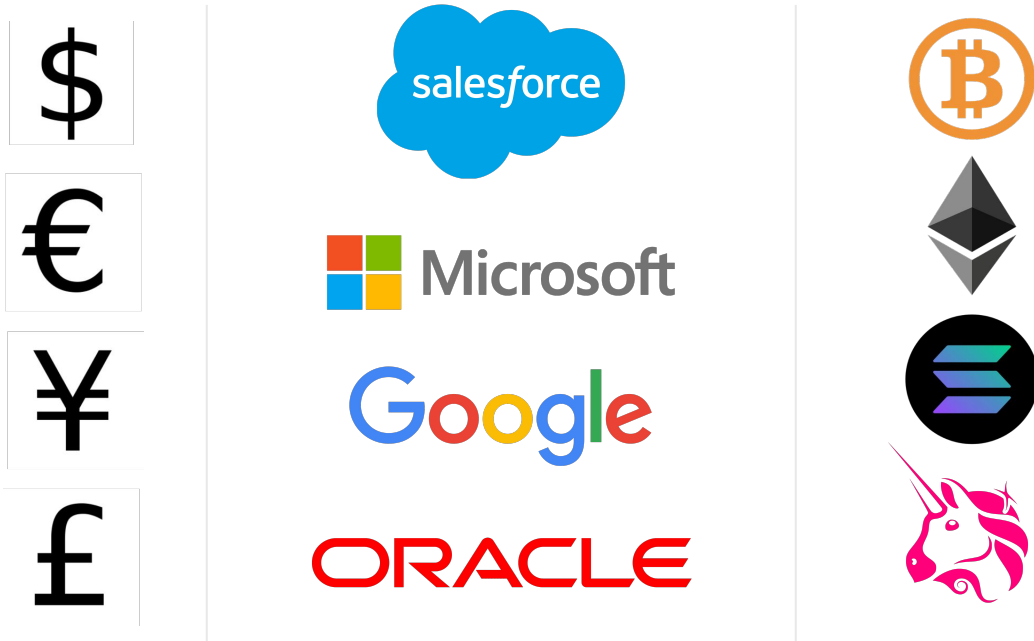
Blockchains allow individuals to prove ownership of a digital good without any third-party intermediary.

This allows bitcoin to be a medium of exchange and Christie's to sell digital (NFT) art.

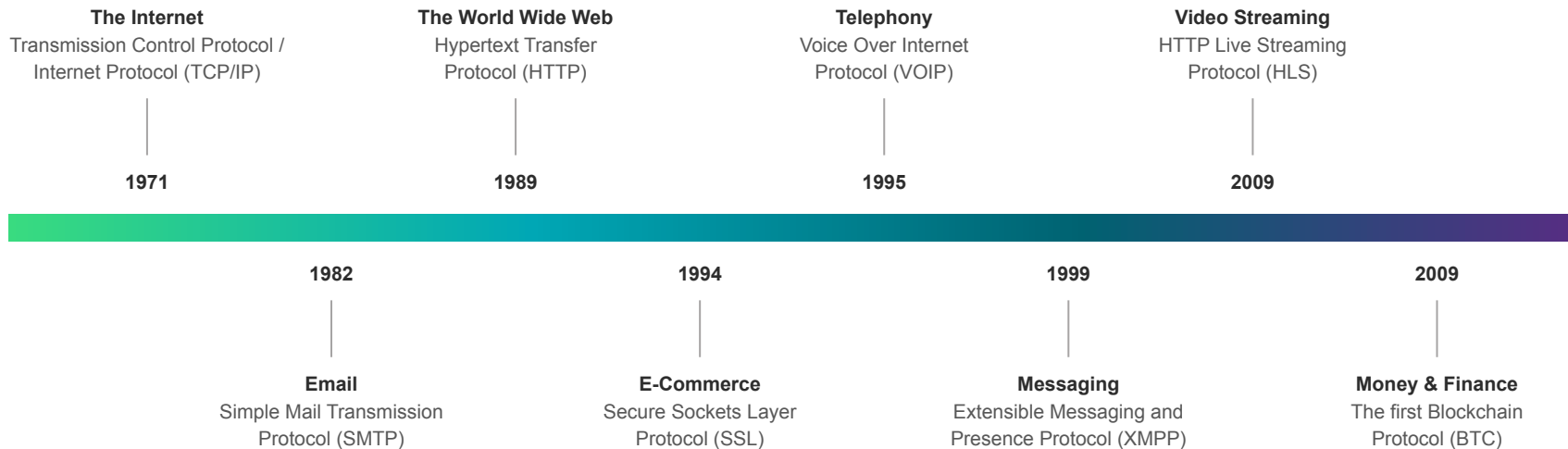
The potential applications of “digital property rights,” however, are much larger than just these examples.



Different crypto assets are not like different currencies; they are more like different software companies



This level of technological breakthrough is rare





Ethereum (ETH)



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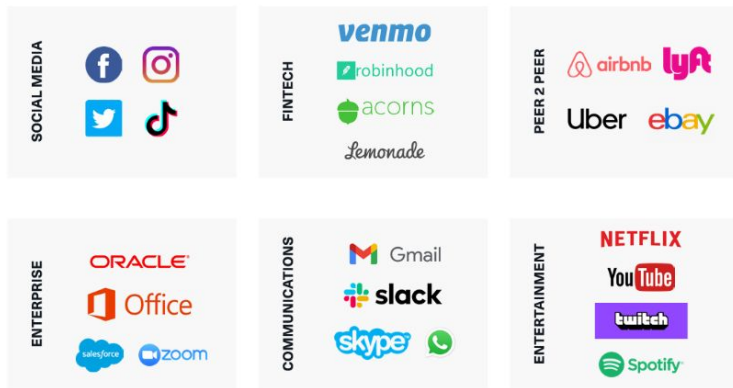
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Crypto applications are built on blockchains like Ethereum



Mobile/Web Applications & Enterprise Cloud

APPLICATIONS

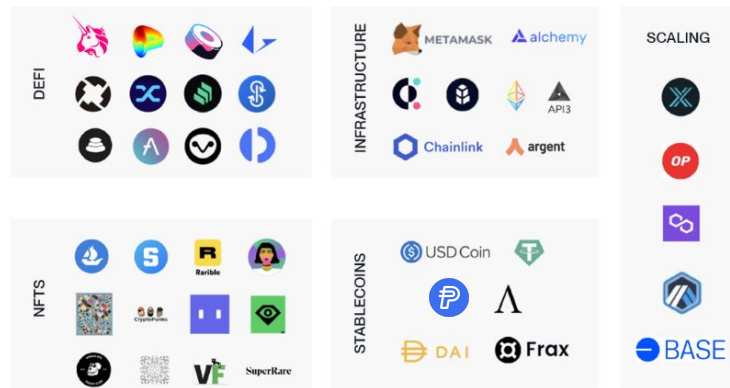


OPERATING SYSTEM

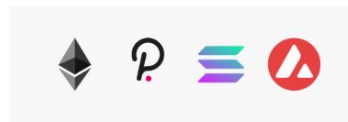


Crypto Applications & Blockchains

CRYPTO APPLICATIONS













BLOCKCHAIN



Who are Ethereum's biggest "customers"?



Fees on Ethereum by Entity (Top 10)

PROTOCOL	TICKER	DESCRIPTION	12-MONTH REVENUE ¹
 Lido	LDO	Leading staking-as-a-service app	\$970M
 Uniswap	UNI	Leading decentralized crypto exchange	\$862M
 Flashbots	–	Infrastructure app for mitigating MEV	\$631M
 Aave	AAVE	Largest lending and borrowing application in DeFi	\$313M
 Sky²	SKY	Lending app behind largest crypto-backed stablecoin	\$287M
 GMX	GMX	Leading crypto derivatives exchange	\$163M
 Aerodrome	AERO	Popular decentralized exchange on Base	\$140M
 Ethena	ENA	Popular synthetic dollar protocol	\$114M
 Convex Finance	CVX	Popular staking and yield-farming protocol	\$82M
 Compound	COMP	Leading crypto derivatives exchange	\$69M

Source: Bitwise Asset Management with data from Token Terminal as of October 1, 2024. Please see important disclosure information at the end of this document. Performance information is provided for informational purposes only. Past performance is no guarantee of future returns.

(1) Revenue is made up of the total fees paid by users.

(2) Maker rebranded to Sky on September 18, 2024.

More traditional names are coming too



BlackRock



JPMORGAN CHASE & CO.

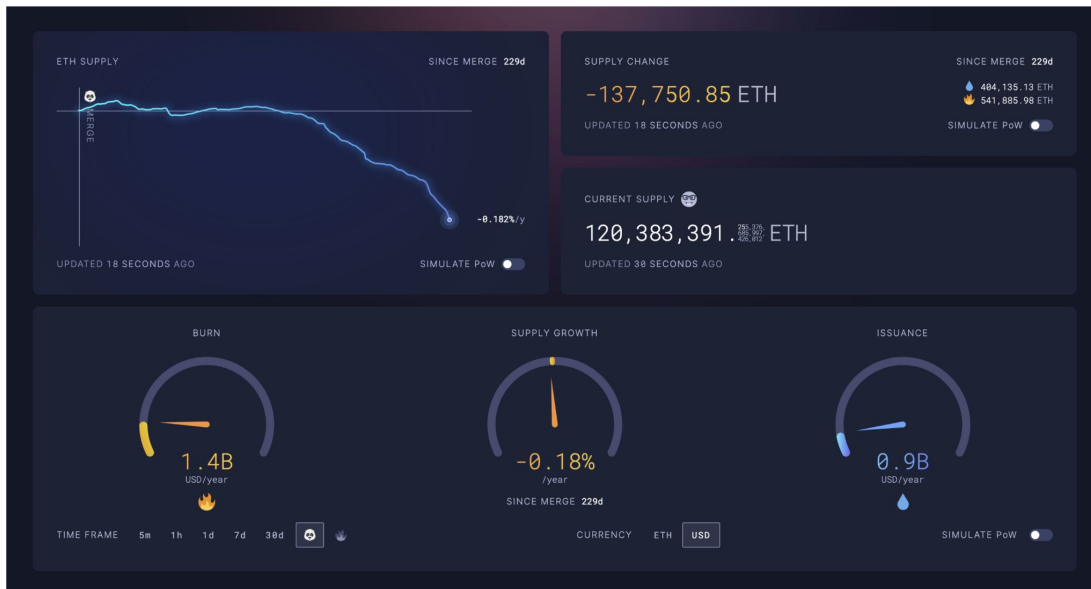


Users pay fees in ETH to conduct transactions on the Ethereum network. This ETH is burned, like oil in a car or stocks in a buyback program.

ETH is a new-era digital money whose value is driven by the utility of applications built on the Ethereum network.

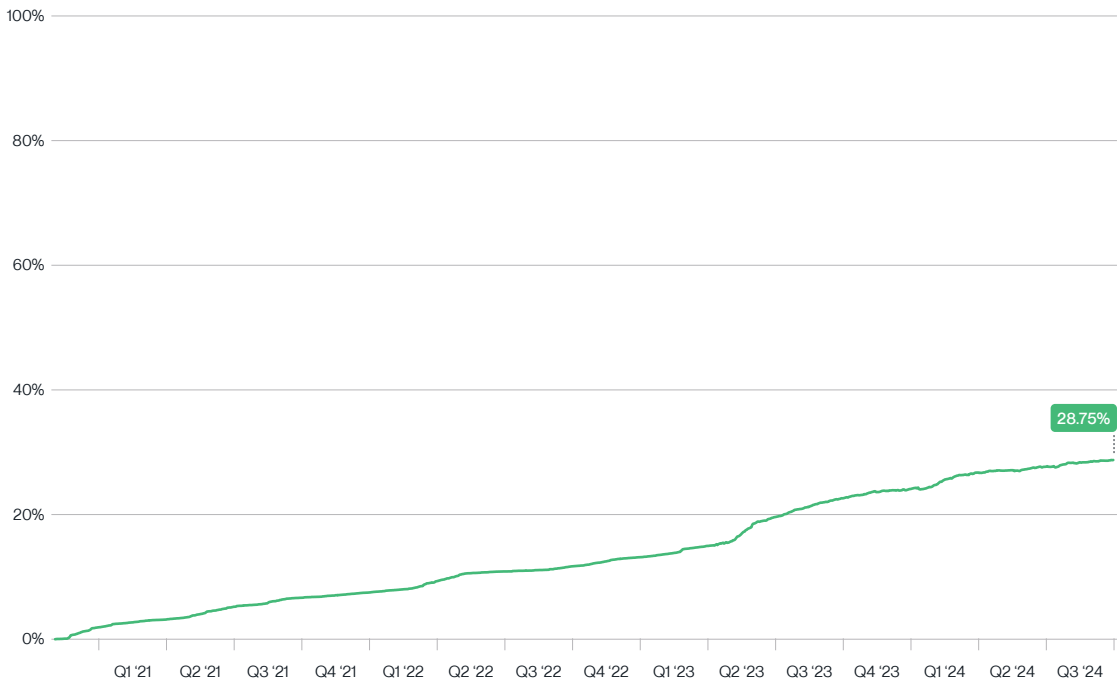
When activity happens on the network, ETH is necessary to pay network fees.

As a result of recent network upgrades, much of the ETH paid to power transactions is destroyed forever, reducing the total supply of Ethereum in the world.



Source: Ultra Sound Money

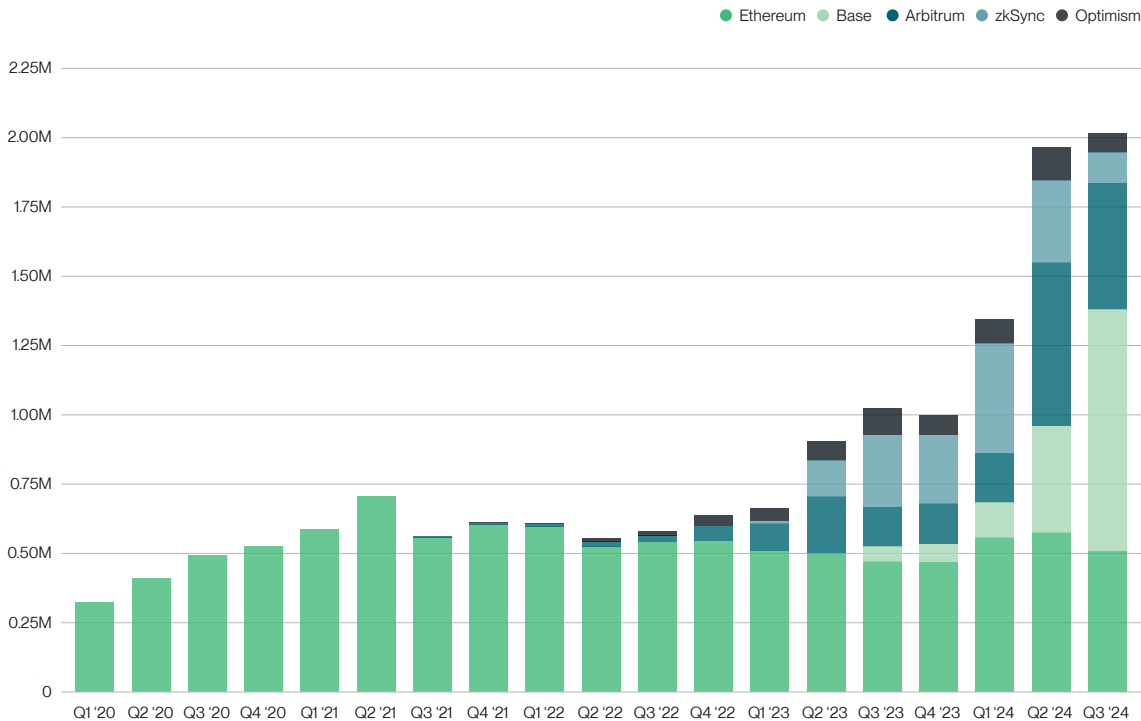
Percentage of Ethereum Supply Staked



Source: Bitwise Asset Management with data from Coin Metrics and The Block. Data from November 3, 2020 to September 30, 2024.

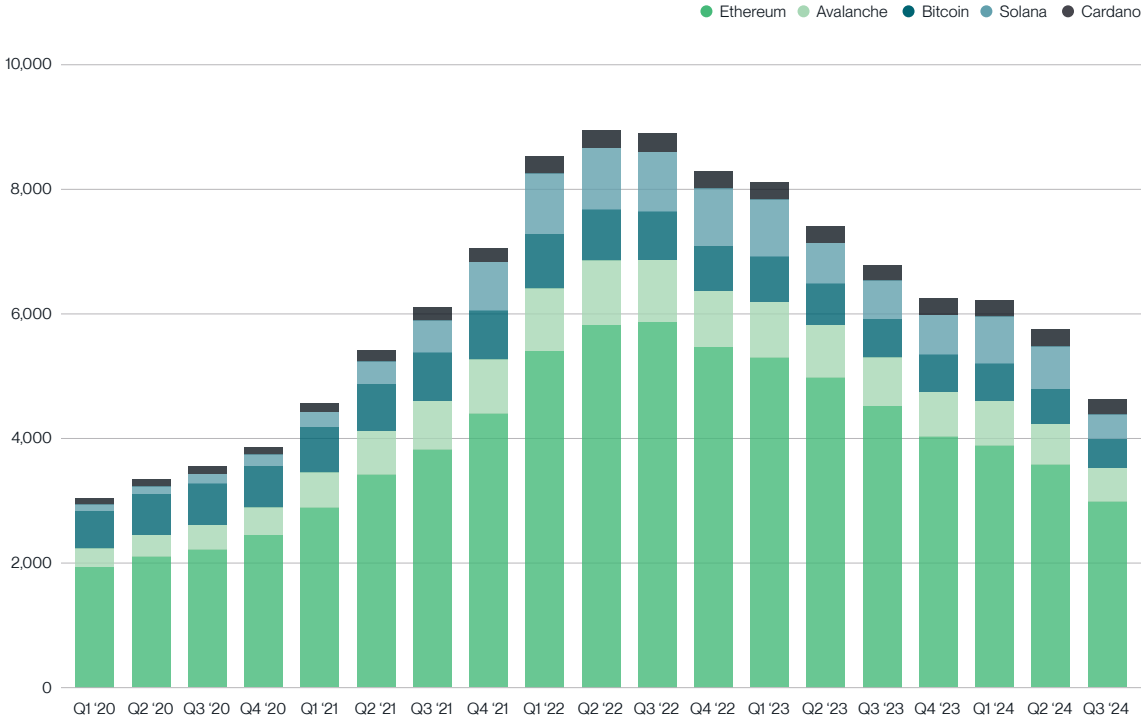
Note: Staking involves making a financial commitment to a blockchain in its native asset to secure the network, typically in exchange for yield. Staking typically requires the owner to lock up the staked asset for a period of time. The “Shapella” upgrade in April 2023 allowed staked ETH to be withdrawn.

Average Daily Active Addresses: Ethereum and Layer 2s



Source: Bitwise Asset Management with data from Coin Metrics and Token Terminal. Data from Q1 2020 to Q3 2024.

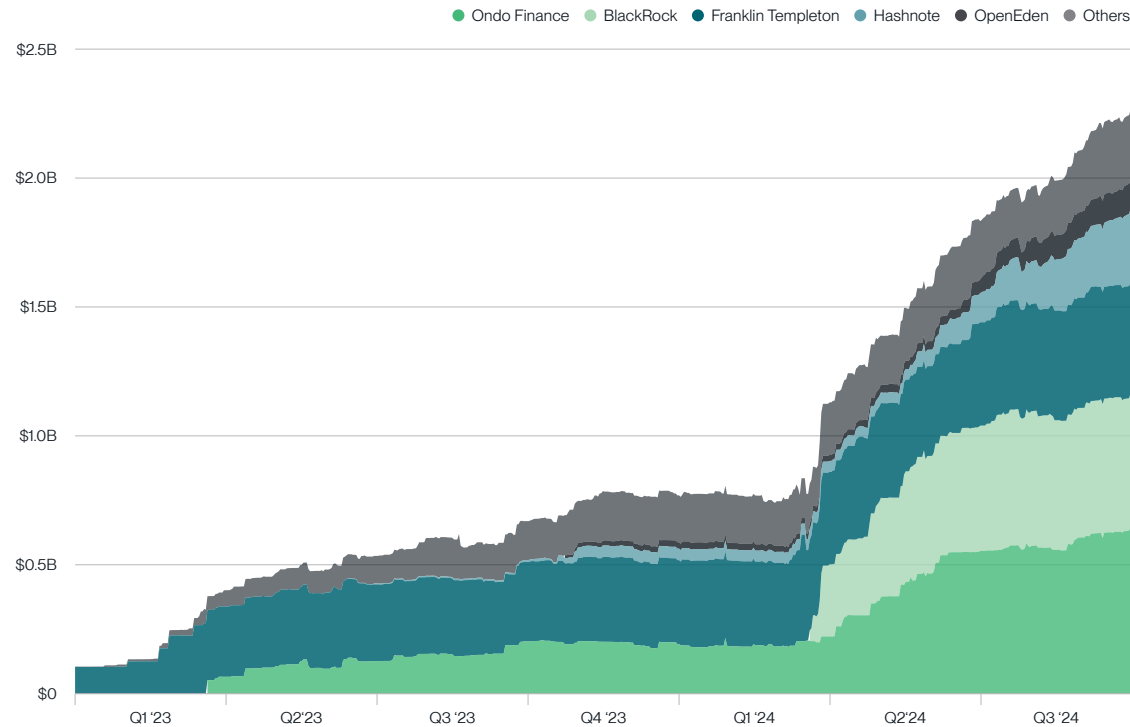
Average Developer Count



Source: Bitwise Asset Management with data from Artemis and Electric Capital Crypto Ecosystems Mapping. Data from Q1 2020 to Q3 2024.

Note: "Average Developer Count" includes developers contributing to Layer 1 blockchains as well as Layer 2s and crypto applications for which data is available from Artemis.

Tokenized U.S. Treasuries

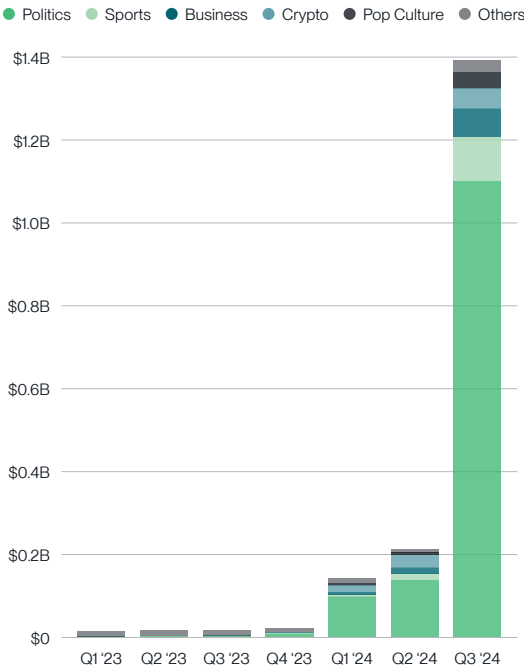


Source: Bitwise Asset Management with data from RWA.xyz. Data from January 1, 2023 to September 30, 2024.

Note: Stablecoin issuers such as Circle and Tether are intentionally omitted.

Polymarket Volume and Open Interest

Volume by Category



Source: Bitwise Asset Management with data from Blockworks Research. Data from January 1, 2023 to September 30, 2024.

Open Interest



Source: Bitwise Asset Management with data from Blockworks Research. Data from January 1, 2023 to September 30, 2024.

A valuation framework for Ethereum (ETH)



	2030 Projections (USD billions)		
	Bear	Base	Bull
Transaction Fees (Revenue)	\$4.69B	\$84.94B	\$200.79B
Validator Fees + Block Rewards (COGS)	\$3.11B	\$56.40B	\$133.32B
Earnings	\$1.58B	\$28.54B	\$67.47B

	2030 Projections (USD)		
	Bear	Base	Bull
Earnings per Token	\$13.13	\$237.84	\$562.21
P/E	25x	50x	75x
ETH – Current Price	\$2,595	\$2,595	\$2,595
ETH – 2030 Price Target	\$328	\$11,892	\$42,166

Source: Bitwise Asset Management with data from Token Terminal. Ethereum price as of September 30, 2024. Please see important disclosure information at the end of this document. Performance information is provided for informational purposes only. Past performance is no guarantee of future returns.



Why invest? Crypto's role in a portfolio



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Crypto combines high potential returns and low correlations with other assets



CORRELATIONS	S&P 500	US AGG BOND	GOLD
Bitwise 10 Index	0.35	-0.01	0.14
Bitcoin (BTC)	0.32	0.00	0.12
Ethereum (ETH)	0.36	-0.03	0.17

Sources: Bitwise Asset Management with data from Bitwise and Bloomberg. Data from October 31, 2023 to October 31, 2024.

Note: S&P 500 is represented by the S&P 500 Index. US Agg Bond is represented by the Bloomberg US Aggregate Bond Index (LBUSTRUU). Gold is represented by the London PM Gold Fix.

Performance and correlation information is provided for informational purposes only. Actual performance and correlation of the Index and the Fund may vary substantially from the performance provided in this presentation. Backward-looking performance cannot predict how any investment strategy will perform in the future. It is not possible to invest in an index. Performance of individual crypto assets may differ significantly from the performance of Bitcoin, Ethereum, or the Bitwise 10 Index.

Low Correlations: Crypto has had relatively low correlations to stocks, bonds, gold, and other assets over time.

Fundamental Drivers: One reason is that the fundamental drivers of crypto (including technological progress, regulation and application development) are different than those of stocks, bonds, gold, and other assets.

Risk Asset: Crypto is a risk asset, however, so it can trade up during risk-on and down during risk-off periods in the broader market.

A small allocation can go a long way in a portfolio



Portfolio Performance Metrics

Period between January 1, 2014 and September 30, 2024 (assuming quarterly rebalancing)

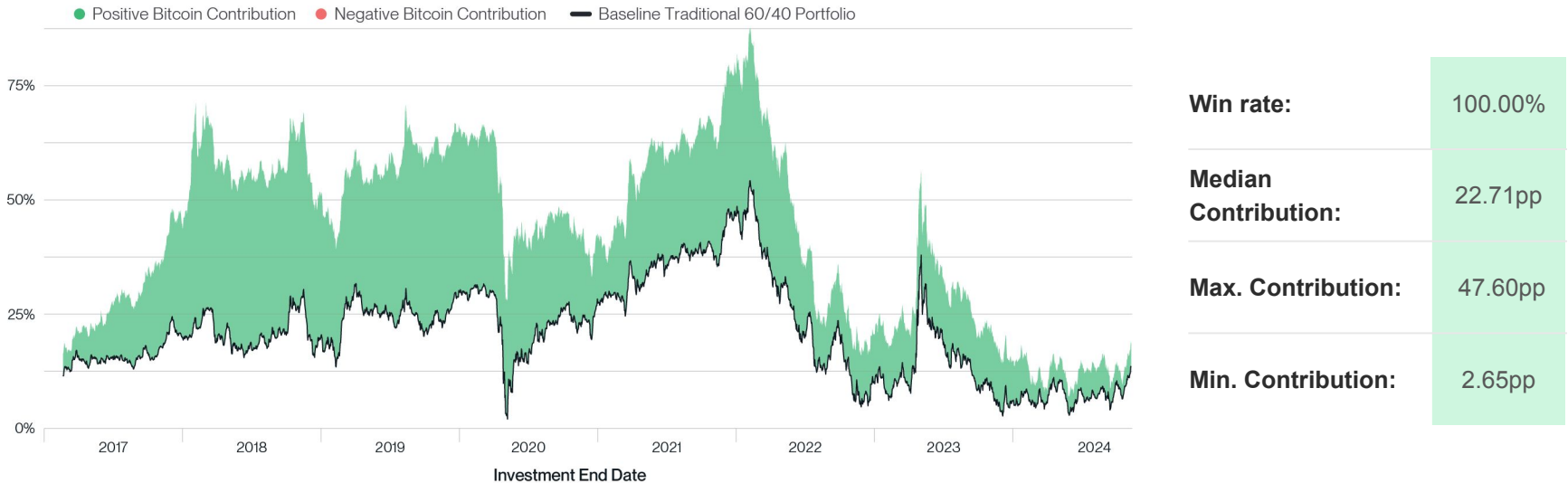
PORTFOLIO	CUMULATIVE RETURN	ANNUALIZED RETURN	ANNUALIZED VOLATILITY	SHARPE RATIO	MAXIMUM DRAWDOWN
Traditional 60/40 Portfolio	99.87%	6.67%	8.54%	0.496	22.07%
Traditional Portfolio + 1.0% bitcoin	118.83%	7.58%	8.63%	0.593	22.73%
Traditional Portfolio + 2.5% bitcoin	149.86%	8.92%	8.93%	0.720	23.72%
Traditional Portfolio + 5.0% bitcoin	209.02%	11.10%	9.79%	0.874	25.35%
Traditional Portfolio + 10.0% bitcoin	358.96%	15.27%	12.32%	1.025	28.53%

Source: Bitwise Asset Management with data from Bloomberg. Note: Traditional Portfolio consists of 60% equities (represented by the FTSE Global All Cap Index) and 40% bonds (represented by the Bloomberg US Aggregate Bond Float Adjusted Index). It is not possible to invest directly in an index. Not considering taxes nor transaction costs. Bitcoin (BTC) is analyzed here because its longer price history allows for more comprehensive historical analysis than other crypto assets. Performance of individual crypto assets may differ significantly from the performance of bitcoin. For more details, please refer to our white paper "Bitcoin's Role in a Traditional Portfolio" published in August 2023 and available at <https://bitwiseinvestments.com/crypto-market-insights/bitcoins-role-in-a-traditional-portfolio>.

Past performance does not predict or guarantee future results. Nothing contained herein is intended to predict the performance of any investment. There can be no assurance that actual outcomes will match the assumptions or that actual returns will match any expected returns. Historical performance of sample portfolios has been generated and maximized with the benefit of hindsight. The returns do not represent the returns of an actual account and do not include the fees and expenses associated with buying, selling and holding funds or crypto assets. Performance information is provided for informational purposes only.

Bitcoin has positively contributed to a diversified portfolio's 3-year returns even during previous market drawdowns

Contribution of 5% Bitcoin Allocation to a Traditional 60/40 Portfolio (3-Year Rolling Cumulative Returns, Assuming Quarterly Rebalancing)



Source: Bitwise Asset Management with data from Bloomberg. Data from January 1, 2014 to September 30, 2024.
Note: Traditional Portfolio consists of 60% equities (represented by the FTSE Global All Cap Index) and 40% bonds (represented by the Bloomberg US Aggregate Bond Float Adjusted Index). It is not possible to invest directly in an index. Past performance does not predict or guarantee future results. Nothing contained herein is intended to predict the performance of any investment. There can be no assurance that actual outcomes will match the assumptions or that actual returns will match any expected returns. Historical performance of sample portfolios has been generated and maximized with the benefit of hindsight. The returns do not represent the returns of an actual account and do not include the fees and expenses associated with buying, selling and holding funds or crypto assets. Performance information is provided for informational purposes only.

Historical Impact on a Traditional 60/40 Portfolio: Ethereum

Portfolio Performance Metrics (Rebalanced Quarterly)

PORTFOLIO	CUMULATIVE RETURN	ANNUALIZED RETURN	ANNUALIZED VOLATILITY	SHARPE RATIO	MAXIMUM DRAWDOWN
Traditional 60/40 Portfolio	79.99%	7.89%	9.15%	0.578	22.07%
Traditional Portfolio + 1.0% Ethereum	107.35%	9.88%	9.50%	0.761	22.60%
Traditional Portfolio + 2.5% Ethereum	154.08%	12.81%	10.52%	0.959	23.39%
Traditional Portfolio + 5.0% Ethereum	249.04%	17.53%	12.93%	1.136	24.70%
Traditional Portfolio + 10.0% Ethereum	516.56%	26.50%	18.51%	1.267	27.38%

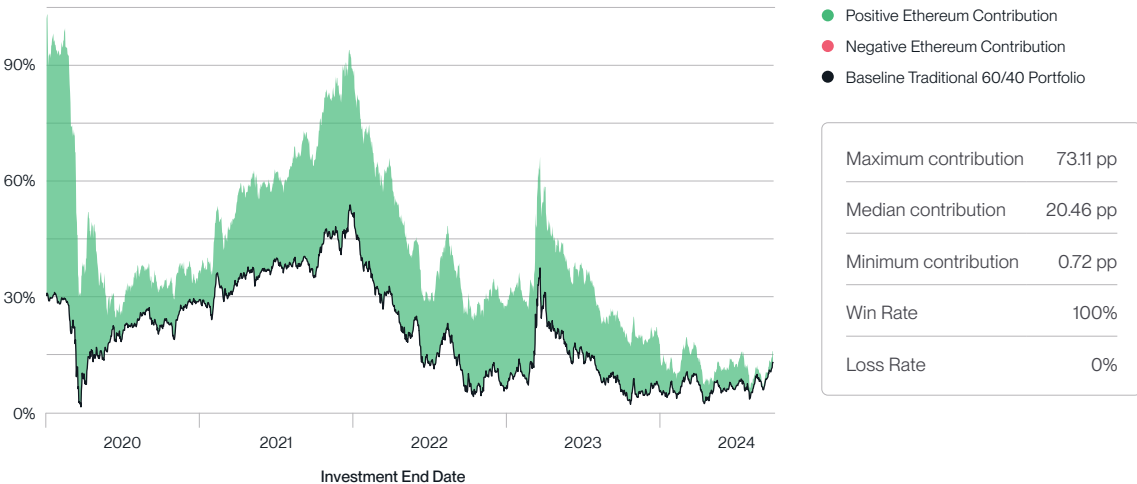
Source: Bitwise Asset Management with data from Bloomberg. Data from January 1, 2017 to September 30, 2024.

Note: Traditional Portfolio consists of 60% equities (represented by the FTSE Global All Cap Index) and 40% bonds (represented by the Bloomberg US Aggregate Bond Float Adjusted Index). For index definitions, **see p.67**. Not considering taxes nor transaction costs. Performance of individual crypto assets may differ significantly from the performance of Ethereum. The period before 2017 is excluded as that is the first year that full-year price data is available for Ethereum.

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Historical Impact on a Traditional 60/40 Portfolio: Ethereum

Contribution of a 5% Ethereum Allocation to a 60/40 Portfolio: 3-Year Rolling Cumulative Return (Rebalanced Quarterly)



Source: Bitwise Asset Management with data from Bloomberg. Data from January 1, 2017 to September 30, 2024.

Note: Traditional Portfolio consists of 60% equities (represented by the FTSE Global All Cap Index) and 40% bonds (represented by the Bloomberg US Aggregate Bond Float Adjusted Index). For index definitions, [see p.67](#). Not considering taxes nor transaction costs. Performance of individual crypto assets may differ significantly from the performance of Ethereum. The period before 2017 is excluded as that is the first year that full-year price data is available for Ethereum.

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Historical Impact on a Traditional 60/40 Portfolio: Equal Weight Bitcoin and Ethereum

Portfolio Performance Metrics (Rebalanced Quarterly)

PORTFOLIO	CUMULATIVE RETURN	ANNUALIZED RETURN	ANNUALIZED VOLATILITY	SHARPE RATIO	MAXIMUM DRAWDOWN
Traditional 60/40 Portfolio	79.99%	7.89%	9.15%	0.578	22.07%
Traditional Portfolio + 1.0% BTC & ETH (50/50)	99.76%	9.35%	9.33%	0.719	22.66%
Traditional Portfolio + 2.5% BTC & ETH (50/50)	132.63%	11.53%	9.82%	0.900	23.55%
Traditional Portfolio + 5.0% BTC & ETH (50/50)	196.93%	15.10%	11.03%	1.117	25.02%
Traditional Portfolio + 10.0% BTC & ETH (50/50)	367.76%	22.06%	14.29%	1.338	27.91%

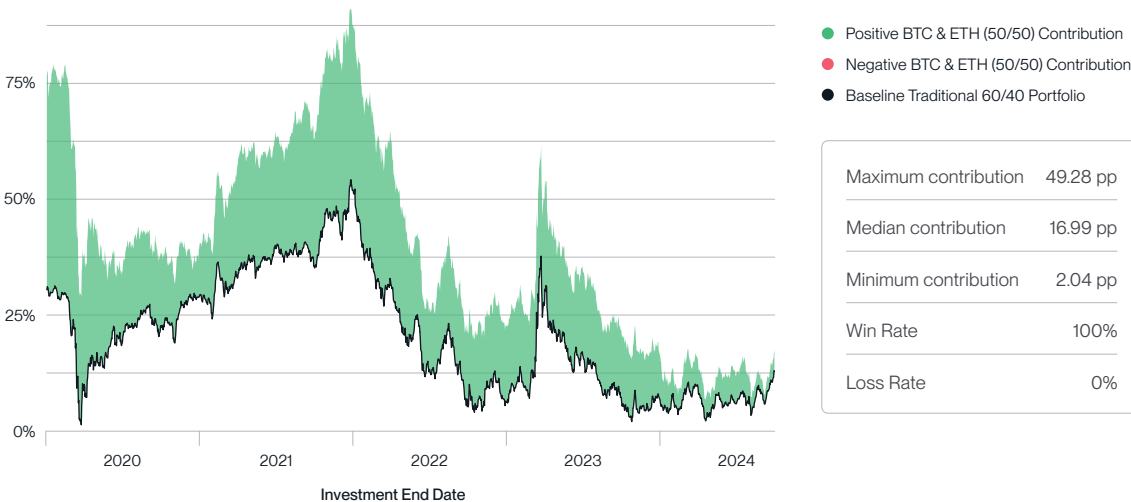
Source: Bitwise Asset Management with data from Bloomberg. Data from January 1, 2017 to September 30, 2024.

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Historical Impact on a Traditional 60/40 Portfolio: Equal Weight Bitcoin and Ethereum

Contribution of a 5% BTC & ETH Equal Weight Allocation to a 60/40 Portfolio: 3-Year Rolling Cumulative Return (Rebalanced Quarterly)



Source: Bitwise Asset Management with data from Bloomberg. Data from January 1, 2014 to September 30, 2024.

Note: Traditional Portfolio consists of 60% equities (represented by the FTSE Global All Cap Index) and 40% bonds (represented by the Bloomberg US Aggregate Bond Float Adjusted Index). For index definitions, [see p.67](#). Not considering taxes nor transaction costs. Performance of individual crypto assets may differ significantly from the performance of Bitcoin and Ethereum. The period before 2017 is excluded as that is the first year that full-year price data is available for Ethereum.

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