Soltis Investment Advisors Digital Asset Portfolio

Hal G. Anderson

Managing Partner



Aligned with purpose.



Soltis Investment Advisors is proud to be among the first investment advisors globally to successfully complete the independent certification process of CEFEX, Centre for Fiduciary Excellence. CEFEX certification independently analyzes the trustworthiness and best practice processes of investment fiduciaries.

Soltis Investment Advisors

Mission Statement

"To create, build, and manage wealth so our clients are free to pursue life's most important endeavors."

Soltis Background

- Founded in 1993 as a Fee-Only, Federally Registered Investment Advisory (RIA) Firm.
- The Company's Key Philosophy is Founded on Performance, Independence, and a Non-Conflict of Interest Environment.
- Currently Provide Investment Advisory Services to over \$6.0 Billion* for more than 100 Institutional Clients.



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Digital Assets: An Emerging Asset Class Many are Skeptical

- WARREN BUFFETT CHAIRMAN, BERKSHIRE HATHAWAY INC. AND BILLIONAIRE INVESTOR, Cryptocurrencies basically have no value and they don't produce anything...It doesn't deliver, it can't mail you a check, it can't do anything, and what you hope is that somebody else comes along and pays you more money for it later on. But then that person's got the problem. But in terms of value: zero." (February 23, 2020)
- **JEROME POWELL**, CHAIR, U.S. FEDERAL RESERVE: Powell said the Fed prefers to call crypto coins "crypto assets," because their volatility undermines their ability to store value, a basic function of a currency. "They're highly volatile, see Bitcoin, and therefore not really useful as a store of value. They're more of an asset for speculation. So they're also not particularly in use as a means of payment. It's essentially a substitute for gold rather than for the dollar." (March 21, 2021)
- **Ed Yardeni**, President of Yardeni Research: Don't ask me about Bitcoin. I need earnings, dividends, rent, some income to discount. Governments are waking up to the [risks] cryptocurrencies pose to their monopoly control of the money supply. *August 13, 2021*





At its core, cryptocurrency is typically <u>decentralized digital money designed to be used over the internet</u>.

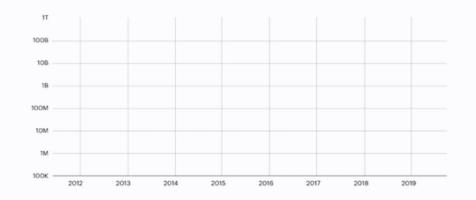
Crypto makes it possible to transfer value online without the need for a middleman like a bank or payment processor, allowing value to transfer globally, near-instantly, 24/7, for low fees.

Cryptocurrencies are usually not issued or controlled by any government or other central authority

Crypto makes transactions with people on the other side of the planet as seamless as paying with cash at your local grocery store.

Sending bitcoin is typically 60x more cost effective and up to 48x faster than an international wire transfer Over \$7 trillion worth of bitcoin has been transferred since 2009

Source: CoinMetrics.io





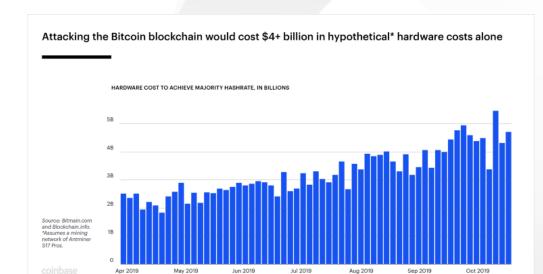
<u>Privacy</u>: When paying with cryptocurrency, you don't need to provide unnecessary personal information to the merchant. Which means your financial information is protected from being shared with third parties like banks, payment services, advertisers, and credit-rating agencies.

<u>Security</u>: Almost all cryptocurrencies, including Bitcoin, Ethereum, Tezos, and Bitcoin Cash are secured using technology called a blockchain, which is constantly checked and verified by a huge amount of computing power.

<u>Portability</u>: Because your cryptocurrency holdings aren't tied to a financial institution or government, they are available to you no matter where you are in the world or what happens to any of the global finance system's major intermediaries.

Source: Coinbase





<u>Transparency</u>: Every transaction on the Bitcoin, Ethereum, Tezos, and Bitcoin Cash networks is published publicly, without exception. This means there's no room for manipulation of transactions, changing the money supply, or adjusting the rules mid-game.

<u>Irreversibility</u>: Unlike a credit card payment, cryptocurrency payments can't be reversed. For merchants, this hugely reduces the likelihood of being defrauded. For customers, it has the potential to make commerce cheaper by eliminating one of the major arguments credit card companies make for their high processing fees.

<u>Safety:</u> The network powering Bitcoin has never been hacked. And the fundamental ideas behind cryptocurrencies help make them safe: the systems are permissionless and the core software is open-source, meaning countless computer scientists and cryptographers have been able to examine all aspects of the networks and their security.

Source: Coinbase





What is the Value of Crypto?

Digital Assets: Where is the Value?

Why, then, do we think it is valuable?

Bitcoin As An Intangible Commodity

The economic value of cryptocurrency, like all goods and services, comes from supply and demand.

The "greater fool" critics of bitcoin are right in saying that bitcoin is not a stock or a bond, and that it does not generate cash flow. But they are wrong in thinking that this precludes it from having value.

The right way to think about bitcoin is as a commodity. Commodities do not generate cash flows, but are nevertheless valuable because they are useful (to different ends) and scarce (to different degrees). Gold has value for this reason, as does oil, wheat, copper, and all the rest.

Investors invest in traditional commodities because they believe that demand will increase at a faster pace than supply. The same is true of bitcoin. The challenge is that, while bitcoin's total supply is easy to forecast, its demand largely exists in the future, and is therefore difficult for many to see.

That's the logic behind the value of bitcoin to investors today. It's not about simply hoping for a greater fool, but rather buying a scarce asset before demand is fully developed.

Those of us who have spent time investigating crypto—including some of the leading technology companies, entrepreneurs, inventors, and venture capitalists—foresee a future where money moves with the speed of text messages, where financial access is available to all, and where all investors have an easy way to escape the casual destruction of wealth that attends most fiat currencies over time. As this world arrives, you'll be glad to have bought a stake before the value becomes plain for all to see.



Why is Cryptocurrency the Future of Finance?

Cryptocurrencies are the first alternative to the traditional banking system, and have powerful advantages over previous payment methods and traditional classes of assets. Think of them as Money 2.0. a new kind of cash that is native to the internet, which gives it the potential to be the fastest, easiest, cheapest, safest, and most universal way to exchange value that the world has ever seen.

Cryptocurrencies can be used to buy goods or services or held as part of an investment strategy, but they can't be manipulated by any central authority, simply because there isn't one. No matter what happens to a government, your cryptocurrency will remain secure.

Digital currencies provide <u>equality of opportunity</u>, regardless of where you were born or where you live. As long as you have a smartphone or another internet-connected device, you have the same crypto access as everyone else.

Cryptocurrencies create unique <u>opportunities for expanding people's economic freedom</u> around the world. Digital currencies' <u>essential borderlessness</u> facilitates free trade, even in countries with tight government controls over citizens' finances. In places where inflation is a key problem, cryptocurrencies can <u>provide an alternative to dysfunctional fiat currencies</u> for savings and payments.

Source: Coinbase



EXHIBIT 1. EXPECTED FUTURE RETURN DRIVERS BY ASSET CLASS

Equities	Bonds	Cryptoassets					
Corporate profits	Economic growth	Investor adoption					
Economic growth	Interest rates	Millennial wealth					
Interest rates	Issuance	Regulatory developments					
Productivity		Weakening trust in authorities					
		Institutionalization					

Source: Bitwise Asset Management.





Digital Assets: An Emerging Asset Class: Institutional Response

Fidelity Investments: Fidelity Digital Assets offers a full-service enterprise-grade platform for securing, trading and supporting digital assets.

Digital assets may soon become recognized as investable "stores of value," tradable on global, licensed exchanges, and accessible to a broad swath of individuals and institutions across the globe.

We expect continued growth in digital products and services, with many of them aimed at institutional investors.

While this asset class continues to evolve, one constant is that the institutional adoption of digital assets depends on the arrival of professional custody solutions.

Over time, we believe <u>securities will also become digitally native</u>, and these assets will be more quickly introduced to market compared to new issuances today. <u>We aim to be</u> ahead of the curve.





SEPTEMBER 2021

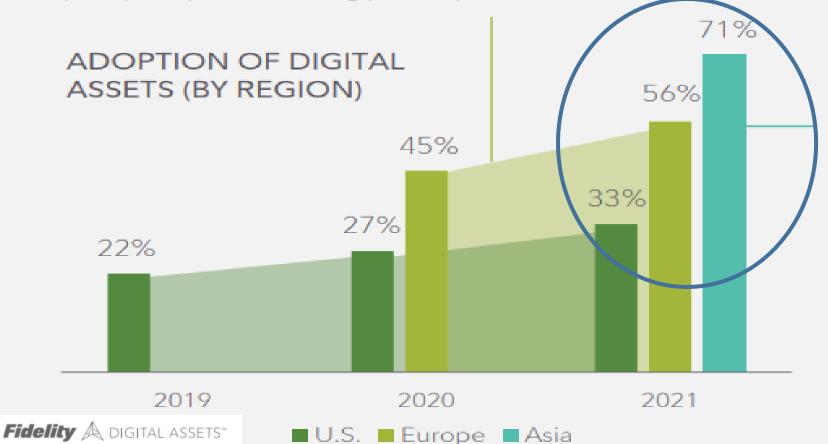
THE INSTITUTIONAL INVESTOR DIGITAL ASSETS STUDY

Jack Neureuter, Research Analyst – Fidelity Digital AssetsSM



For the second consecutive year, surveyed European investors showed a greater propensity for digital assets than surveyed U.S. investors.

We believe this ongoing trend may be in part due to a greater number of regulated investment products that offer digital asset access in European markets, which offer a familiar structure to retail investors and may help build trust with institutions. Additionally, European investors have historically been more likely to hold alternative assets in their portfolios than U.S. investors, who have seen plenty of upside investing primarily in stocks and bonds over the last decade.



We were not surprised to learn that Asia has the most institutional investors with allocations to digital assets of those surveyed.

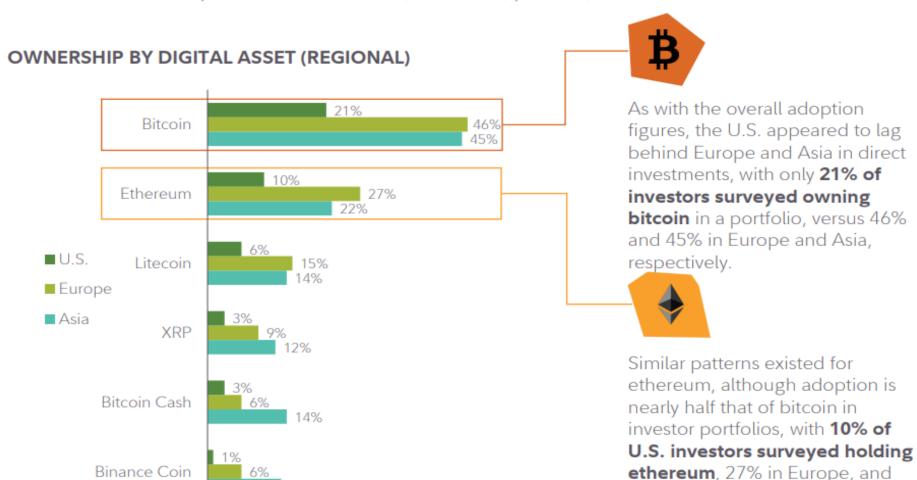
Historically, Asian investors have had a more positive view of digital assets and were early adopters of more traditional digital payments. For example, in China, a projected 32.7% of point-of-sale payments are made via mobile, double the UK (15.3%) and US (15.0%), according to *OMFIF* [1]

22% in Asia.

CURRENT ADOPTION & CHANNELS TO EXPOSURE

Current ownership of digital assets was largely dominated by the two leading cryptocurrencies, bitcoin and ethereum.

37% of investors surveyed own bitcoin in their (or a client's) portfolio, while 20% own ethereum.



Fidelity A DIGITAL ASSETS"

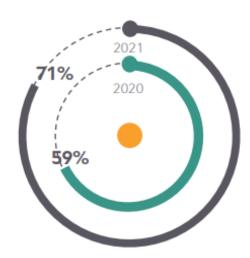
It is worth noting that U.S. investor ownership of bitcoin increased modestly from last year's survey, up two-percentage points.

In Europe, bitcoin and ethereum were the most significant drivers of increased adoption. Bitcoin adoption increased 13-percentage points from 33% in the 2020 survey, while ethereum adoption more than doubled from 13%.

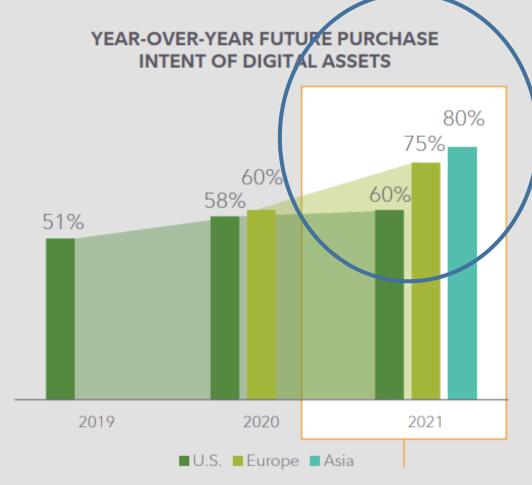
CURRENT ADOPTION & CHANNELS TO EXPOSURE

Future purchase intent for U.S. & European investors has also grown year over year, with 71% of those surveyed in these regions planning to buy in the future, compared to 59% the year prior.

FUTURE PURCHASE INTENT OF DIGITAL ASSETS (U.S. & EUROPE)



Europe continues to show considerable gains here as well, with investment intent up **15**-percentage points from last year's survey.



In line with how the regional survey data trended, Asia was most interested in future investments (80%), followed by Europe (75%) and the U.S. (60%).

CURRENT ADOPTION & CHANNELS TO EXPOSURE (INVESTOR SEGMENTS)

Of the investors surveyed, U.S. family offices and financial advisors saw the largest uptick in adoption, increasing 28-percentage points and 20-percentage points, respectively, over the last year.



Privately-held, smaller wealth management companies may have less "red tape" to get through than other institutions and may therefore move quicker, which could explain the increase in family office investment.

For financial advisors, it is likely that they are receiving direct requests from their clients to better understand digital assets and gain exposure through a familiar and trusted platform.

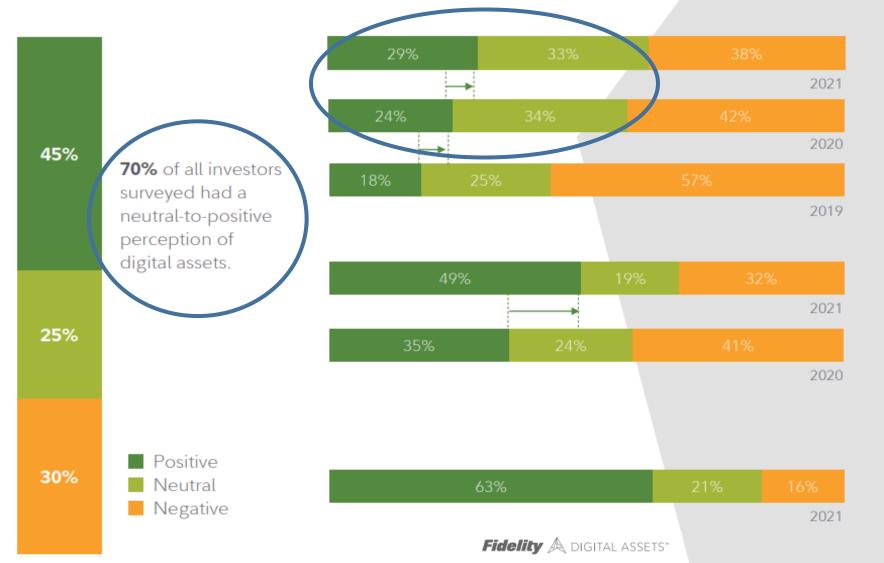
Fidelity A DIGITAL ASSETS*

The study validates what we're hearing from Fidelity's institutional and advisor clients – that demand for digital assets is growing rapidly across segments. Family offices have been early adopters and view digital assets as a strategic allocation. There is now also a sense of urgency among financial advisors who are recognizing that digital assets have come of age, driven by increasing end-investor interest in these assets, particularly bitcoin."

Michael Durbin, Head of Fidelity Institutional*



PERCEPTION OF DIGITAL ASSETS



U.S.

In the U.S., positive perception increased by five-percentage points since 2020. Still, U.S. investors' perceptions were more polarized than other regions, with 33% of respondents having a neutral view and 38% a negative view.

Europe

The number of European investors who had a positive perception of digital assets was higher relative to the U.S. at 49%. This positive perception in Europe increased 14-percentage points from 2020.

Asia

Asian investors had the most favorable perception of digital assets, with 63% of respondents saying they held a positive view and 21% neutral view.

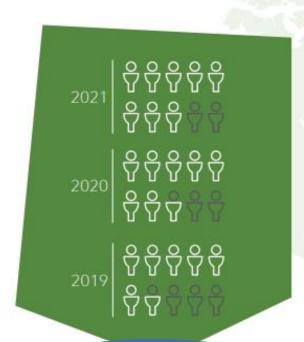


Appeal of Digital Assets

APPEAL OF DIGITAL ASSETS

In this year's survey, almost nine in 10 respondents said they find digital assets appealing (86%).

This figure has grown across regions surveyed in prior years.

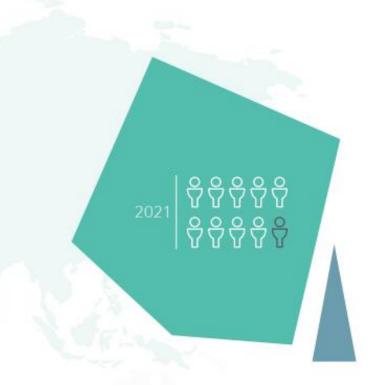


In the U.S., the number of investors surveyed who find digital assets appealing has grown from 65% (2019) to 74% (2020), to 78% (2021).



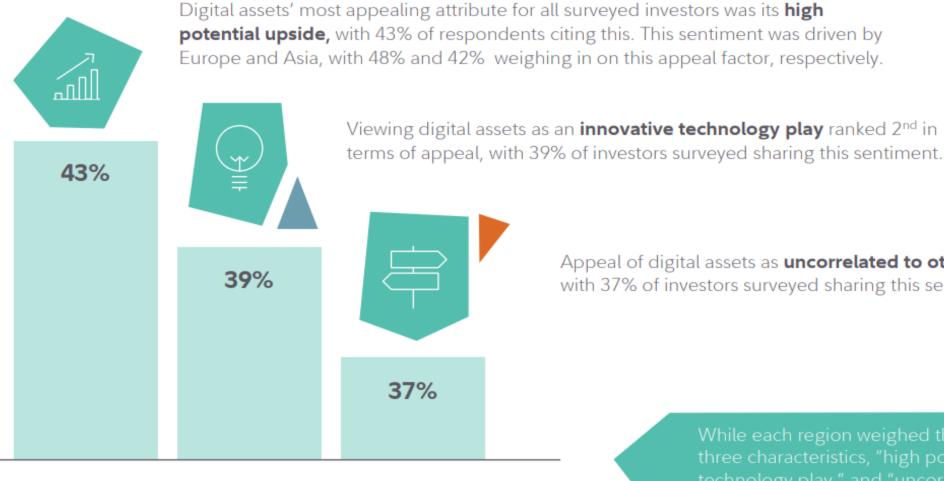
In Europe, appeal has grown from 76% (2020) to 89% (2021).

Fidelity A DIGITAL ASSETS"



92% of Asian investors surveyed in 2021 found digital assets appealing, the highest of any region.

APPEAL OF DIGITAL ASSETS

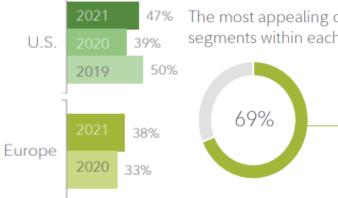


Digital assets' most appealing attribute for all surveyed investors was its high **potential upside**, with 43% of respondents citing this. This sentiment was driven by Europe and Asia, with 48% and 42% weighing in on this appeal factor, respectively.

> Appeal of digital assets as uncorrelated to other assets ranked 3rd, with 37% of investors surveyed sharing this sentiment.

APPEAL OF DIGITAL ASSETS

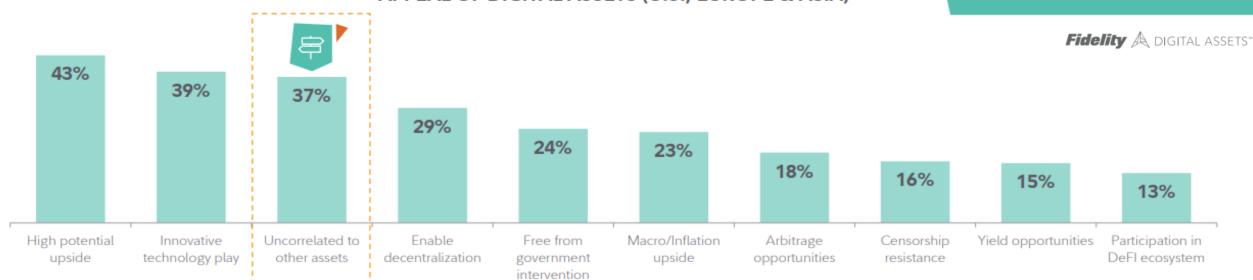
TREND IN APPEAL – UNCORRELATED TO OTHER ASSETS



The most appealing characteristics among institutional investors surveyed were relatively stable across segments within each region.

In the U.S., 69% of financial advisors surveyed found the uncorrelated nature to other assets to be the most appealing attribute of digital assets – greater than any other investor segment in the region. Given that advisors often hope to maintain a balance between achieving client goals and taking risk in portfolios, the ability for digital assets to act as a diversifier could make them a fit for advisors and their end clients.





Digital assets today make up a total market capitalization of <u>around</u> \$2 trillion^[IV], which is much lower than other assets that many investors tend to favor in low interest rate environments, like gold with a market cap of <u>over</u> \$10 trillion^[M].

Allocation to Digital Assets Adds Value

A study by Bitwise found that an allocation to bitcoin in a 60/40 portfolio added value over time. Using historical data they found:

- Bitcoin would have contributed positively to a diversified portfolio's cumulative and risk-adjusted returns in 74% of one-year periods, 97% of two-year periods, and 100% of three-year periods since 2014, assuming quarterly rebalancing.
- In addition, the size of that positive impact has been significant: On average, assuming quarterly rebalancing, a 2.5% allocation to bitcoin would have boosted the three-year cumulative return of a traditional 60% equity/40% bond portfolio by an astonishing 15.9 percentage points.
- Counterintuitively, bitcoin has positively impacted portfolios even over periods in which bitcoin's price has declined. For instance, assuming quarterly rebalancing, an investor who first
 allocated to bitcoin at its all-time closing high on December 16, 2017, and held through the end of this study, would have had (modestly) higher cumulative and risk-adjuste returns than an
 investor who did not allocate to bitcoin at all, despite the fact that bitcoin fell 67% during this period. This remarkable result is driven by the fact that bitcon has low correlations with other
 asset classes and daily liquidity, allowing investors to capitalize on the volatility harvesting opportunity that noncorrelated assets offer.

Source: Bitwise: The Case for Crypto in an Institutional Portfolio. Past performance does not guarantee future results. Although this study focuses on the period since 2014, the positive impact on a portfolio exists if the study is expanded to include all data. Looking at data from July 2010 through March 2020, bitcoin has contributed positively for the cumulative return of a Traditional Portfolio in 81.5% of one-year periods, 96.9% of two-year periods, and 100% of three-year periods. We examine other rebalancing strategies, holding periods, and allocation sizes in the body of the paper. See, for instance, "Volatility Harvesting: Why Does Diversifying and Rebalancing Create Portfolio Growth?" by Paul Bouchey, Vassilii Nemtchinov, Alex Paulsen and David M. Stein, The Journal of Wealth Management, Vol. 15, No. 2, Fall 2012

A Primate Manual I. Date Campletian (1/2015 3/2021)

2			Avei	rage Pai	rwise	Month	ily Ret	urn (orrela	tions (1	/2015	-3/2021)				
2	US Equities	US Total Stock	Dev. Market ex US	Frontier Markets	US IG Bonds	Global IG Bonds	Global DM HY	TIPS	EM Bonds	Floating Rate	Lev. Loans	EM Gov. Bonds	Real Estate	Private Equity	Broad Basket	Gold	Bitcoin
US Equities	1.00													Correlations (Since Inception)			
US Total Stock	1.00	1.00												USD/Bitc	oin	-	0.21
Dev. Market ex US	0.88	0.89	1.00		- 1									,		-0.38	
Frontier Markets	0.65	0.66	0.76	1.00										Bitcoin/Gold			0.43
US IG Bonds	-0.04	-0.04	0.02	-0.03	1.00									Correlations (5-Year)			
Global IG Bonds	0.05	0.05	0.03	0.09	0.80	1.00											-0.57
Global DM HY	0.78	0.79	0.86	0.76	0.17	0.19	1.00							,			-0.40
TIPS	0.21	0.22	0.27	0.22	0.83	0.69	0.38	1.00									
EM Bonds	0.56	0.57	0.68	0.69	0.46	0.50	0.82	0.55	1.00	0				Bitcoin/G		/2	0.65
Floating Rate	0.59	0.61	0.56	0.66	0.18	0.33	0.74	0.35	0.71	1 1.00				Correlations (3-Year)			
Lev. Loans	0.63	0.65	0.66	0.63	0.00	0.07	0.78	0.25	0.61	0.73	1.0	0.		USD/Bitc			-0.75
EM Gov. Bonds	0.50	0.50	0.71	0.67	0.28	0.26	0.70	0.41	0.79	0.46	0.5	3 1.00		USD/Gold	1		-0.60
Real Estate	0.67	0.69	0.61	0.45	0.34	0.46	0.60	0.47	0,59	0.59	0.5	1 0.44	1.00	Bitcoin/G	iold		0.55
Private Equity	0.90	0.92	0.90	0.73	0.03	0.10	0.86	0.26	0.69	0.73	0.7	4 0.57	0.72	1.00			
Broad Basket	0.51	0.53	0.60	0.56	-0.18	-0.21	0.62	0.09	0.45	0.43	0.5	8 0.51	0.31	0.51	1.00		
Gold	-0.01	-0.02	0.07	0.12	0.55	0.41	0.26	0.58	0.38	0.14	0.0	2 0.43	0.06	-0.03	0.21	1.0	o
Bitcoin	0.28	0.27	0.30	0.36	0.09	0.13	0.27	0.13	0.26	0.22	0.1	9 0.23	0.20	0.28	0.21	0.0	7 1.00

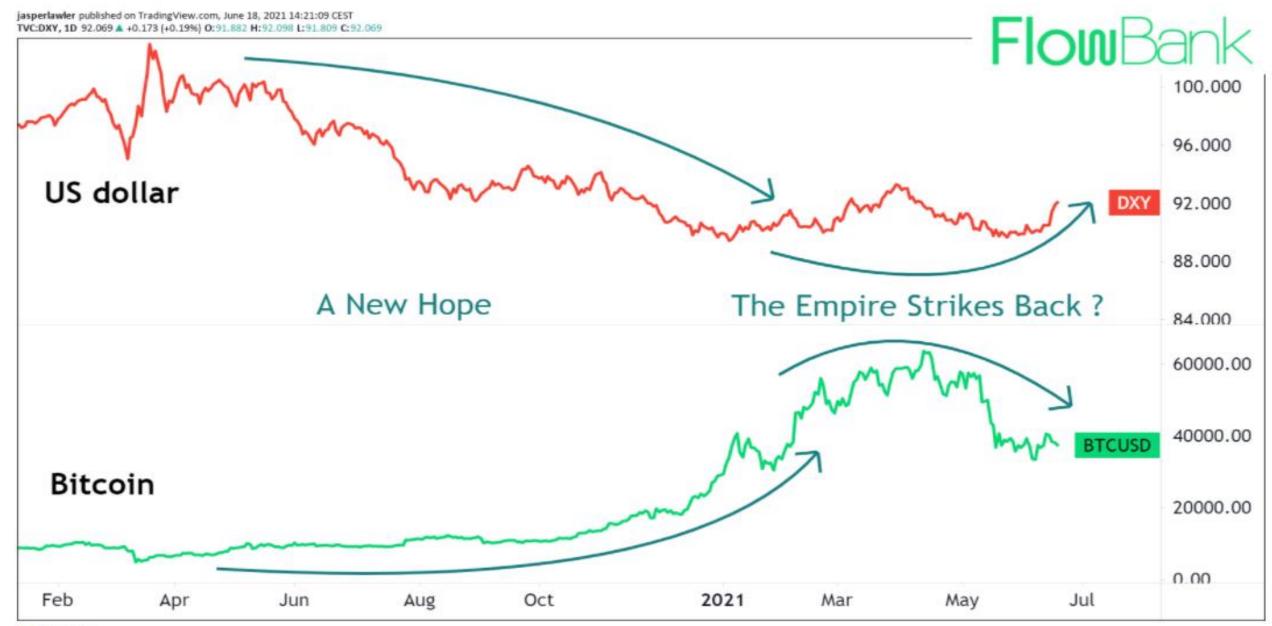


Source: Fidelity Investments as of 3/31/21. Correlations represented by the average monthly pairwise correlations from 12/31/2014 through 3/31/2021. Past performance is no guarantee of futures results. It is not possible to invest directly in an index. All market indices are unmanaged. Index performance is not meant to represent that of any investment product. Correlation coefficient is the interdependence of two randon variables that range in value from -1 to +1, indicating perfect negative correlation at -1, abscence of correlation at 0, and perfect positive correlation at +1. Standard deviation (annualized) measures the historical volatility of a fund. The greater the standard deviation, the greater the fund's volatility.



Low to Negative Correlation to the US Dollar

Bitcoin has Low to Negative Correlation with the US Dollar



CATEGORIZATION OF DIGITAL ASSETS: DIGITAL ASSETS IN A PORTFOLIO

Almost eight in 10 respondents felt digital assets have a place in a portfolio.





Of that group, **over 40%** identified digital assets as part of the alternative asset class.

For sophisticated investors, classifying digital assets as an alternative is an important step toward increasing adoption, as institutional investment strategies are often organized by categorical allocations.

In prior years, **65%** of U.S. & European investors surveyed saw digital assets as having a role in their portfolio. That belief jumped 8-percentage points in this year's survey to **73%**.



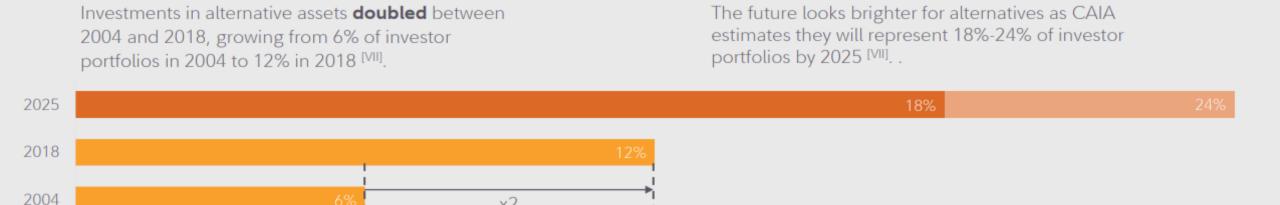
Broadly speaking, alternative assets are those that do not fit into the traditional asset category consisting of public stocks and bonds. Alternatives typically help investors gain exposure to non-traditional returns that are not highly correlated with stocks and bonds, provide unusual risk exposure, or generate nontraditional payouts.

Fidelity A DIGITAL ASSETS

Asian investors, a new population in this year's survey, arguably exhibited the most conviction, with **87%** of respondents seeing digital assets as having a role in their portfolio.

DIGITAL ASSETS IN A PORTFOLIO

The growth in classifying digital assets as an alternative arises at an opportune time for the alternative asset class.



Source: Chartered Alternative Investment Analyst Association (CAIA) and their "Next Decade of Alternative Investments" report, April 2020:

As investors increase exposure to the alternatives category and digital assets become part of the composition of alternative funds or indexes, future tailwinds for the digital asset class through indirect investment via a broader allocation to the alternative asset category may be present.



DIGITAL ASSET INVESTMENT PRODUCTS

This trend in support of bitcoin could be driven by the recent availability of publicly traded, bitcoin-only investment products as well as investors' interest in regulator-approved exchange-traded bitcoin funds (ETF).

62% of U.S. investors surveyed expressed a neutral-to-positive view about a potential bitcoin ETF.

A regulatory structure for exchange-traded products holding bitcoin exists in Europe and Asia and, not surprisingly, these products remain appealing to surveyed investors in these markets – only **33%** of European and **22%** of Asian investors found a bitcoin ETF unappealing.





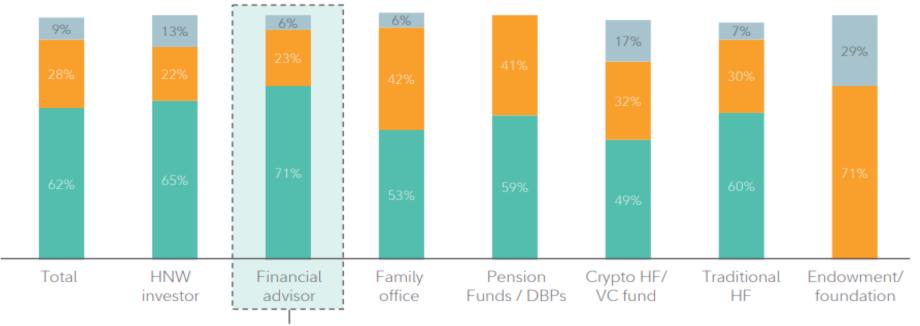
"As interest in digital assets has grown among institutions, so has the need for a more diversified set of investment solutions to support broader adoption. The data is showing us once again that investors expect the digital assets industry to more closely mirror that of other asset classes – whether that's product structure, management strategy, or integration."

Peter Jubber, Managing Director, Fidelity Digital Funds

DIGITAL ASSET INVESTMENT PRODUCTS (INVESTOR SEGMENTS)

Nearly all surveyed investor segments reported active management of an investment product containing digital assets as their preference.

- Actively (e.g., portfolio manager selecting digital assets)
- Passively (e.g., index fund)
- Factor-based (e.g., momentum, value)



Financial advisors expressed the strongest interest in active management, with 71% of those surveyed sharing this preference.



The strong interest in active management could be a reflection of the price movement seen in the past year, most notably bitcoin's climb from below \$4k in March 2020 to above \$40k in December 2020, then to an all-time high of \$64k in April of 2021 before retreating to \$41k in July 2021^[IX]. An actively managed strategy may help investors maximize returns in a volatile market.



DIGITAL ASSET INVESTMENT PRODUCTS (INVESTOR SEGMENTS)

A few trends may contribute to this significant uptick in factor-based strategies for crypto native investors. The latter part of 2020 and into 2021 was a watershed time period for ethereum, the second largest cryptocurrency by market cap.





Given the Ethereum protocol is an operating infrastructure for decentralized applications, a fair degree of value-based assessments may be formulated around this asset. Outside of basic network and wallet growth, analysis of the applications built on Ethereum may help investors evaluate the potential and unrealized value of the network, and therefore, the value of the underlying asset. Additionally, many decentralized platforms emerged as true competition to their centralized counterparts in 2020, most notably in the arena of decentralized exchanges, yield-farming, and liquidity staking.



The public nature of decentralized protocols may provide the most experienced and savvy of digital investors – the crypto natives – opportunity to speculate on value for this new and emerging component of the broader digital asset ecosystem, as well as the assets that represent them, leading to more robust, factor-based strategies for investing.

U.S. CENTRAL BANK DIGITAL CURRENCY (CBDC) & TOKENIZATION

While most of the respondents are open to a U.S. CBDC, appeal is greatest in Asia. More polarization exists in the U.S. with almost half surveyed finding its implementation unappealing.

This was the first year that we surveyed the entire sample of our investor base around their interest in a U.S. central bank digital currency. Most investors surveyed are open to a U.S. CBDC, with **69%** of them taking a neutral-to-positive view of a U.S. dollar-backed CBDC. Appeal was highest in Asia, with **84%** taking a neutral-to-positive view, followed by Europe (**74%**) and U.S. (**53%**).

APPEAL OF A U.S. CBDC



Fidelity A DIGITAL ASSETS"

Conversation around a digital dollar has been more prevalent in the past year, with many pundits speculating on the benefits that this monetary innovation would have for faster stimulus payments and as a government-backed alternative to private stablecoins^[VIII]. This momentum may be contributing to **53% of investors surveyed in 2021 finding a U.S. CBDC likely to be implemented within the next five years.**

U.S. CENTRAL BANK DIGITAL CURRENCY (CBDC) & TOKENIZATION (INVESTOR SEGMENTS)

conviction around a digital dollar, with 74% believing the

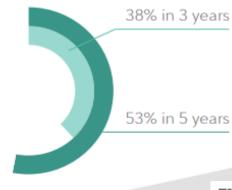
likelihood of existence being within five years.



Neutral

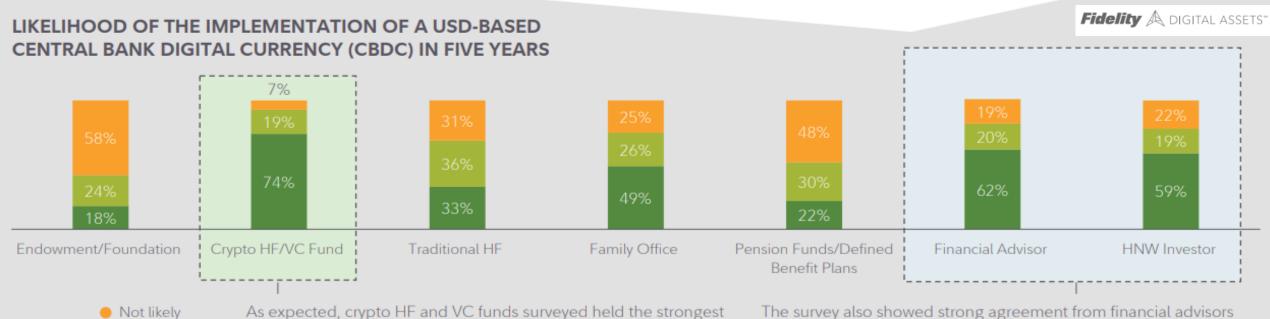
Likely

Over half of surveyed investors worldwide foresee a U.S. CBDC within the next five years, with 38% of them believing a digital dollar is likely to be implemented within three years.



and high-net-worth investors, with 62% and 59% (respectively)

sharing this five-year time horizon for a U.S. CBDC.



Institutions Adopting Digital Assets

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PayPal: one of the largest financial institutions in the world—announced that it would make crypto investments available to all 200+ million U.S. users by the end of the year.

J.P. Morgan: CEO called bitcoin a fraud just three years ago, published an in-depth feature in its flagship research series comparing bitcoin to gold, and saying its price could double or triple if current trends continue. Earlier this year, J.P. Morgan also agreed to provide banking services to crypto pioneer Coinbase, and has been getting involved in additional ways. In 2019, J.P. Morgan became the first global bank to design a network to facilitate instantaneous payments using blockchain technology - enabling 24/7, business-to-business money movement by unveiling JPM Coin.

Bain Capital Ventures: Disclosed the creation of a new crypto-focused fund, public filings show. BCV Crypto Fund I, LP is a pooled investment fund.

Tesla: In January, Tesla announced a \$1.5 billion investment in Bitcoin and allowed customers to purchase its cars using the cryptocurrency. But it stopped the practice in May due to environmental concerns related to Bitcoin mining.

Mass Mutual: Purchased \$100 million in Bitcoin for its general investment account December of 2020. Marks the entry of a prudent investor into volatile markets. June 14, 2021: 6 insurer initiate new Cryptocurrency Investment Positions.

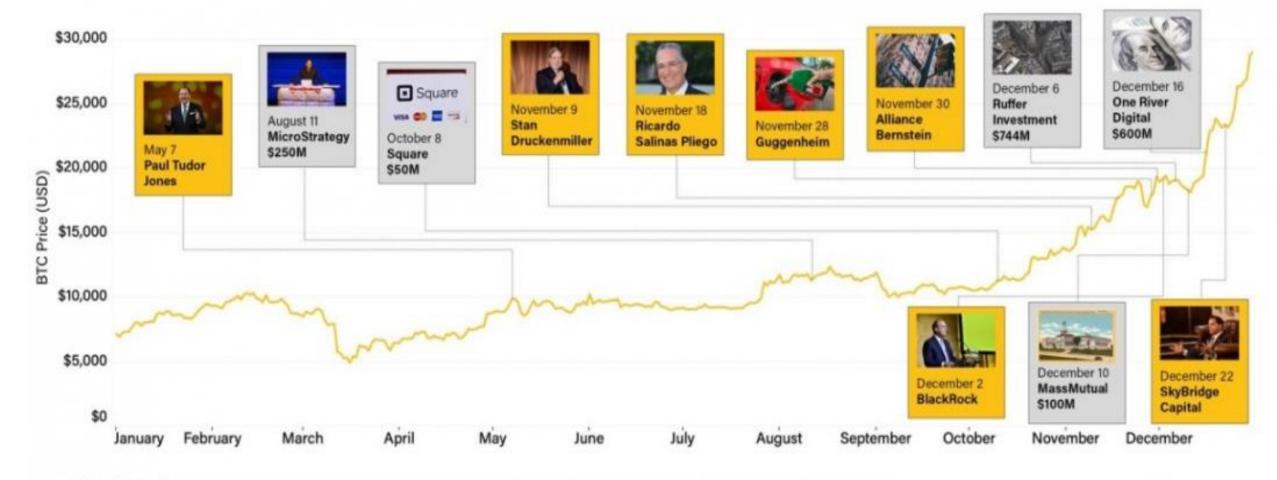
Big Banks: State Street is creating a digital finance Division (June 10, 2021), BNY Mellon announced formation of Digital Assets Unit (Feb 11, 2021), Citicorp with futures, Wells Fargo for clients.

Public Companies with the Largest Bitcoin Portfolios: Galaxy Digital Holdings, Voyager Digital LTD, Square Inc., Marathon Digital Holdings Inc., Coinbase Global, Inc, BlackRock

TOP BLOCKCHAIN COMPANIES: BRD, BitMEX, Chainalysis, Coinme, Netki, Paxful, Republic, Spring Labs, SALT Lending, TQ Tezos, Circle, Coinbase, Gemini, IBM, Voatz, Steem, Shipchain



Institutional Investments and Big Investors for Bitcoin in 2020



Source: CoinDesk Research - "Events highlighted in yellow represent big investors and institutions that made positive comments about bitcoin and/or made investments into bitcoin in which the dollar figure is not known. Events highlighted in grey represent big investors and institutions that made investments into bitcoin in which the dollar figure is known.

Quarterly Review: Q4 2020







Barriers to Adoption

Institutional Adoption

BARRIERS TO ADOPTION

Price volatility continues to be the most significant barrier to adoption, according to 54% of investors surveyed.



Concern over volatility has increased year-over-year in both the U.S. and Europe:



Asian investors were less concerned with volatility, with 40% of respondents viewing it as a challenge. Again, this is likely because Asian investors have been invested in the digital asset markets longer and therefore have more experience managing the cycles of volatility.



Another key concern for investors is the **lack of fundamentals to gauge appropriate value, 44%** of
those surveyed noted this, which is consistent with prior
years.

Valuation frameworks for this asset class continue to be built and many investors have embraced supply and demand modeling such as stock-to-flow and Metcalfe's Law to derive a fair value for these assets^[VI].



More nuanced protocols, such as those evolving inside the decentralized finance space, have unique characteristics that allow for valuations to be derived based on volume traded or total assets pooled inside of these protocols.



The open-source nature of digital assets allows for a new series of short-and-long-term data metrics to be utilized. On-chain metrics refer to the data that can be analyzed through the observation of an underlying blockchain.

Institutional Adoption

BARRIERS TO ADOPTION

Other notable barriers to adoption include concerns around:

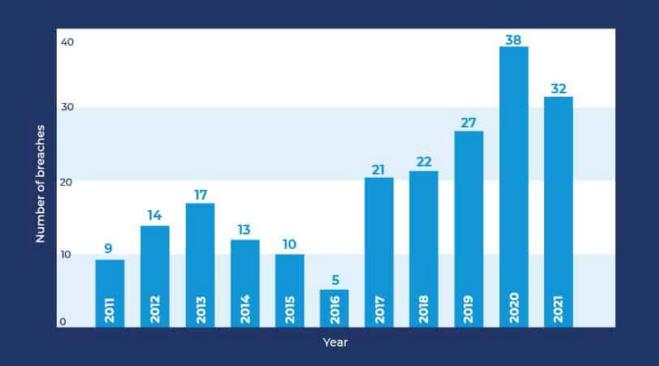


Reflecting their more advanced tenure investing in the space, Asian investors surveyed were less likely to cite concerns around the complexity or newness of the asset class. Concerns around market manipulation and regulatory classification were highlighted by U.S. and European respondents, likely because the regulatory environment in these markets is still evolving and investors seek more clarity.

"There has been meaningful progress in addressing some of the regulatory ambiguity in the digital assets space in each region, so while investors still have some concern over regulatory classification, we have seen investors respond positively to constructive guidance that has been delivered in the past year. If adopted, the Regulation of Markets in Crypto-assets (MiCA) proposal could harmonize digital asset regulation across Europe, and in turn, make the market more accessible to institutions."

- Chris Tyrer, Head of Fidelity Digital Assets in Europe

HOW MUCH HAVE CRYPTO BREACHES AND FRAUD INCREASED?



Year	Number of breaches	Average value	Total value
2011	9	\$1,091,222	\$9,821,000
2012	14	\$437,929	\$6,131,000
2013	17	\$813,028	\$13,821,480
2014	13	\$48,826,538	\$634,745,000
2015	10	\$40,077,000	\$400,770,000
2016	5	\$29,453,800	\$147,269,000
2017	21	\$223,524,667	\$4,694,018,000
2018	22	\$196,434,045	\$4,321,549,000
2019	27	\$156,350,222	\$4,221,456,000
2020	38	\$46,538,500	\$1,768,463,000
2021	32	\$93,312,500	\$2,986,000,000

Key findings

Crystal

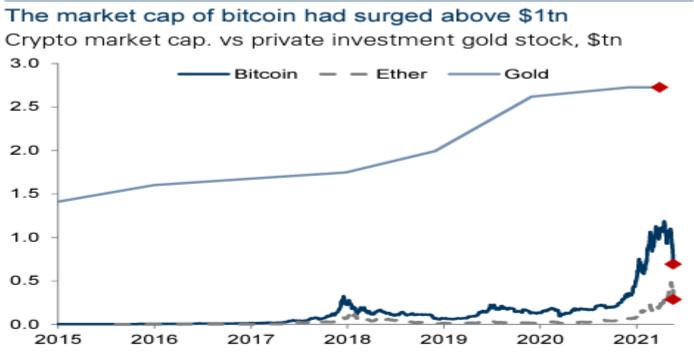
- Approximately \$10 billion in total worth of cryptocurrencies has been stolen between 2011 and May 2021.
- The largest crypto security breach thus far was the incident involving Japanese exchange Coincheck in 2018.
- So far, \$2.86 billion has been stolen through security breaches and \$6.8 billion has been stolen through scams, and \$0.335 billion through DeFi hacks.
- The most popular method of crypto-robbery is the infiltration of crypto-exchange security systems.
- The most common locations for exchange security breaches are United States, United Kingdom, South Korea, Japan, and China.
- There have been 115 security breach attacks, 25 fraudulent schemes, and 19 DeFi protocol exploits in total.



Digital Asset Advocates

Digital Assets: An Emerging Asset Class Advocates

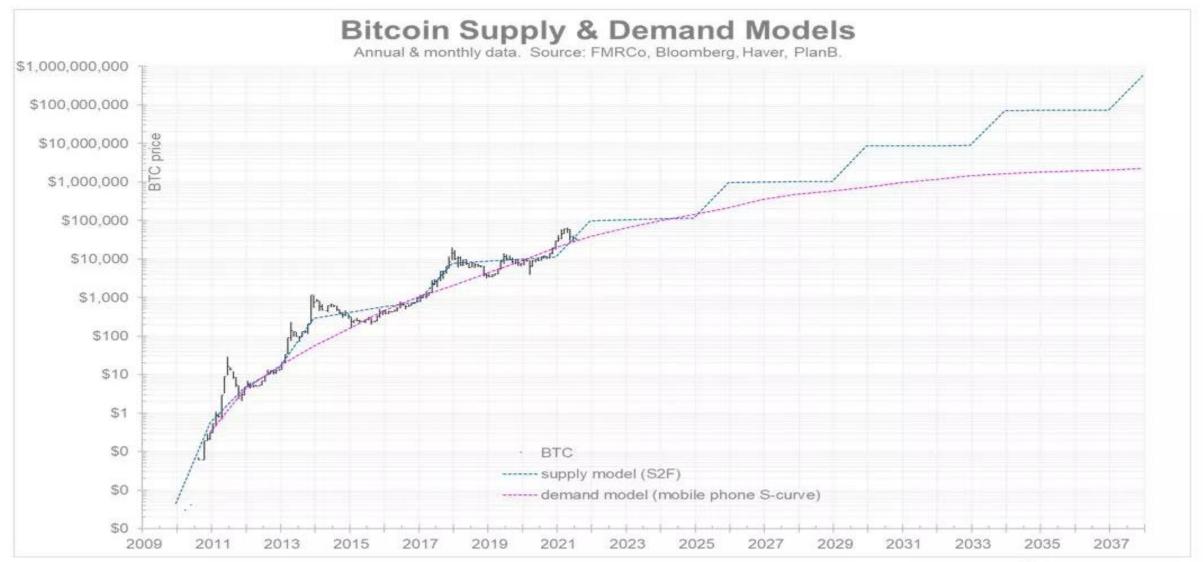
Michael Novogratz: Bitcoin is one of the few uniform stores of value in the world. It's the most widely distributed asset in history outside of the Dollar and Euro; 140 million people own some bitcoin. And it's easily stored and transported, unlike gold. Stores of value are social constructs—they have value because we believe they do. (GS, 2021)





Note: Private investment gold stock based on ETFs and bars/coins held privately. Source: World Gold Council, CoinMarketCap, Goldman Sachs GIR.

Jurrien Timmer, Director Global Macro at Fidelity: One Bitcoin May be Worth \$1 Billion by 2040



Data source: FMRCo, Bloomberg, Haver Analytics, FactSet. Data as of 07/25/2021. Past performance is no guarantee of future results.



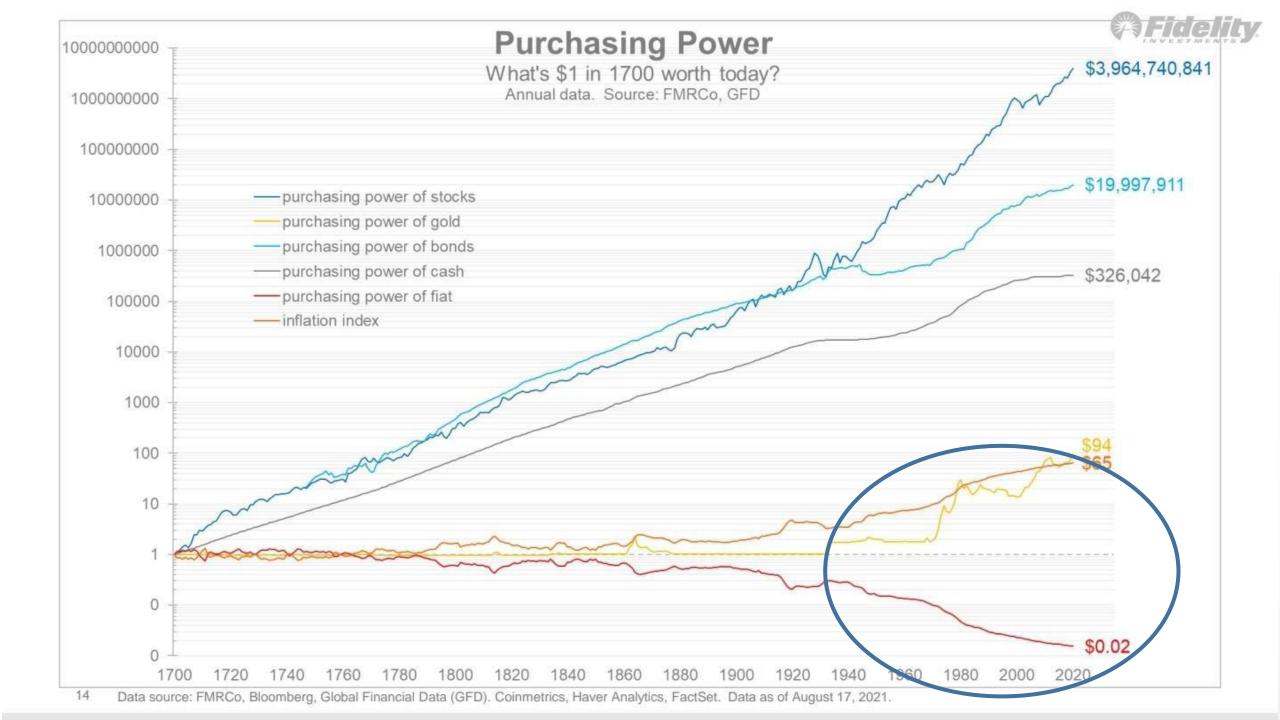
Fidelity's Jurrien Timmer

Metcalfe's Law holds that, as the number of its users grows linearly, a network's value (or, by inference, the bitcoin price) grows geometrically.

In other words, bitcoin's utility (value) should grow much faster than does its network of buyers, sellers, exchanges, ATMs, and participating retailers.

Bitcoin, by design, is a finite asset, with both a unique supply and a unique demand dimension, and as its network increases, bitcoin's value and durability could increase even faster. In my view, some investors may wish to consider bitcoin, alongside other alternatives, as one component of the bond side of a 60/40 stock/bond portfolio.





Deustche Bank: Digital Currencies May Dominate by 2030

Many in the Blockchain and digital currency world predict that fiat currencies will be replaced by cryptocurrencies and digital currencies, in a surprising move Deustche Bank has released it's Konzept prediction report for 2030, making this very prediction.

The forces that have held the current fiat system together now look fragile and they could unravel in the 2020s. If so, that will start to lead to a backlash against fiat money and demand for alternative currencies, such as gold or crypto could soar.

The report argues that the inflation which has historically accompanied unbacked fiat currency has been impacted by a "once in a lifetime event" of Chinese labour becoming available to the global market:

Chinese demographics were arguably the biggest suppressors of global inflation over the last four decades. At work was an extraordinary surge in the global labour supply at a time when globalisation and deregulation in the global economy were taking off.

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WHAT ARE THE REASONS FOR ADDING CRYPTOASSET EXPOSURE TO CLIENT PORTFOLIOS?

WHAT ARE THE REASONS FOR ADDING CRYPTOASSET EXPOSURE TO CLIENT PORTFOLIOS?

- This year's survey saw a sharp uptick in advisors highlighting crypto's "high potential returns" and its role in "inflation hedging" as key attractive features of the asset class.
- There has been a significant rise in interest in inflation-hedging tools over the past year, and a number of well-known institutional investors publicly highlighted bitcoin as a <u>potential hedge against inflation</u> risks in the past year.
- Other potential attractive features reported steady or rising interest as well.

Study by: David Lawant & Matt Hougan, CIO Bitwise Asset Management



HOW WOULD YOU PREFER TO INVEST IN CRYPTO?

- Surveyed advisors overwhelmingly would prefer to buy crypto in an ETF package compared with all other options.
- Direct ownership of coins was the distant No. 2 vote-getter, attracting 16% of surveyed advisors,
- Advisors are divided on the best strategy for an investment in crypto. Forty-three percent (43%) of advisors said they would prefer an actively managed fund, while 36% thought a diversified index fund was the best way to go.
- This year's survey shows that advisors are strongly and increasingly bullish about the outlook for bitcoin. For instance, 15% of surveyed advisors expect the price of bitcoin to exceed \$100,000 within five years, up from just 4% in last year's survey. Nearly two-thirds (64%) of surveyed advisors expect it to exceed \$25,000, up from just 15% in last year's survey.

Study by: David Lawant & Matt Hougan Bitwise Asset Management



The Impact of Adding Crypto to a 60/40 Traditional Portfolio: (study period January 1, 2014 to June 30, 2021)

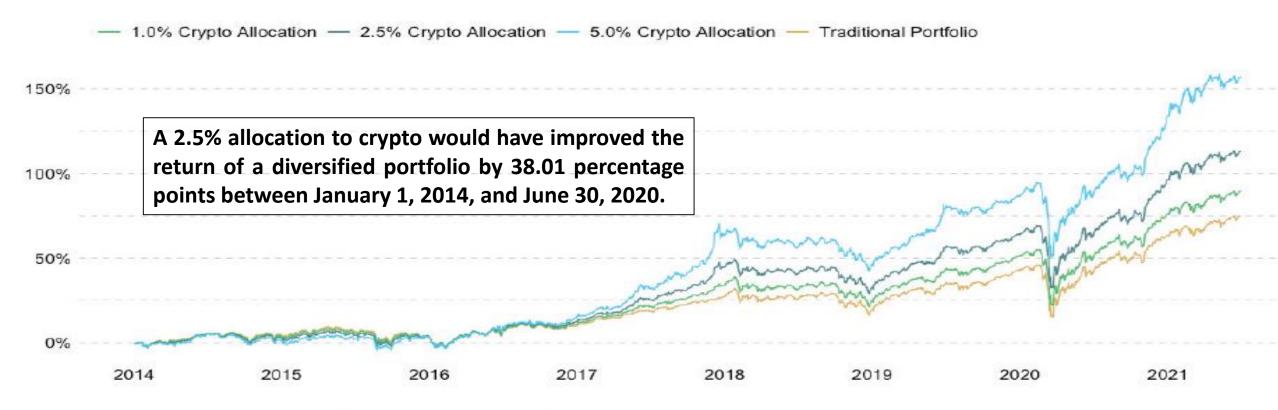
- Adding a 2.5% crypto allocation with quarterly rebalancing would have improved the cumulative return of the portfolio from 74.72% to 112.73%. Importantly, this result would have been achieved without significantly changing either the portfolio's volatility (10.43% with crypto, 10.19% without) or its maximum drawdowns (21.80% with crypto, 21.07% without).
- The portfolio's Sharpe ratio, which measures excess returns per unit of risk, would have improved 42.31%.

Study by: David Lawant & Matt Hougan Bitwise Asset Management



CUMULATIVE RETURNS – TRADITIONAL PORTFOLIO WITH AND WITHOUT QUARTERLY-REBALANCED CRYPTO ALLOCATIONS

Period between January 1, 2014 and June 30, 2021



Source: Bitwise Asset Management with data from IEX Cloud



PORTFOLIO PERFORMANCE METRICS

Period between January 1, 2014 and June 30, 2021 (assuming quarterly rebalancing)

PORTFOLIO	CUMULATIVE RETURN	ANNUALIZED RETURN	ANNUALIZED VOLATILITY	SHARPE RATIO	MAXIMUM DRAWDOWN
Traditional Portfolio	74.72%	7.75%	10.19%	0.609	21.07%
Traditional Portfolio + 1.0% crypto	89.26%	8.90%	10.21%	0.719	21.32%
Traditional Portfolio + 2.5% crypto	112.73%	10.62%	10.43%	0.867	21.80%
Traditional Portfolio + 5.0% crypto	156.46%	13.42%	11.18%	1.055	22.76%

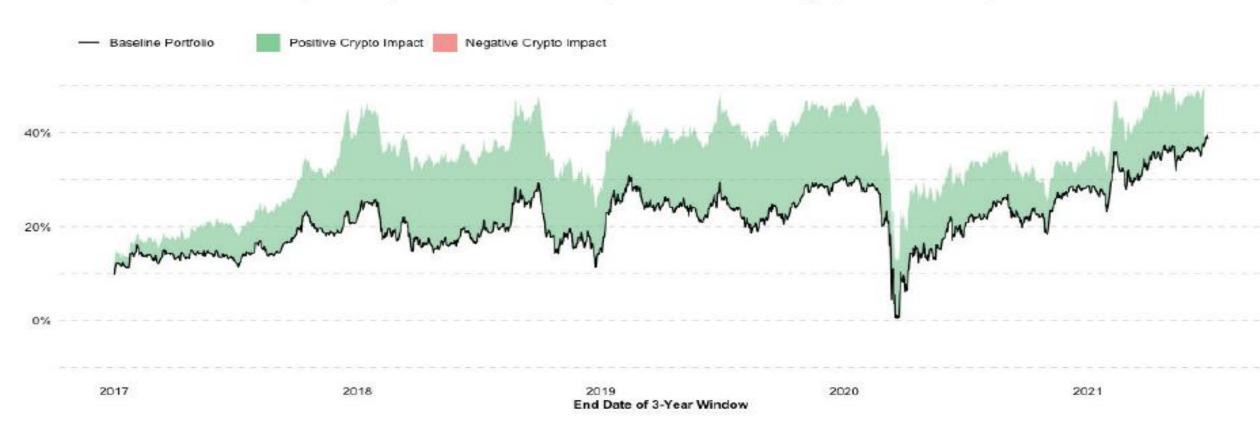
Source: Bitwise Asset Management with data from IEX Cloud



Adding a crypto allocation has increased the cumulative 3-year return of a Traditional Portfolio for every possible window between January 1, 2014 and June 30, 2021

CONTRIBUTION OF A 2.5% QUARTERLY-REBALANCED CRYPTO ALLOCATION TO A 60/40 PORTFOLIO

Three-year rolling cumulative return for the periods between January 1, 2014 and June 30, 2021



Source: Bitwise Asset Management with data from IEX Cloud

CONTRIBUTION OF A 2.5% CRYPTO ALLOCATION TO A TRADITIONAL PORTFOLIO

Three-year rolling cumulative return for the periods between January 1, 2014 and June 30, 2021

Maximum Contribution	22.30 pp
Median Contribution	13.30 pp
Minimum Contribution	1.84 pp
Frequency of Positive Contributions	100.00%
Frequency of Negative Contributions	0.00%

Source: Bitwise Asset Management with data from IEX Cloud

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 charged by funds.

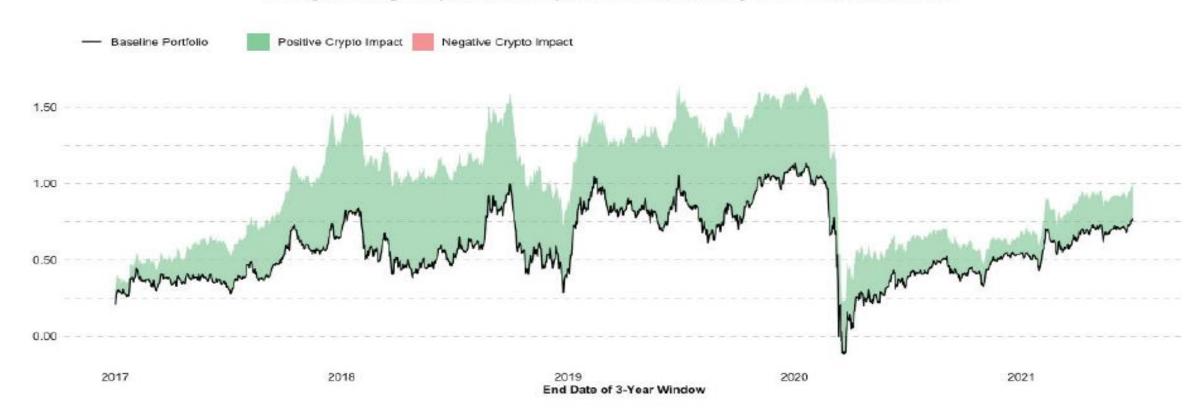


The median contribution of a crypto allocation to the three-year returns of a diversified portfolio between January 1, 2014 and June 30, 2021 was 13.30 percentage points.

Adding crypto to a portfolio would also have significantly boosted its risk-adjusted returns, as measured by the Sharpe ratio.

CONTRIBUTION OF A 2.5% QUARTERLY-REBALANCED CRYPTO ALLOCATION TO A 60/40 PORTFOLIO

Three-year rolling Sharpe ratio for the periods between January 1, 2014 and June 30, 2021



Source: Bitwise Asset Management with data from IEX Cloud

Q1: WHAT IS THE IMPACT OF DIFFERENT TIME FRAMES ON THE OVERALL PORTFOLIO RESULTS?

CONTRIBUTION OF A 2.5% QUARTERLY-REBALANCED CRYPTO ALLOCATION TO A TRADITIONAL PORTFOLIO

Rolling portfolio metrics for the periods between January 1, 2014 and June 30, 2021

HOLDING PERIOD	MAXIMUM	MEDIAN	MINIMUM	WINRATE	LOSS RATE
1 Year	16.67 pp	3.01 pp	-2.98 pp	77.33%	22.67%
2 Years	20.23 pp	8.24 pp	-0.64 pp	97.31%	2.69%
3 Years	22.30 pp	13.30 pp	1.84 pp	100.00%	0.00%

Source: Bitwise Asset Management with data from IEX Cloud

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



Q2: WHAT DIFFERENCE DOES REBALANCING MAKE FOR A CRYPTO ALLOCATION?

PORTFOLIO PERFORMANCE METRICS

Period between January 1, 2014 and June 30, 2021

PORTFOLIO	CUMULATIVE RETURN	ANNUALIZED RETURN	ANNUALIZED VOLATILITY	SHARPE RATIO	MAXIMUM DRAWDOWN
Traditional Portfolio (no rebalancing)	75.13%	7.78%	10.71%	0.583	23.08%
2.5% crypto allocation (no rebalancing)	184.88%	15.02%	17.71%	0.755	32.52%
2.5% crypto allocation (yearly rebalancing)	144.12%	12.67%	11.11%	0.995	21.80%
2.5% crypto allocation (quarterly rebalancing)	112.73%	10.62%	10.43%	0.867	21.80%
2.5% crypto allocation (monthly rebalancing)	99.07%	9.64%	10.41%	0.776	22.31%

Source: Bitwise Asset Management with data from IEX Cloud



Q3: HOW DOES POSITION SIZE IMPACT KEY OVERALL PORTFOLIO METRICS?

KEY PORTFOLIO METRICS BY CRYPTO ALLOCATION

Three-year rolling analysis from January 1, 2014 to June 30, 2021 (assuming quarterly rebalancing)

СКҮРТО	CI	JMULATIVE RET	URN	SHARPE RATIO			STANDAR	D DEVIATION (V	OLATILITY)	MAXIMUM DRAWDOWN			
ALLOCATION	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	
0.00% (Traditional Portfolio)	0.49%	20.11%	30.93%	-0.115	0.637	1.133	6.91%	7.65%	11.60%	8.51%	11.43%	21.07%	
1.00%	5.31%	25.53%	37.54%	0.026	0.839	1.386	6.95%	7.65%	11.66%	8.44%	11.31%	21.32%	
2.00%	10.07%	31.11%	44.69%	0.157	1.017	1.581	7.23%	7.81%	11.85%	8.37%	11.19%	21.61%	
3.00%	12.84%	36.87%	52.74%	0.280	1.166	1.731	7.70%	8.09%	12.17%	8.29%	11.09%	22.00%	
4.00%	13.83%	42.80%	61.07%	0.357	1.286	1.859	8.00%	8.48%	12.60%	8.22%	11.28%	22.38%	
5.00%	14.80%	48.90%	70.90%	0.386	1.381	1.987	8.14%	8.96%	13.12%	8.42%	12.13%	22.76%	
6.00%	15.76%	55.18%	81.39%	0.412	1.455	2.138	8.33%	9.50%	13.70%	8.32%	13.10%	23.13%	
7.00%	16.57%	61.65%	92.38%	0.427	1.513	2.263	8.56%	10.10%	14.35%	8.34%	14.11%	23.51%	
8.00%	17.19%	68.29%	103.89%	0.435	1.560	2.364	8.83%	10.73%	15.03%	8.36%	15.11%	23.88%	
9.00%	17.80%	75.12%	115.96%	0.439	1.597	2.449	9.13%	11.39%	15.76%	8.41%	16.11%	24.24%	
10.00%	18.39%	82.14%	128.73%	0.442	1.627	2.519	9.47%	12.08%	16.51%	8.59%	17.11%	24.61%	

Source: Bitwise Asset Management with data from IEX Cloud

Study Conclusions: The Impact of Adding Crypto to a 60/40 Traditional Portfolio:

(study period January 1, 2014 to June 30, 2021)

This study showed that <u>adding Cryptoassets to a diversified portfolio of stocks and bonds would have consistently and significantly increased both the cumulative and risk-adjusted returns of that portfolio over <u>all three-year periods</u> and most two-year and one-year periods since the asset class has existed, assuming a rebalancing strategy is in place.</u>

This positive impact endures even in periods in which Cryptoasset prices fell. For instance, investors who first allocated to crypto at its all-time closing high on December 16, 2017, would have broken even by June 17, 2019, when the price was still down 52.02% from its previous high. The ability to enhance portfolio returns with Cryptoasset allocations even during difficult markets has been driven by crypto's unique combination of high volatility, low correlations, and liquidity, which allow for volatility harvesting through disciplined rebalancing strategies.

The overarching message from the data in this study is clear: <u>Crypto has had a uniquely valuable role</u> to play in enhancing the risk-adjusted returns of a Traditional Portfolio of stocks and bonds. Investment advisors can add immense value by helping their clients structure and manage allocations to this important new asset class.

The Case for Crypto in an Institutional Portfolio: BY DAVID LAWANT AND MATT HOUGAN, BITWISE ASSET MANAGEMENT





Soltis Digital Asset Portfolio

Soltis Digital Asset Portfolio

Investment Objective

 Deliver Long-Term Growth of Invested Capital through a Diversified Investment Strategy in the emerging Crypto Asset Class

Investment Strategy

- Utilize existing liquid investment options available in the market today
- Recognition of the wisdom of indexing in this newly emerging asset class: 40 percent of the total portfolio is in the Bitwise Index Strategy BITW
- Explicit exposure to both Bitcoin (Grayscale Bitcoin Trust: GBTC and Ethereum (Grayscale Ethereum Trust: ETHE)
- Recognizing the importance of Decentralized Finance (DeFi) as Blockchain solutions are developed and become viable to disrupt and replace existing financial functions: 20 percent allocation in Bitwise DeFi Crypto Index Fund Trust (BITQ)
- · Concentration in Bitcoin recognizing its role as the largest and most liquid Crypto asset in the market today
- Concentration in Ethereum as the backbone of Blockchain and DeFi developm...

2.12%

Name	Weight	Ticker
Bitwise 10 Crypto Index Fund	40%	BITW
Grayscale Ethereum Trust	30%	ETHE
Grayscale Bitcoin Trust	10%	GBTC
Bitwise Crypto Industry Innovators ETF	20%	BITQ
Total	100%	

Crypto Asset Metrics	Weight
Total BTC	33.7%
Total ETHE	41.0%
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Portfolio Allocation Metrics	Weight
Index	40%
BTC (Direct)	10%
ETH (Direct)	30%
Crypto Innovators (ETF)	20%
Total	100%

Crypto Asset Metrics	Weight
Total BTC	33.7%
Total ETHE	41.0%
Total	74.8%

Lead Portfolio Manager

Hal Anderson, MBA Chairman of the Board

Years Investment Experience: 36 years

Hal has served on the Soltis Investment Committee since the inception of the firm. Serving as Chief Investment Officer from 1993 to 2017. Hal has developed investment portfolios and strategies for individual and institutional clients that include wealth management clients, corporations, foundations, and endowments.

BA, International Relations, Brigham Young University MBA, Finance, Brigham Young University

Performance

Underlying Weighted Expense Ratio

	Inception (7/26/2021) - 9/8/2021	YTD	1 Year
Soltis Digital Asset Portfolio (Gross)	30.58	_	_
Soltis Digital Asset Portfolio (Net of Highest Fee)	30.58	_	_
Blended Crypto and Equity	37.85	88.60	319.40

Disclaimer: The performance data quoted represents past performance and does not guarantee future results. Therefore, no existing or prospective client should assume that future performance or any specific investment or investment strategy (including the investments or investment strategies recommended by Soltis), will be profitable or equal any historic performance level. Returns over this respective time are Time Weighted Returns (TWR), net of highest fees (1.25%) and gross of fees. Investors cannot invest directly in an index. Because this is an emerging asset class and can exhibit significant volatility Soltis recommends speaking with an Advisor before investing. Soltis also cautions investors to limit their allocation to a maximum 10% of their investable net worth in digital assets...

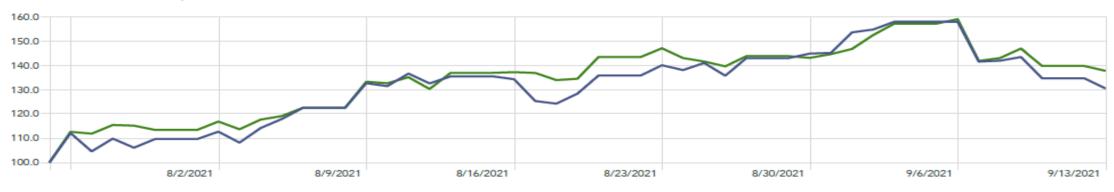


Co-Manager Ammon Christensen, MBA Senior Investment Associate

Years Investment Experience: 5 Years BA, Political Science, Brigham Young MBA, Finance, Utah Valley University

Investment Growth

Time Period: Since Common Inception (7/26/2021) to 9/13/2021



Soltis Digital Asset Portfolio

Digital Assets

Bitcoin: Bitcoin is a new kind of money that can be sent from one person to another without the need for a trusted third party such as a bank or other financial institution; it is the first global, decentralized currency. Due to its negative correlation with dollar and other assets, Bitcoin is valuable as diversifier and often compared to digital gold. **Ethereum:** The primary purpose of Ethereum is not to act as a form of currency, but to

allow those interacting with the Ethereum Network to make and operate 'smart contracts' without having to rust each other or use a middleman. Smart contracts are applications that run exactly as programmed without any possibility of downtime, censorship, fraud, or third party interference. Ethereum uses a 'virtual machine' to achieve all this, which is like a giant computer made up of many individual computers running the Ethereum software. The virtual currency unit that allows this system to work is called ether.

Litecoin: Litecoin is a cryptocurrency that uses a faster payment confirmation schedule and a different cryptographic algorithm than Bitcoin.

Chainlink: An Ethereum token that powers the Chainlink decentralized oracle network. This network allows smart contracts on Ethreum to securely connect to external data sources, APIs, and payment systems.

Blended Crypto and Equity

Bitcoin Cash: A fork of Bitcoin that seeks to add more transaction capacity to the network in order to be useful for everyday transactions.

Stellar Lumens: Stellar aims to connect banks, payment systems, and individuals quickly and reliably.

Uniswap: An automated liquidity provider that's designed to make it easy to eschange Ethereum tokens. Tokens are exchanged through liquidity pools that are defined by smart contracts.

Solana: A decentralized computing platform that uses SOL to pay for transactions. Solana aims to improve blockchain scalability by using a combination of proof of stake consensus and so-called proof of history. As a result, Solana claims to be able to support 50,000 transactions per second without sacrificing decentralization.

Polygon: Aims to provide faster and cheaper transactions on Ethereum using Layer 2 sidechains, which are blockchains that run alongside the Ethereum main chain.

Cardano: Blockchain platform built on a proof-of-stake consensus protocol that validates transactions without high energy costs.

Source: Coinbase



Disclaimer: The performance data quoted represents past performanceand does not guarantee future results. Therefore, no existing or prospective client should assume that future performance or any specific investment or investment strategy (including the investments or investment strategies recommended by Soltis) will be profitable or equal any historic performance level. Returns over this respective time are Time Weighted Returns (TWR), net of highest fees (1.25%) and gross of fees. Investors cannot invest directly in an index. Because this is an emerging asset class and can exhibit significant volatility Soltis recommends speaking with an Advisor before investing. Soltis also cautions investors to limit their allocation to a maximum 10% of their investable net worth in digital assets. The Blended Crypto and Equity Index is 80% the Bitwise Crypto 10 Index Fund and 20% the 5&P 500 Growth.

Allocation to Digital Assets Adds Value

A study by Bitwise found that an allocation to bitcoin in a 60/40 portfolio added value over time. Using historical data they found:

- Bitcoin would have contributed positively to a diversified portfolio's cumulative and risk-adjusted returns in 74% of one-year periods, 97% of two-year periods, and 100% of three-year periods since 2014, assuming quarterly rebalancing.
- In addition, the size of that positive impact has been significant: On average, assuming quarterly rebalancing, a 2.5% allocation to bitcoin would have boosted the three-year cumulative return of a traditional 60% equity/40% bond portfolio by an astonishing 15.9 percentage points.
- Counterintuitively, bitcoin has positively impacted portfolios even over periods in which bitcoin's price has declined. For instance, assuming quarterly rebalancing, an investor who first
 allocated to bitcoin at its all-time closing high on December 16, 2017, and held through the end of this study, would have had (modestly) higher cumulative and risk-adjuste returns than an
 investor who did not allocate to bitcoin at all, despite the fact that bitcoin fell 67% during this period. This remarkable result is driven by the fact that bitcon has low correlations with other
 asset classes and daily liquidity, allowing investors to capitalize on the volatility harvesting opportunity that noncorrelated assets offer.

Source: Bitwise: The Case for Crypto in an Institutional Portfolio. Past performance does not guarantee future results. Although this study focuses on the period since 2014, the positive impact on a portfolio exists if the study is expanded to include all data. Looking at data from July 2010 through March 2020, bitcoin has contributed positively for the cumulative return of a Traditional Portfolio in 81.5% of one-year periods, 96.9% of two-year periods, and 100% of three-year periods. We examine other rebalancing strategies, holding periods, and allocation sizes in the body of the paper. See, for instance, "Volatility Harvesting: Why Does Diversifying and Rebalancing Create Portfolio Growth?" by Paul Bouchey, Vassilii Nemtchinov, Alex Paulsen and David M. Stein, The Journal of Wealth Management, Vol. 15, No. 2, Fall 2012

A Primate Manual I. Date Campletian (1/2015 3/2021)

2			Avei	rage Pai	rwise	Month	ily Ret	urn (orrela	tions (1	/2015	-3/2021					
2	US Equities	US Total Stock	Dev. Market ex US	Frontier Markets	US IG Bonds	Global IG Bonds	Global DM HY	TIPS	EM Bonds	Floating Rate	Lev. Loans	EM Gov. Bonds	Real Estate	Private Equity	Broad Basket	Gold	Bitcoin
US Equities	1.00														Correlation	ns (Since	nception)
US Total Stock	1.00	1.00												USD/Bitc	oin	-	0.21
Dev. Market ex US	0.88	0.89	1.00		- 1									USD/Gold			-0.38
Frontier Markets	0.65	0.66	0.76	1.00										Bitcoin/G			0.43
US IG Bonds	-0.04	-0.04	0.02	-0.03	1.00											ations (5-	
Global IG Bonds	0.05	0.05	0.03	0.09	0.80	1.00								USD/Bitc		utions (5	-0.57
Global DM HY	0.78	0.79	0.86	0.76	0.17	0.19	1.00							USD/Gold			-0.40
TIPS	0.21	0.22	0.27	0.22	0.83	0.69	0.38	1.00						,			
EM Bonds	0.56	0.57	0.68	0.69	0.46	0.50	0.82	0.55	1.00	0				Bitcoin/G	Bitcoin/Gold 0.65		
Floating Rate	0.59	0.61	0.56	0.66	0.18	0.33	0.74	0.35	0.71	1 1.00						ations (3-	<u> </u>
Lev. Loans	0.63	0.65	0.66	0.63	0.00	0.07	0.78	0.25	0.61	0.73	1.0	0		USD/Bitc			-0.75
EM Gov. Bonds	0.50	0.50	0.71	0.67	0.28	0.26	0.70	0.41	0.79	0.46	0.5	3 1.00		USD/Gold	1		-0.60
Real Estate	0.67	0.69	0.61	0.45	0.34	0.46	0.60	0.47	0,59	0.59	0.5	1 0.44	1.00	Bitcoin/G	iold		0.55
Private Equity	0.90	0.92	0.90	0.73	0.03	0.10	0.86	0.26	0.69	0.73	0.7	4 0.57	0.72	1.00			
Broad Basket	0.51	0.53	0.60	0.56	-0.18	-0.21	0.62	0.09	0.45	0.43	0.5	8 0.51	0.31	0.51	1.00		
Gold	-0.01	-0.02	0.07	0.12	0.55	0.41	0.26	0.58	0.38	0.14	0.0	2 0.43	0.06	-0.03	0.21	1.0	o
Bitcoin	0.28	0.27	0.30	0.36	0.09	0.13	0.27	0.13	0.26	0.22	0.1	9 0.23	0.20	0.28	0.21	0.0	7 1.00



Source: Fidelity Investments as of 3/31/21. Correlations represented by the average monthly pairwise correlations from 12/31/2014 through 3/31/2021. Past performance is no guarantee of futures results. It is not possible to invest directly in an index. All market indices are unmanaged. Index performance is not meant to represent that of any investment product. Correlation coefficient is the interdependence of two randon variables that range in value from -1 to +1, indicating perfect negative correlation at -1, abscence of correlation at 0, and perfect positive correlation at +1. Standard deviation (annualized) measures the historical volatility of a fund. The greater the standard deviation, the greater the fund's volatility.