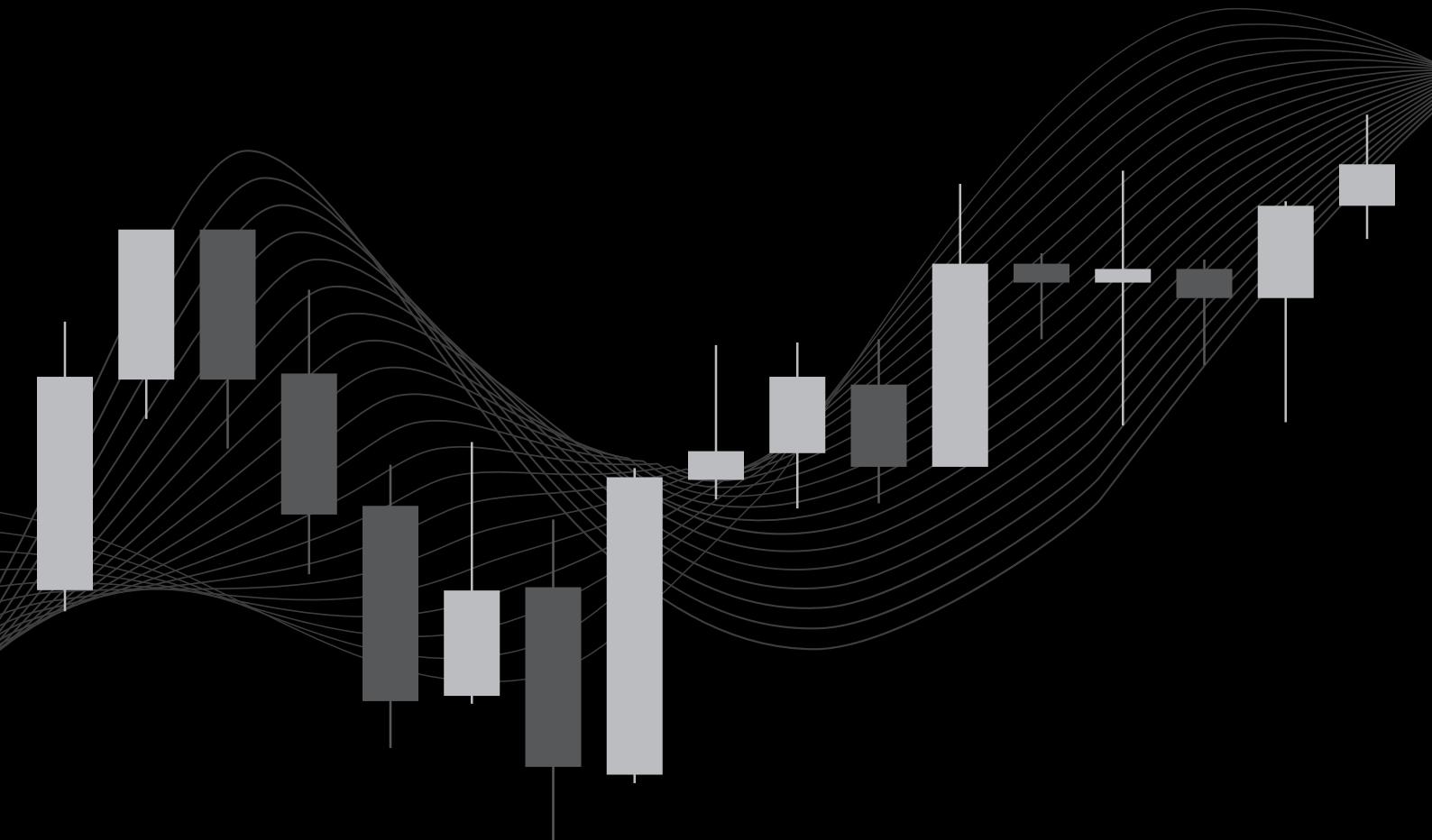


2020 in review

Crypto is an institutional asset class



January 2021

A note from the author

In 2020, crypto cemented its status as an institutional asset class. Coinbase had a front-row seat to this development — facilitating trading, custodial, and lending activity for many of the world's leading investment firms, corporates, banks, fintechs, and wealth managers.

The crypto asset class grew to an all-time high of \$781 billion¹ in aggregate market capitalization on December 31 (+309% in 2020), while the caliber and size of institutions in the market increased throughout the year. Coinbase experienced much of this growth, with company-wide Assets on Platform finishing the year at more than \$90 billion.

Among the many new investors who built crypto positions in 2020, standouts disclosing their activity included Microstrategy (NASDAQ: MSTR), One River Asset Management, Tudor Investment Corporation, Square (NYSE: SQ), MassMutual, and Stanley Druckenmiller. Analysts at major banks, including JP Morgan², Citi³, and Guggenheim⁴, covered Bitcoin and forecast six-figure price targets. Meanwhile, fintech giant PayPal entered the market with a crypto retail brokerage offering, while SoFi, Grayscale Investments, Cash App, Robinhood, eToro, Revolut, Paysafe, Voyager, and others expanded their existing crypto capabilities.

In this report, we take you on a comprehensive tour of the crypto asset class, sharing our unique perspective on how and why these institutions are engaging with the market. We cover the large cap assets Bitcoin and Ethereum, how institutions are using Coinbase Prime Broker to buy, sell, and custody billions of dollars worth of crypto, the expanding universe of “onramps” unlocking new demand, derivatives, cryptodollars, data analytics, growth in EMEA and APAC, regulation, decentralized finance (“DeFi”), and our investment activity via Coinbase Ventures.

We aim to write for a broad audience, spanning prospective crypto investors, companies, and advisors seeking to offer crypto to their clients, regulators, and researchers. We hope you find this report useful, no matter where you are on your crypto journey. If you have questions about this report or want to understand how Coinbase's institutional practice can help your firm engage with the crypto asset class, please contact us at institutional@coinbase.com

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Brian Foster is a member of our Institutional Coverage team and Coinbase Ventures. Previously Brian held strategy and product roles at Curv, a digital asset security company, and was a VC at Founder Collective and Innovation Endeavors (FKA Marker LLC), where he focused primarily on crypto assets, cybersecurity, and enterprise software. He began his career in marketing and sales at BuysideFX, an FX trading software start-up. Brian holds an MBA from Harvard Business School and a BA from Middlebury College.

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Bitcoin

Bitcoin reinforced its dominance in 2020, starting the year at \$7,215 and ending the year at \$29,185⁵ (+321%) with a 69.1% share of the \$781 billion⁶ total crypto market capitalization. Bitcoin continued to demonstrate the market's strongest network effects, deepest liquidity, broadest adoption, and most cohesive narrative relative to other crypto assets.

In 2020 our institutional clients invested in Bitcoin for a range of reasons, including as a store of value, as an inflation hedge and/or insurance against new potential monetary policy risks, as a portfolio diversification tool and as a treasury reserve asset.

Below, we analyze i) Bitcoin's status and performance as a financial asset, ii) its role as a decentralized technology network for the settlement of value, and iii) its growth as a viral and globally recognizable brand.

Bitcoin the financial asset

Most institutional clients on our platform think of Bitcoin first and foremost as a financial asset. They understand it to be a **non-sovereign, digital commodity that is about scarcity, driven by growing demand and a predictable, inelastic supply**. Predictable supply inelasticity is extremely rare in financial assets and this was especially pronounced in 2020.

Against the backdrop of aggressive monetary policy and fiscal stimulus, low interest rates and equities trading at record price-to-earnings multiples — more investors began to appreciate how Bitcoin's supply inelasticity plays favorably in global financial markets. Specifically, many saw it as an increasingly attractive long-term store of value, treasury reserve asset, and inflation hedge. They looked to the largest crypto asset to protect their wealth in the “new normal.”

COVID-19 and related monetary policy decisions no doubt sped up Bitcoin education, driving new participants into the market. Many of our clients have historically described their Bitcoin allocation as a venture-like investment. In 2020, a growing number of traditional investors instead viewed it as a reliable tool to help them solve a problem: Tudor Investments concluded⁷ that Bitcoin was an attractive addition to an inflation-hedge strategy; Microstrategy⁸ and Square⁹ began using it as a primary or partial long-term corporate treasury reserve asset. Microstrategy was especially vocal¹⁰ in 2020 about its view that Bitcoin would provide “better returns and preserve the value of [its] capital over time compared to holding cash.”

While 2020’s unusual macroeconomic environment has accelerated crypto adoption, importantly, many clients who allocated this year — particularly endowments, corporates and other long-term investors — do not believe the present market dynamics are required for Bitcoin’s success. They intend to hold Bitcoin as part of their core portfolio over the long term, throughout varying market conditions.

A maturing market

In 2020 the market had more reasons to invest, but at the most practical level, the ability of the crypto asset class to support large institutional capital was also crucial to driving inflows. Accelerating investment in 2020 was built on the emergence of new technology aimed to provide institutional investors with more accessible market liquidity compared with what was available in the most recent bull market in 2017.

These new players — including Coinbase Prime Broker, which includes Coinbase Custody, multi-venue algorithmic trade execution, and lending services — provided new capital with battle-tested access that is trusted by thousands of institutional investors. A growing number of case studies

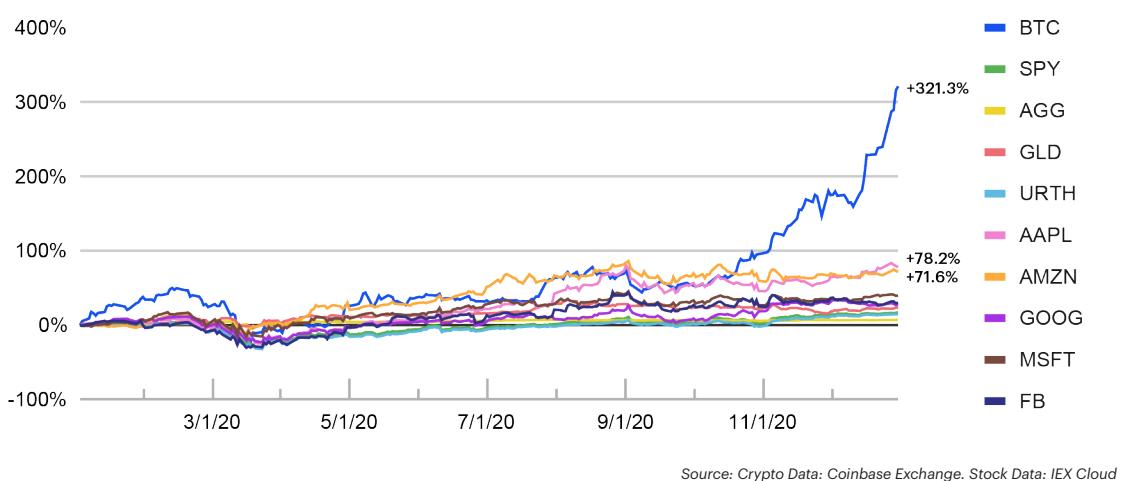
also significantly lowered “career risk” for investment committee members previously on the fence about crypto. Decision-makers can now point to reputable investors who have ventured into crypto before them.

The past few years clearly illustrate a maturing market. In 2020 this reached a tipping point as Coinbase’s institutional clients demonstrated that the crypto asset class is now ready to support the world’s largest investors.

Performance

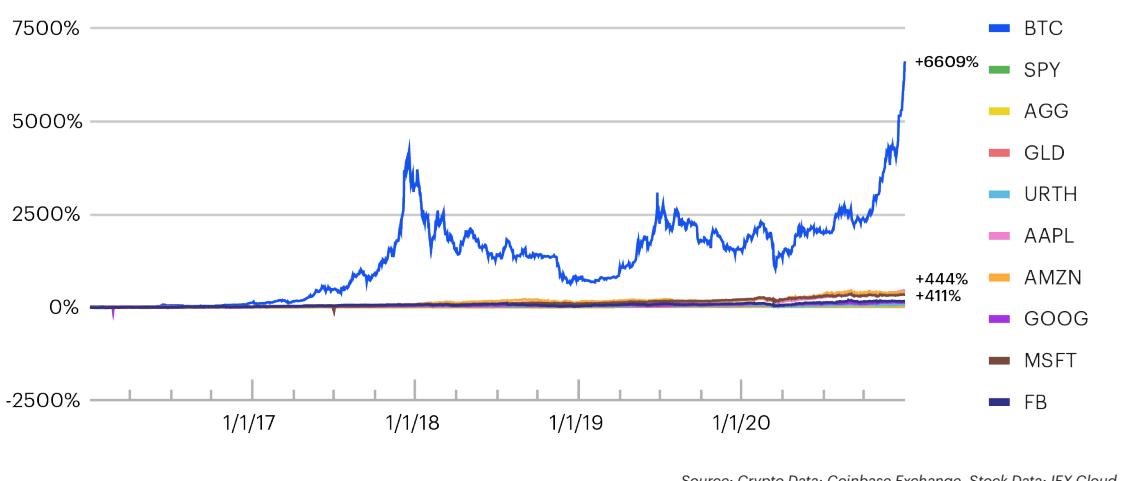
Bitcoin moved decisively higher in 2020. Achieving a 321% return since January 1, the BTC/USD pair broke out of its post-2017 trading range and ended the year at \$29,185, persuading many investors that it is here for the long term.

BTC versus other assets, 2020 returns



The five-year chart best illustrates Bitcoin’s breakout. For the period, Bitcoin returned 6,609% against the dollar, outperforming other key benchmarks and high-growth technology stocks.

Returns since 2016



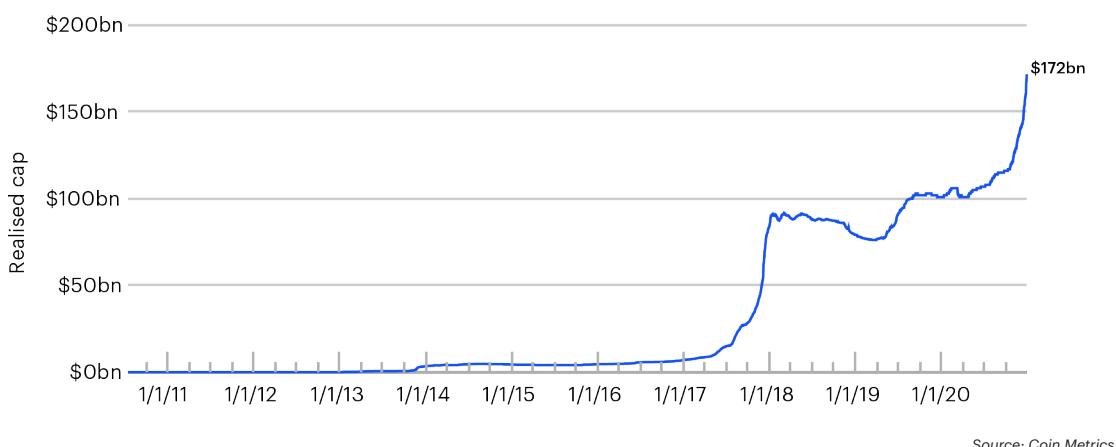
Bitcoin's four major price cycles¹¹ — in 2011, 2013, 2017, and now 2020 — each attracted fresh capital, some of which was opportunistic and some long-term oriented. We observed a net addition of long-term capital in the market with each cycle, even during corrections. This created "higher lows" on the back of each cycle. As in previous cycles, in 2020 we saw a mix of opportunistic and long-term capital, and this cycle is the first in Bitcoin's history to include many large, traditional financial institutions.

A growing store of value

At the end of 2020, Bitcoin stored \$539 billion¹² of value. While this represents significant absolute growth, it pales in comparison with the total size of other widely adopted stores of value. For example, Bitcoin's market capitalization represents 20% of private-sector gold investment (\$2.7 trillion¹³), 3% of the M2 money stock (\$19.1 trillion¹⁴), and 1% of global institutional-grade real estate (\$45.3 trillion¹⁵). Many of our institutional clients believe Bitcoin is competing for market share with these other stores of value over the long term.

One metric that helps estimate investors' growing faith in Bitcoin's status as a store of value is Coin Metrics' [realized capitalization](#). This metric values each unit of Bitcoin at the price it most recently moved on-chain, while also accounting for permanently lost Bitcoin.

BTC realized cap



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
% gain for the year	9053%	103%	4115%	34%	3%	53%	1107%	-5%	27%	70%

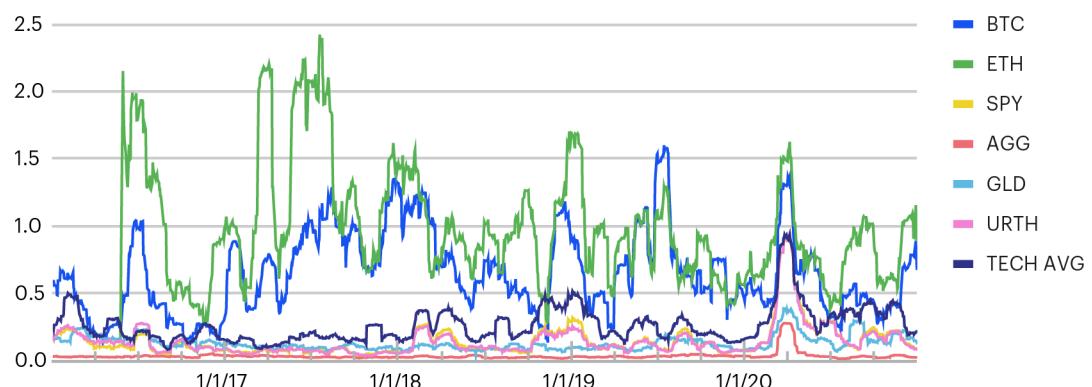
The trend shows that on average the market continued to accumulate Bitcoin at higher prices in 2020. Bitcoin's realized capitalization rose 70%¹⁶ since January to \$172 billion¹⁷ — the largest single-year gain since 2017.

Volatility

Bitcoin's overall volatility declined in 2020 compared with 2018 and 2019, but was still high compared to that of other financial assets. Investors in Bitcoin experienced an average rolling 30-day (21 trading days) volatility of .57 (see rolling 30-day volatility chart) in 2020. The chart below compares Bitcoin's volatility with other benchmarks and to Ethereum (which remains more volatile than Bitcoin).

Rolling 30-day volatility

Standard deviation of returns over last 21 trading days



Tech Avg is the average 21 trading day volatility of AAPL, AMZN, GOOG, MSFT, FB. Combined to increase chart legibility

Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

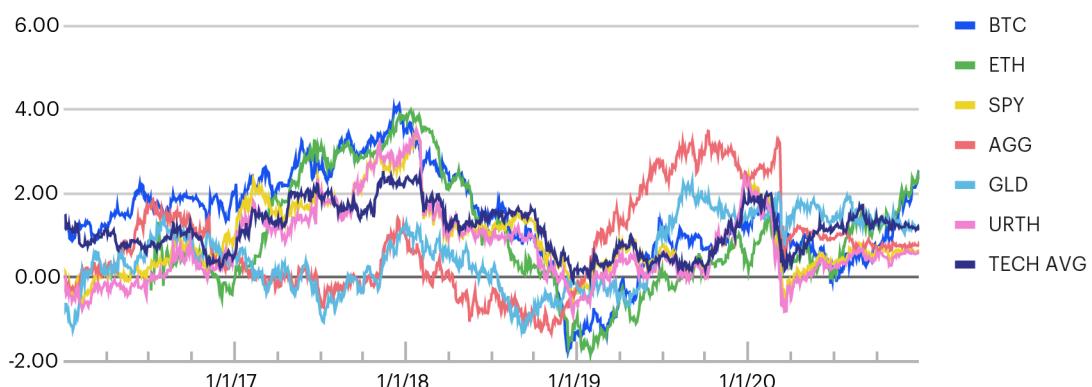
Notable periods of volatility for Bitcoin in 2020 included the March-through-April stretch as well as November through December. Bitcoin's trailing 30-day volatility peaked on April 6 at 1.37,¹⁸ as investors fled assets across the board in response to COVID-19's acceleration. Notably, Bitcoin volatility returned later in the year as Bitcoin broke away on its path to all-time highs. Trailing 30-day volatility in Q4 peaked on December 30 at .67.¹⁹

Sharpe ratio

Bitcoin's strong absolute performance compensated investors for its volatility. The first crypto asset ended the year with a 2.54 rolling annualized Sharpe ratio, outperforming other key benchmarks.

Rolling Sharpe ratio

Annualized Sharpe ratio

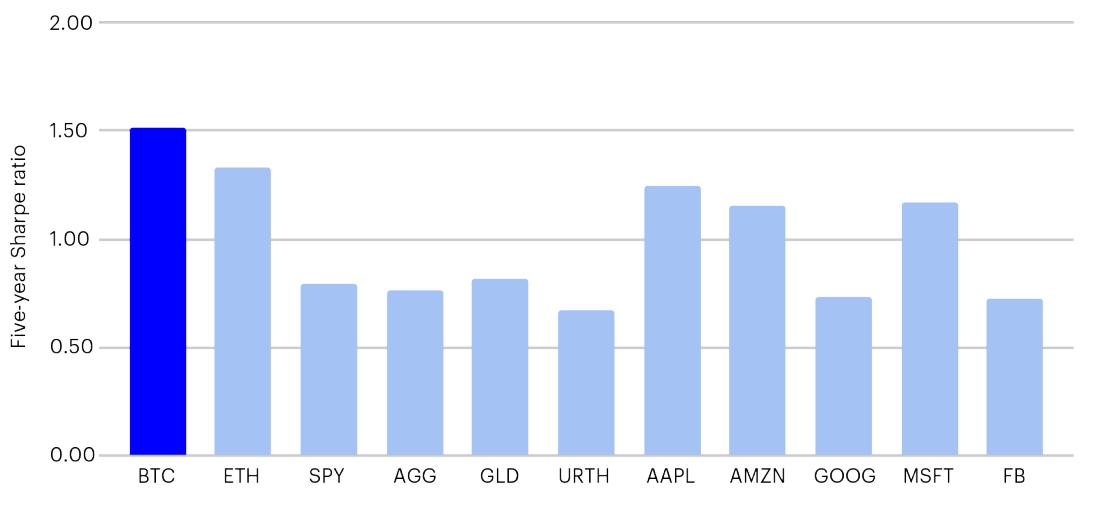


Tech Avg is the average annualized Sharpe Ratio of AAPL, AMZN, GOOG, MSFT, FB. Combined to increase chart legibility

Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

Bitcoin also performed well over the five-year period (Sharpe ratio of 1.52), which includes its 2018 bear market.

Five-year Sharpe ratio



Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

Correlation

Notably, Bitcoin has also exhibited a low correlation of daily returns with other financial asset classes. On a trailing five-year time horizon, it registered correlation coefficients of .13 with the S&P 500 (SPY), .07 with the aggregate bond index (AGG), .11 with gold (GLD), and .13 with the MSCI world index (URTH).²⁰ Bitcoin's correlations were similarly low with large-cap technology stocks. Bitcoin was, however, highly correlated with other crypto assets including Ethereum.

Correlation of daily returns of assets, since 2016

	BTC	ETH	SPY	AGG	GLD	URTH	AAPL	AMZN	GOOG	MSFT	FB
BTC	1.000										
ETH	0.611	1.000									
SPY	0.125	0.142	1.000								
AGG	0.068	0.065	0.022	1.000							
GLD	0.110	0.099	-0.022	0.362	1.000						
URTH	0.134	0.157	0.976	0.047	0.001	1.000					
AAPL	0.109	0.117	0.751	0.008	-0.004	0.712	1.000				
AMZN	0.086	0.104	0.596	0.011	0.001	0.564	0.594	1.000			
GOOG	0.098	0.127	0.766	0.024	-0.018	0.736	0.655	0.666	1.000		
MSFT	0.099	0.113	0.829	0.030	-0.015	0.795	0.713	0.684	0.777	1.000	
FB	0.073	0.098	0.628	0.055	0.020	0.598	0.580	0.623	0.693	0.632	1.000

Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

Bitcoin's correlation with other assets was generally higher in 2020 than for the five-year period average although it remained low on an absolute basis. Bitcoin recorded correlation coefficients of .39 with the S&P 500 (SPY), .19 with the aggregate bond index (AGG), .33 with gold (GLD), and .41 with the MSCI world index (URTH) during 2020.²¹ Compared with the five-year average, this increase is intuitive as more institutional investors entered the market in 2020 — holding a wide range of assets and employing professional risk-management strategies.

Correlation of daily returns of assets, all time

	BTC	ETH	SPY	AGG	GLD	URTH	AAPL	AMZN	GOOG	MSFT	FB
BTC	1.000										
ETH	0.823	1.000									
SPY	0.390	0.405	1.000								
AGG	0.192	0.175	0.143	1.000							
GLD	0.325	0.242	0.160	0.267	1.000						
URTH	0.413	0.423	0.991	0.170	0.182	1.000					
AAPL	0.356	0.368	0.829	0.079	0.190	0.800	1.000				
AMZN	0.286	0.289	0.610	0.101	0.212	0.586	0.698	1.000			
GOOG	0.323	0.336	0.851	0.111	0.147	0.830	0.752	0.681	1.000		
MSFT	0.313	0.340	0.874	0.105	0.152	0.852	0.840	0.739	0.853	1.000	
FB	0.317	0.316	0.743	0.131	0.162	0.719	0.768	0.682	0.803	0.764	1.000

Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

As Bitcoin has a limited history as an asset held by institutional investors, there are few reference points for understanding how it responds to macroeconomic shocks. The March 2020 correlation data shows that Bitcoin did not go unscathed in the COVID-induced liquidity crunch. Investors sold Bitcoin, gold and other assets, and Bitcoin's 30-day correlation to the SPY index had reached .49 by March 31.²²

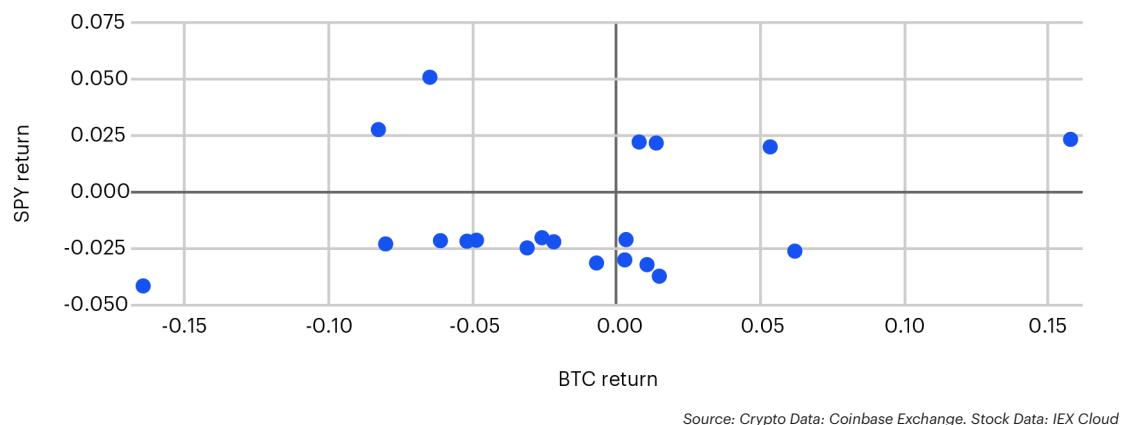
Bitcoin then recovered rapidly from the March crunch as investors regained confidence and began to collectively understand how Bitcoin's unique properties positioned it to perform well in the "new normal." The rolling 30-day Bitcoin-SPY correlation of daily returns finished the year at .29, with Bitcoin outperforming SPY in the final stretch of the year as SPY also gained in absolute terms.

We are continuing to monitor the correlation between Bitcoin, SPY, and other assets held in diversified portfolios by institutional investors. Notably, markets in 2020 were heavily influenced by COVID-19 and related macroeconomic factors, making it difficult to discern whether the extreme events of the year drove the correlation increase, or whether the increase is indicative of a longer-term trend. Data from the coming quarters will help us provide a more rigorous answer to this question.

Some of our clients want to better understand Bitcoin's behavior in the most volatile market conditions. Specifically, how does it perform on the most volatile days for equities, and vice versa? In the charts below, we plot i) the relationship between Bitcoin and SPY daily returns on the 20 most volatile SPY days of the past three years, and ii) the relationship between Bitcoin and SPY daily returns on the 20 most volatile BTC days of the past three years. Correlation between the two assets has increased over time, but Bitcoin is more correlated to SPY on SPY's most volatile days than on Bitcoin's most volatile days.

2018 Top 20 volatile SPY return days

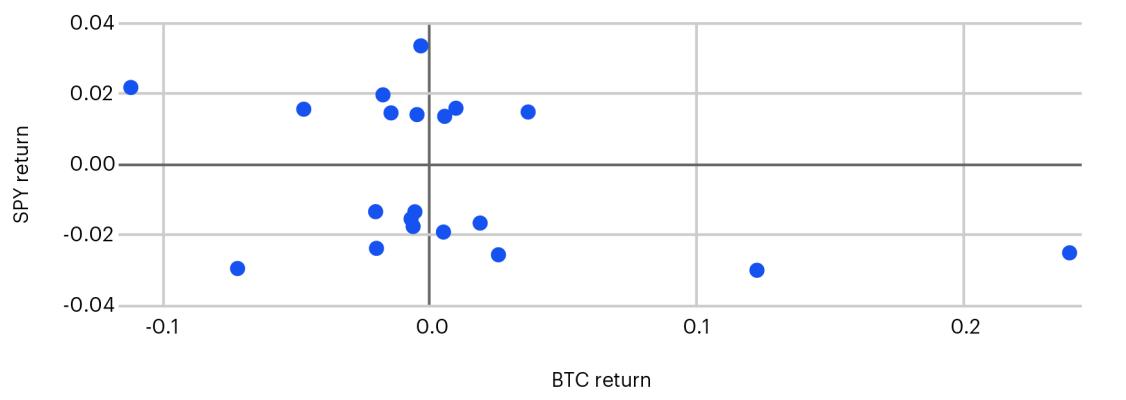
Correlation .23



Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

2019 Top 20 volatile SPY return days

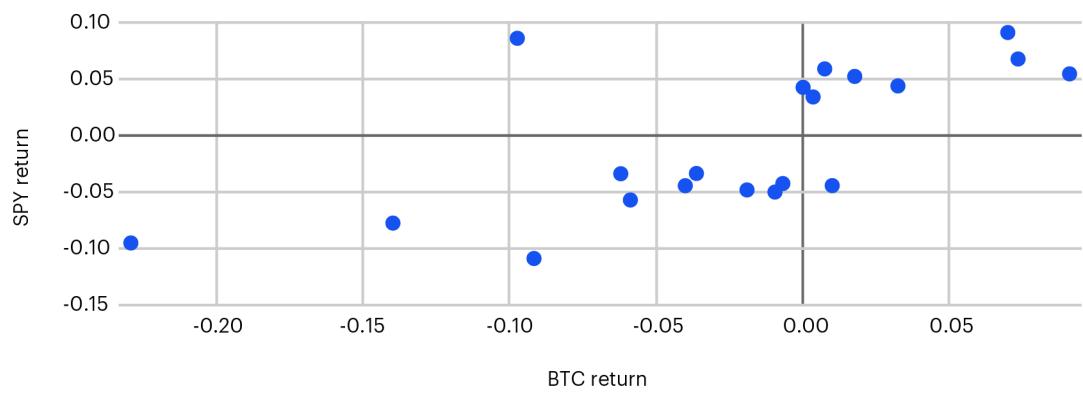
Correlation -.37



Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

2020 Top 20 volatile SPY return days

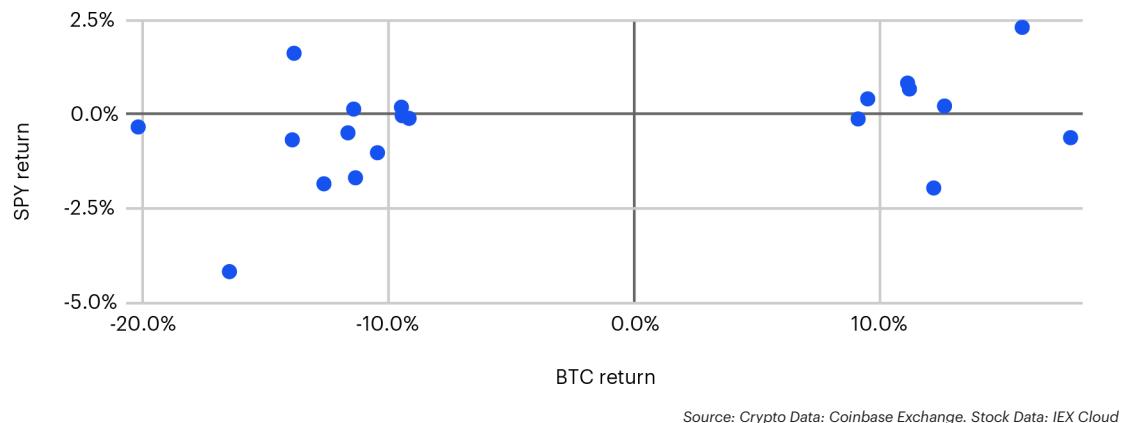
Correlation .66



Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

2018 Top 20 volatile BTC return days

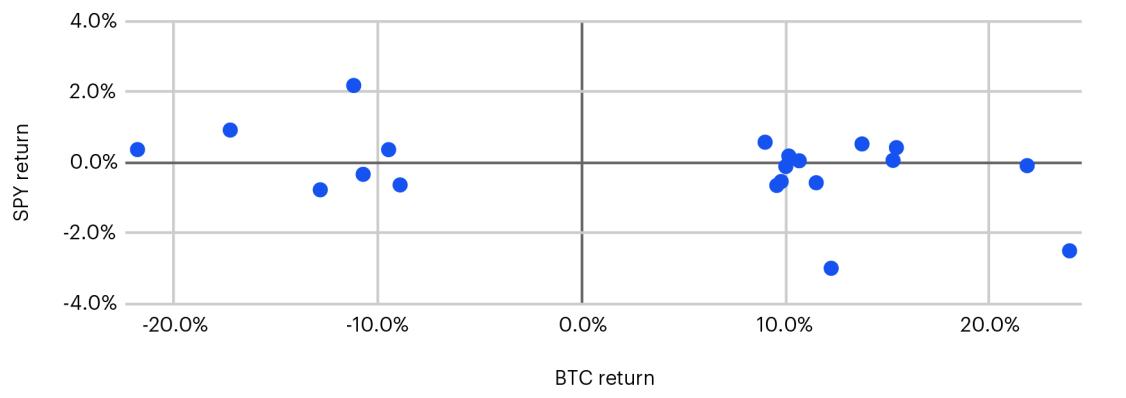
Correlation .37



Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

2019 Top 20 volatile BTC return days

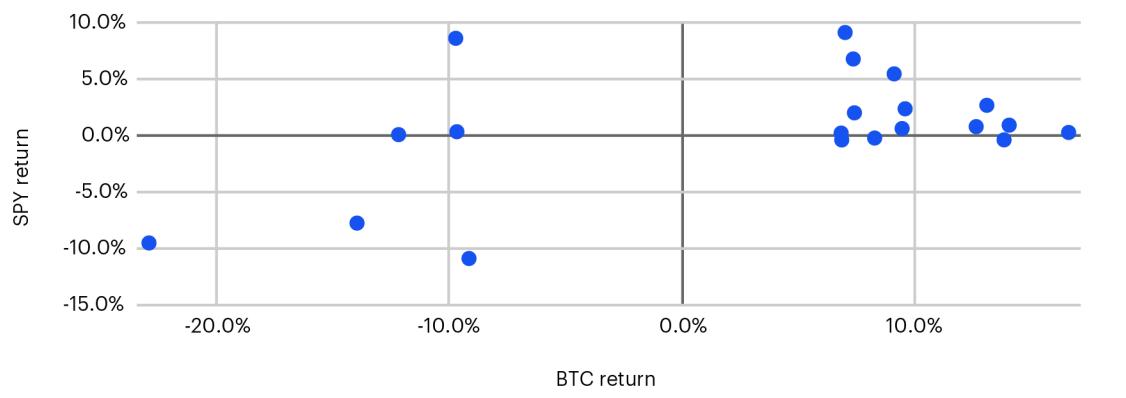
Correlation -.39



Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

2020 Top 20 volatile BTC return days

Correlation .51



Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud



**Many who questioned
crypto's longevity in
the last major market
cycle in 2017 now
recognize that it is
likely here to stay.**

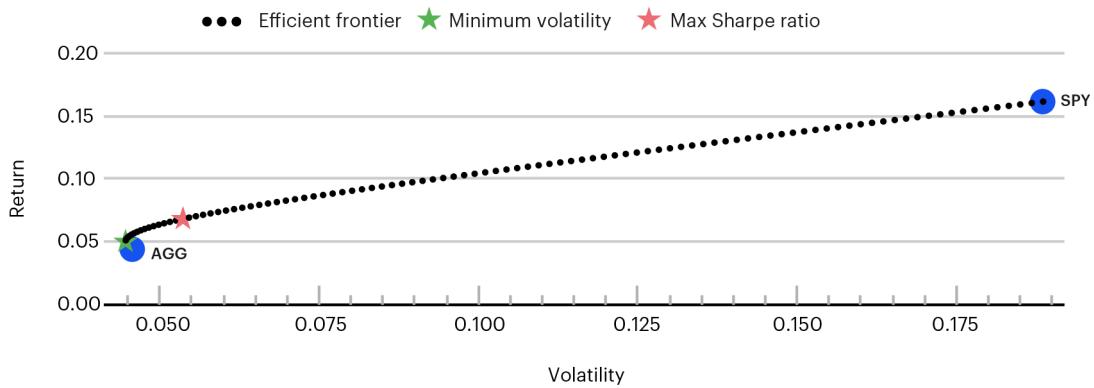
Portfolio allocation

Bitcoin's historically high returns and low correlation with other asset classes have made it an attractive option for portfolio diversification. By adding small amounts of Bitcoin to a balanced portfolio, investors have benefited from outsized returns relative to only slightly more risk.

In the analysis below, we model an efficient allocation of Bitcoin to a balanced portfolio that contains the S&P 500 (SPY) and U.S. bonds (AGG), using trailing five-year performance data beginning on January 1, 2016.

In the initial two-asset portfolio of SPY and AGG, we find that the Sharpe ratio was maximized (1.10) at a 20.6% allocation to SPY and 79.4% allocation to AGG. This portfolio, invested on January 1, 2016 and never rebalanced, produced a total return for the period of 40.5% and average monthly volatility of 0.05.

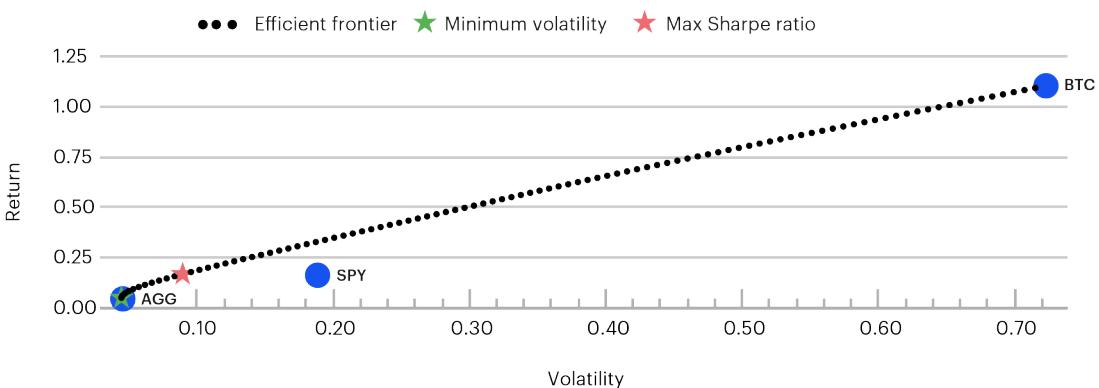
Efficient frontier — SPY + AGG



*Efficient Frontiers and Maximum Sharpe Ratios calculated using daily price/returns data.
Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud*

Adding Bitcoin to the portfolio increased the maximum Sharpe ratio to 1.76 at an optimal allocation of 9.9% Bitcoin, 16.8% SPY and 73.3% AGG. Investing a portfolio with the prior asset allocation weights (and never rebalancing) increased the total return to 693.4% while monthly volatility rose to 0.51.

Efficient frontier — SPY + AGG + BTC

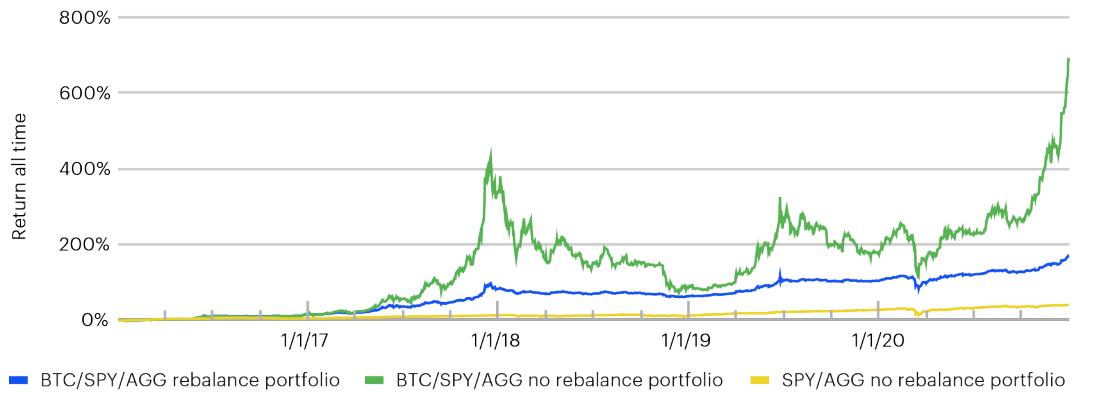


*Efficient Frontiers and Maximum Sharpe Ratios calculated using daily price/returns data.
Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud*

By rebalancing the three-asset portfolio that includes Bitcoin to the initial target allocation on a quarterly basis, investors would achieve a 172% total return with monthly volatility of 0.13.

Impact of adding Bitcoin to a balanced portfolio

BTC/SPY/AGG portfolios vs. SPY/AGG portfolios



Source: Crypto Data: Coinbase Exchange. Stock Data: IEX Cloud

	9.8% BTC / 16.8% SPY / 73.3% AGG portfolio with quarterly rebalancing	9.8% BTC / 16.8% SPY / 73.3% AGG portfolio	20.5% SPY / 79.5% AGG portfolio
Total return	172%	693.%	41%
Monthly volatility	0.13	0.51	0.05

In short, Bitcoin had a positive impact on a simple balanced portfolio of U.S. stocks and bonds. While Bitcoin increased total volatility, its strong gains and low correlation with these other asset classes provided investors with returns compensating for the additional risk, as shown by a higher Sharpe ratio.

Bitcoin the technology network

In addition to a financial asset, Bitcoin is an open-source, peer-to-peer technology network, like the internet. **The internet provides a set of decentralized protocols for cheap, instantaneous, global and permissionless transmission of data; Bitcoin does the same for monetary value.** An elegant set of incentives draws different types of stakeholders to the network. Bitcoin's growth then drives positive feedback loops that encourage miners, savers, and on-chain transactors to use the network.

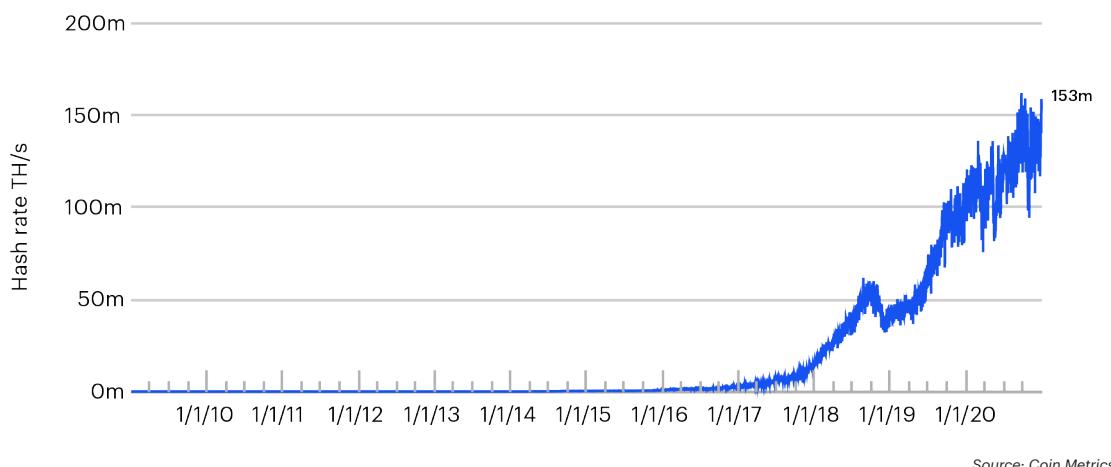
Miners and the 2020 halving

Bitcoin miners play a critical role in the network: solving computational problems with specialized hardware that brings the discovery of new blocks in the Bitcoin blockchain. Through the block discovery process, miners converge on a single source of shared truth — constituting the Bitcoin blockchain's transaction history (ledger) — and are algorithmically rewarded in newly minted Bitcoin for contributing to the common chain.

2020 was an important year for miners because of a halving event²³ in May at the 630,000th block, which reduced the reward rate from 12.5 Bitcoin to 6.25 Bitcoin per block. This halved the total new supply of Bitcoin coming into the market. Miners responded to the halving, which occurs roughly every four years, by upgrading their hardware to powerful application-specific integrated circuit ("ASIC") rigs, which are more expensive than previous-generation equipment but give a better chance of winning Bitcoin issuance rewards.

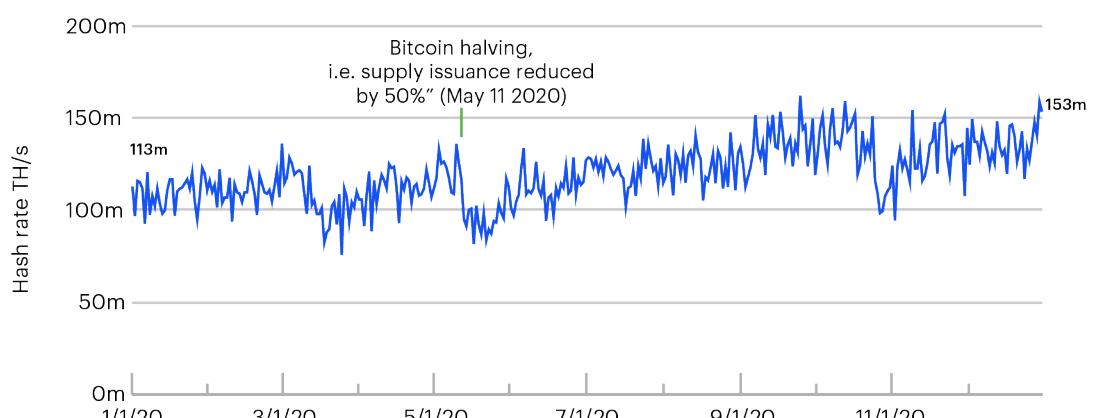
In 2020 miners supplied more hashpower — or total computational energy in the Bitcoin network — than at any point before, with the hash rate fluctuating between 76 million and 162 million terahashes per second (see Bitcoin network hash rate, all time chart)²⁴. Notably, there was a 40%²⁵ drop in hashpower associated with the Bitcoin halving between May 10 and May 17, likely because miners removed unprofitable hardware from the network. This was followed by a quick recovery to all-time highs, suggesting that miners collectively had faith in Bitcoin's price and sought to invest up-front capital for the opportunity to be paid in Bitcoin rewards at a later date. On the balance, roughly the same amount of computational power remained in the market post-halving, competing for 50%²⁶ of total rewards.

Bitcoin network hash rate, all time



Source: Coin Metrics

Bitcoin network hash rate, 2020

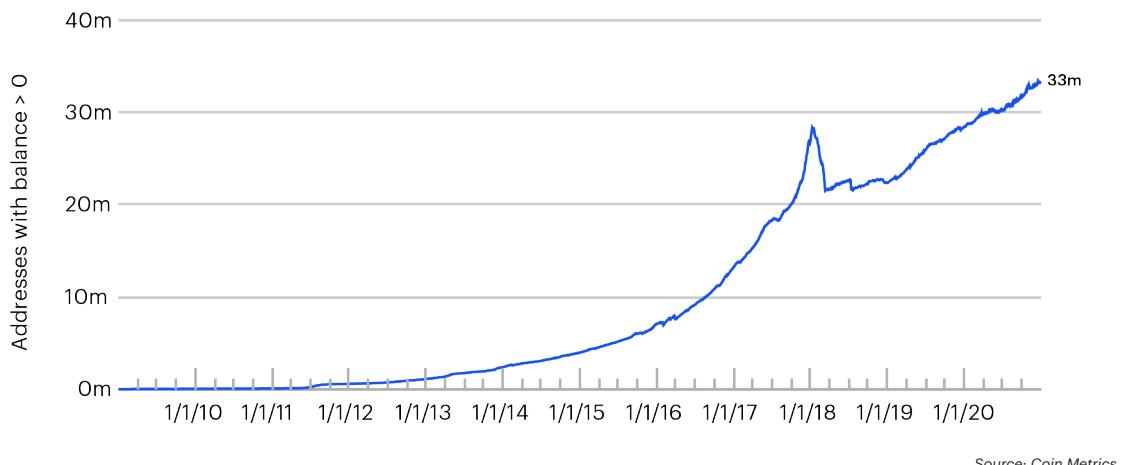


Source: Coin Metrics

Holders

The number of Bitcoin holders also grew in 2020, shown by all-time-high numbers of Bitcoin wallets containing a positive balance. The positive balance wallet count grew to 33.2 million²⁷ by the end of 2020, up 16.8%²⁸ for the year.

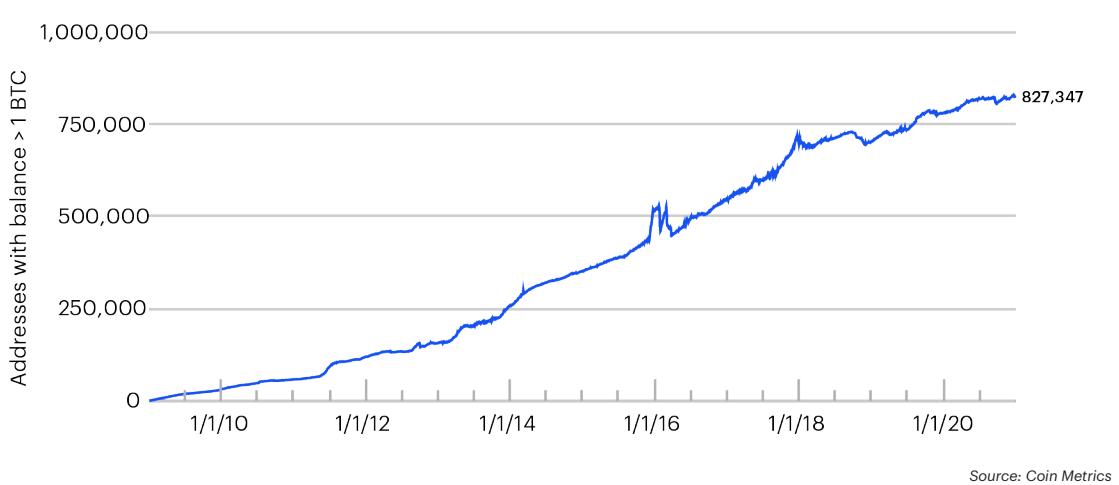
Bitcoin addresses with balance >0 over time



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yearly growth	120%	766%	90%	119%	66%	79%	87%	104%	-17%	27%	17%

Wallets containing a balance of more than one Bitcoin also grew, albeit more slowly, which is intuitive for a fixed-supply asset with growing demand. As more holders entered the market, it became harder to accumulate a large amount of Bitcoin. Wallets with more than one Bitcoin grew to over 827,000 by the end of 2020, up 5.9%²⁹ for the year.

Bitcoin addresses with balance >1 BTC, over time



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yearly growth	92%	107%	32%	64%	37%	47%	6%	28%	0%	11%	6%

It is important to note that as more banks, fintechs, wealth management firms and other institutions with a broad client base offered crypto services in 2020, many employed omnibus wallet infrastructures, i.e. they mixed client funds in shared wallets. So, although wallet count is a reasonable proxy for the overall number of Bitcoin holders, we believe it may not represent the total number.

Transactors

Transactors are another key set of stakeholders in the Bitcoin network. These users send and receive Bitcoin on-chain, transmitting value on a peer-to-peer, permissionless, global network. Bitcoin had another productive year in 2020 as a monetary transmission network, settling \$2.3 trillion in total value.³⁰ This was not an all-time high, however; 2017 still holds first place with \$2.8 trillion settled.³¹

We believe that the appreciation in Bitcoin's price and the fact that wallet-count is outpacing the volume of on-chain transactions illustrates the market's belief that Bitcoin's primary application is as a store of wealth. In short, people are holding their Bitcoin rather than sending or spending them.

When examining on-chain transaction data, it is also important to note that "Layer 2" solutions, which batch transactions and only intermittently settle on-chain (e.g. the [Lightning Network](#)), as well as fintechs that use omnibus wallet structures and allow for off-chain P2P transactions, pull transaction volume away from Bitcoin's "Layer 1" chain, even though they still represent Bitcoin-denominated sending.

Finally, cryptodollars such as Tether and USDC, which are fiat currency-backed crypto assets, are growing rapidly in market cap and transaction usage.³² So they are likely taking share from Bitcoin as a medium of exchange (see Cryptodollars section below). Our clients frequently point to Bitcoin's potential to appreciate in price as their justification for holding rather than spending it. They believe fiat currency's lower volatility and trend of depreciating against Bitcoin makes fiat-collateralized assets more appealing to spend.

In summary, Bitcoin is thriving as a global, permissionless monetary network. This network is used first and foremost to store wealth as Bitcoin continues to appreciate versus other financial assets. It is also being used as a global, peer-to-peer settlement and payments network.

Bitcoin the brand

Bitcoin's unique financial and technological properties often fascinate new investors and users, who then become evangelists as part owners in the network. This grassroots enthusiasm is key to Bitcoin's growth, as it has no central owner and a marketing budget of exactly \$0.

While the viral growth of the Bitcoin community can be seen in the asset's prices and in network data, we also observe it anecdotally through our institutional practice. Hedge funds, endowments, corporations and other investors frequently share Bitcoin theses and observations with their peers, driving a substantial portion of Coinbase's business referrals.

Today, Bitcoin's brand is as strong as ever. In 2020 more reputable evangelists than ever spoke out as members of the Bitcoin community. Institutions buying Bitcoin now find themselves in a camp that includes some of the world's most accomplished investors and thinkers.

What they say about Bitcoin

“ The best profit-maximizing strategy is to own the fastest horse. If I am forced to forecast, my bet is it will be Bitcoin.

Paul Tudor Jones, Founder and CEO of Tudor Investment Corporation

“ Bitcoin could be an asset class that has a lot of attraction as a store of value to both millennials and the new West Coast money. It's been around for 13 years and with each passing day it picks up more of its stabilization as a brand.

Stanley Druckenmiller, Former Chairman and President of Duquesne Capital

“ Bitcoin is the equivalent to the dollar in the fiat currency system. That's a pretty exalted role.

Cathie Wood, Founder, CEO and CIO of ARKinvest

“ There's a \$250 trillion ocean of assets. They are all looking for the ideal store of value right now. I believe that the obvious question is, 'How do we explain to people that Bitcoin is digital gold, it's a better gold than gold, and it's a better store of value than big tech?'

Michael Saylor, Founder and CEO of MicroStrategy

“ There is going to be a generational allocation to this new asset class. The flows have only just begun.

Eric Peters, CEO of One River Asset Management

“ I think that if you can create a financial system, a new and modern technology that is faster, that is less expensive, more efficient, that's good for bringing more people into the system, for inclusion, to help drive down costs, to help drive financial health for so many people... So, over the long run, I'm very bullish on digital currencies of all kinds.

Dan Schulman, CEO of PayPal

SOURCES: Paul Tudor Jones, Bloomberg, May 7, 2020. Stanley Druckenmiller, *Forbes*, Nov 2020. Cathie Wood, *Barron's*, Nov 2020. Michael Saylor, *The Daily Hodl*, Jan 2021. Eric Peters, *Bloomberg*, Dec 2020. Dan Schulman, *CoinDesk*, Dec 2020.

“ The driver of Bitcoin is similar to that as for gold.

Inigo Fraser-Jenkins, Co-Head of the Portfolio Strategy team at Bernstein Research

“ Gold has restrictions such as storage, non-portable, and could possibly be even called ‘yesterday’s news’ in terms of a financial hedge. Bitcoin is the new gold.

Tom Fitzpatrick, Managing Director at Citi

“ For those who believe in the potential of crypto, we also all have to believe that we’re still in the very early stages and that there’s a lot more to come.

Brian Armstrong, Co-founder and CEO of Coinbase

“ Blockchain and Bitcoin point to a future, and point to a world, where content exists forever, where it’s permanent, where it doesn’t go away, where it exists forever on every single node that’s connected to it.

Jack Dorsey, Co-founder and CEO of Square and Twitter

“ We’re quite confident that when we’re sitting here in 20 years, we’ll be talking about Bitcoin the way we talk about the internet today. We just need time for it to play out.

Marc Andreessen, Co-founder and General Partner Andreessen Horowitz, Board Member of Coinbase

“ I bought my first Bitcoin in 2013 because I believe in the economic power of scarcity and the potential for Bitcoin to address some of the manipulations in our financial system.

Cynthia Lummis, Junior United States Senator from Wyoming

“ It may have been a bubble two years ago, but with more clarity institutions that see this is a real thing are going to adopt at scale, which they’ve already started to do.

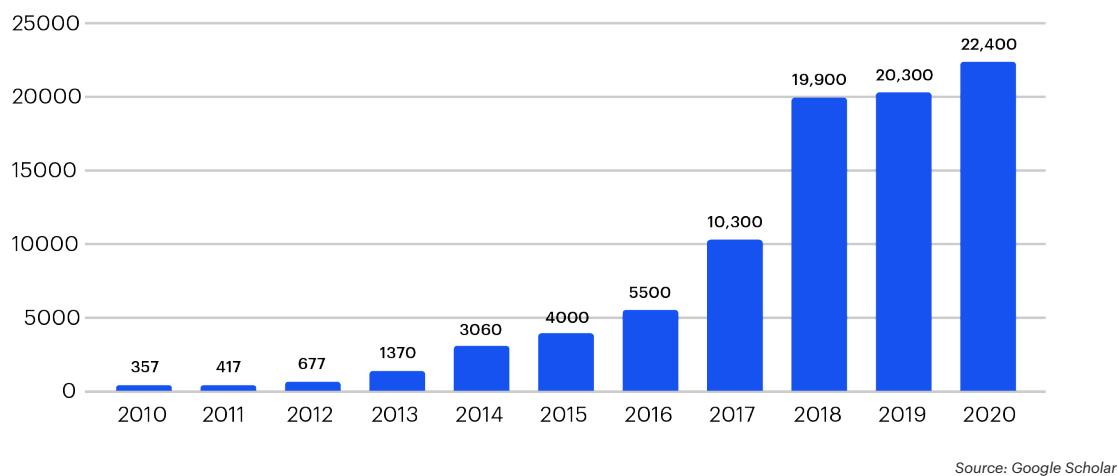
Brian Brooks, Former Acting Comptroller of the Currency, former Chief Legal Officer of Coinbase

SOURCES: Inigo Fraser-Jenkins, [Techtelegraph](#), Nov 2020. Tom Fitzpatrick, [Techtelegraph](#), Nov 2020. Brian Armstrong, [Fortune](#), Dec 2020. Jack Dorsey, [CoinMarketCap](#), Sept 2020. Marc Andreessen, [The Washington Post](#), May 2014. Cynthia Lummis, [Bitcoin](#), Nov 2020. Brian Brooks, [Coindesk](#), Dec 2020

Academia also shows increasing interest in Bitcoin: Google Scholar articles mentioning Bitcoin have risen steadily since the asset's inception over a decade ago. In 2020 the number of mentions reached an all-time high of 22,400.³³

Institutional investors, retail users and scholars all reinforce Bitcoin's brand by studying and endorsing it publicly. We expect this to be even more pronounced in the future as Bitcoin becomes more widely adopted.

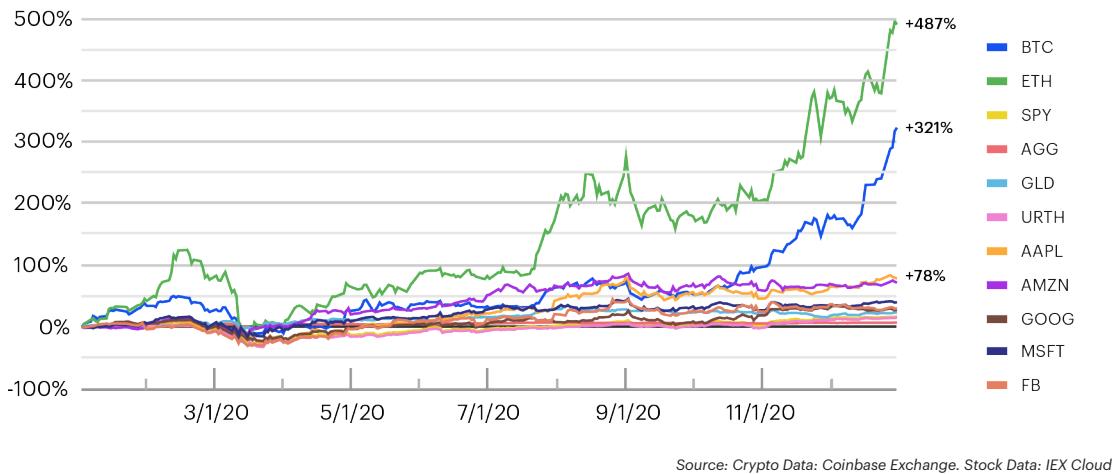
Number of Google Scholar articles mentioning Bitcoin



Ethereum

While our institutional clients predominantly bought Bitcoin in 2020, a growing number also took positions in Ethereum, the second largest crypto asset by market capitalization. Ethereum performed well against USD in 2020, outpacing Bitcoin to finish the year up 487% at \$745.³⁴

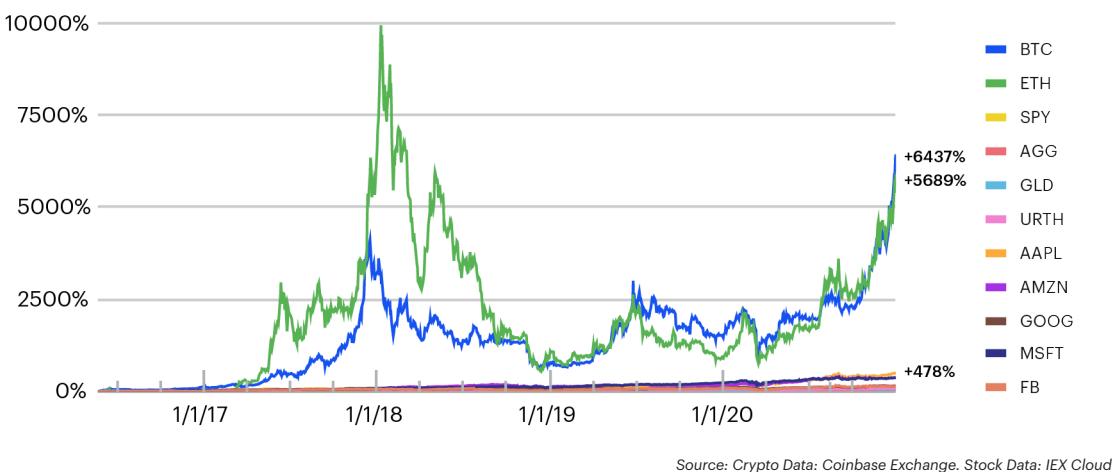
ETH vs. other assets returns in 2020



Ethereum has been more volatile than Bitcoin, however, falling from its ICO-fueled all-time high of \$1,418 in January 2018 to \$82 in December of that year.³⁵ Ethereum's volatility can be partly explained by its shorter track record (it launched in 2015) and smaller market capitalization (\$84.3 billion at year end 2020)³⁶ relative to Bitcoin. Furthermore, its design properties, value propositions and potential future states are less widely understood by the market.

Despite volatility, Ethereum has posted strong returns in recent years, rising 5,689%³⁷ since May 24, 2016, when Coinbase first began tracking its price.

ETH vs. other assets returns since 5/24/16



Today, most of our institutional clients think of Ethereum as a **decentralized computing network that shares Bitcoin's properties of trustless store and transmission of value, along with more flexible programmability** via [smart contracts](#) that can be written using languages similar to Python and JavaScript. The case for owning Ethereum we hear most frequently from our clients is a combination of i) its evolving potential as a store of value, and ii) its status as a digital commodity that is required to power transactions on its network.

Programmability

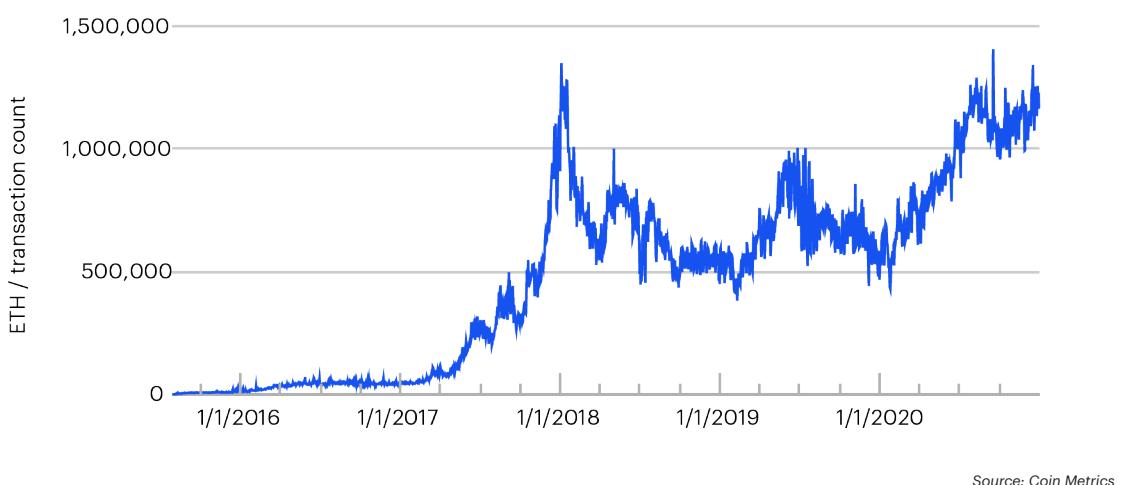
Ethereum's programmability brings new challenges and risks, but also incredible potential. Obvious issues with applications currently using Ethereum include i) scaling friction, i.e. how to improve throughput on-chain when frequent transmission of data is required; ii) relatedly, high costs associated with transaction fees ("gas" fees) when the network becomes congested; and iii) an increased attack surface with complex smart contracts, which can grow to hold large stockpiles of crypto assets and thus attract bad actors. The potential benefits of applications built on Ethereum, however, are significant. In 2020 Ethereum developer and investment activity in decentralized finance ("DeFi") grew, as did use of Ethereum-based stablecoins such as Tether and USDC.³⁸

In the "DeFi" section below, we explore in greater depth the recent development of DeFi protocols, which reimagine traditional financial services such as lending, trading, derivatives, and insurance using open-source, permissionless software on the Ethereum network. In the "Stablecoins" section, we dive deeper on Tether, USDC, and the future of tokenized fiat currency.

Network usage

The daily rate of on-chain Ethereum transactions accelerated in 2020, rising from 467,000 on January 1, 2020 to 1.16 million³⁹ on December 31, reflecting the network's growing DeFi and stablecoin activity.

Ethereum network daily transactions since inception



Many of our clients view DeFi as one of the most important growth developments for the Ethereum network. These clients believe that DeFi has long-term potential to reinvent financial products and services with open-source, decentralized software, and that Ethereum may become the primary settlement network underpinning this new financial system. In 2020 DeFi protocols built on Ethereum began to demonstrate clearly that the use cases for "programmable money" extend far beyond ICOs.

Ethereum 2.0

In addition to the growing number of cases being built on Ethereum, the network underwent the start of its largest and most ambitious network upgrade yet: Ethereum 2.0 (“Serenity”). This anticipated change involves two main improvements:

The first is a shift in the protocol’s consensus mechanism from proof of work,⁴⁰ which uses mining (as Bitcoin does), to proof of stake. This allows Ethereum “validators” (similar to miners) to create new blocks by “staking” (locking up) at least 32 ETH, creating incentives for them to cooperate in establishing a single, truthful chain, and penalizing them by losing their “stake” for attempting to maliciously alter the chain’s state. This collateral-driven format of block creation is arguably more energy-efficient and scalable than proof of work, which depends directly on electricity consumption and intensive computing hardware.

The second is the introduction of chain sharding, which allows greater transaction throughput on the Ethereum blockchain by splitting the main chain into “shards.” This enables parallel rather than sequential processing, so transaction sets can be processed separately. Sharding is intended to support more compute-intensive applications on Ethereum, and should reduce overall network congestion. How this improvement balances against growing use of Ethereum remains to be seen. Many of our clients believe Ethereum will face a constant battle to expand further throughout capacity, and view the sharding improvements of Ethereum 2.0 as a temporary or partial solution to scalability challenges.

Ethereum’s transition to Serenity is complex and will take a number of years. Phase 0 began in the second half of 2020 and included implementing a new “Beacon Chain” and the proof of stake consensus mechanism. Currently, this new chain is running in parallel to the Ethereum 1.0 chain. Phase 1, which will integrate sharding, is expected to debut in 2021, and Phase 2 (the final phase) is expected to launch sometime in 2021 or 2022. Phase 3 is still being defined by the Ethereum development community, but will likely include features to support more scalability.

In the meantime, the Ethereum community continues to implement and develop additional scaling solutions such as Layer 2 “L2 Scaling” and economic improvement policies such as EIP-1559 which could add deflationary mechanisms to Ethereum’s monetary policy by burning gas fees (transaction fees) as the network is used.

Narrative evolution

As Ethereum continues to grow, one challenge (and opportunity) we see is the need for the community to settle on a clearer, simpler narrative that can be easily understood by newcomers. Bitcoin thrived in 2020 on its widely recognized status as “digital gold,” which resonated with investors. Ethereum’s story is more convoluted; a typical path we see investors navigating in their evaluation of Ethereum is i) the potential value of future use cases for the Ethereum network, ii) how gas fees may correlate with such usage and drive demand for the ETH token, and iii) Ethereum’s supply and issuance schedule, which might help inform the asset’s potential “store of value” premium. Ethereum is younger and more complex than Bitcoin; its narrative is still evolving and we expect it to crystalize further in the coming years.

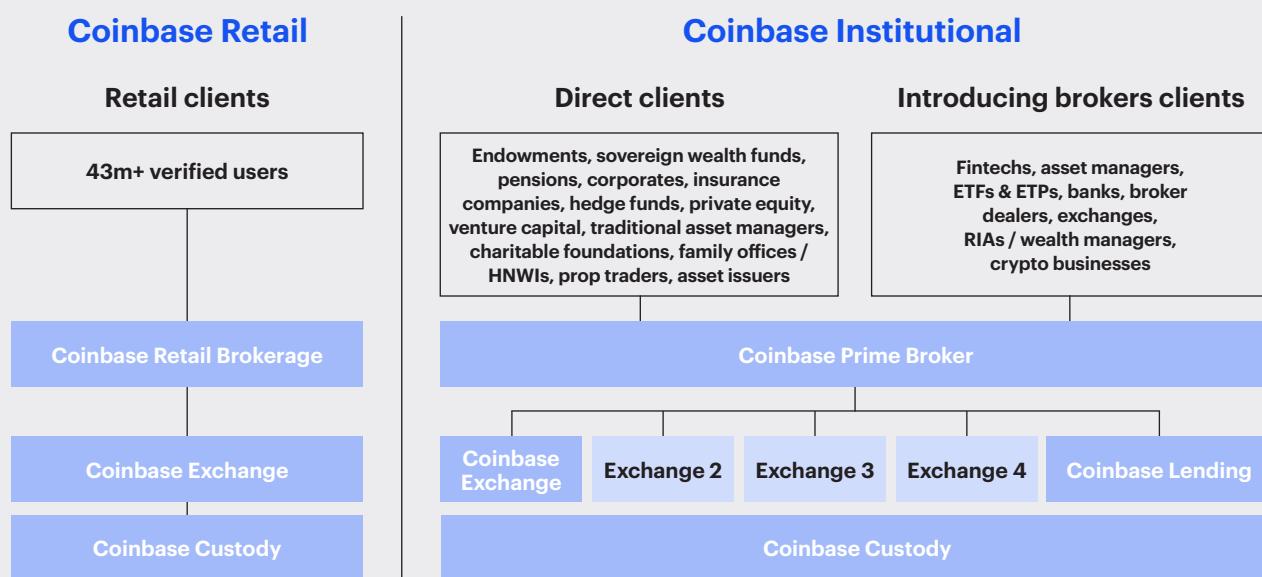
The ‘How’ of allocation

Institutional investors, traders, banks, fintechs, and wealth managers are accessing crypto using Coinbase [Prime Broker](#). By the end of 2020 our company-wide Assets On Platform grew to more than \$90 billion. Coinbase Custody AUC accounted for more than 50% of this total, as we executed single trades exceeding \$1 billion for some of the largest institutions in the world.

The scale of Coinbase’s institutional business is a reflection of the trust we have built in recent years by continuously securing client assets without loss, developing powerful, multi-venue trade execution capabilities and pioneering the crypto insurance market.

Today, the Coinbase Prime Broker suite spans custody, trade execution, lending, and data analytics. Our clients engage with us through a range of access points, including web and mobile applications, APIs and a white-glove OTC trading desk.

The breadth and sophistication of our product portfolio allows us to serve a diverse group of clients. From 2016-2018 most of the institutional market consisted of early-moving crypto native hedge funds, venture capital firms and family offices, but our client base has evolved as the crypto asset class matured over the past two years. It now includes more conservative, traditional institutions such as university endowments, public corporations, macro hedge funds and other multi-strategy allocators.



A third phase of our institutional practice is now growing, as other financial services businesses beyond Coinbase recognize increased demand for crypto and seek to provide capabilities of their own to their clients. This “introducing-brokers” channel segment includes fintechs, banks, asset managers, ETPs (and ultimately ETFs), broker dealers, exchanges, RIAs, and other crypto businesses. These clients can develop on top of Coinbase’s turnkey B2B infrastructure and instantly generate a new revenue stream, driving growth for their business.

Coinbase Prime Broker

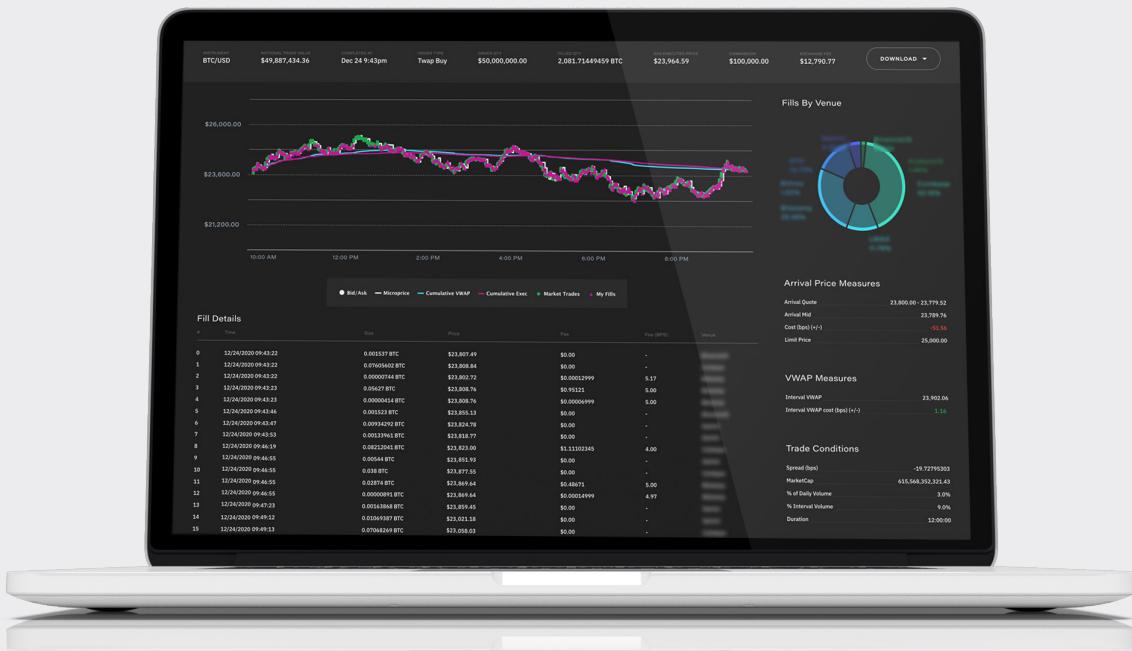
Coinbase Prime Broker provides a deep, trusted and flexible set of solutions for institutions. We offer a range of product configurations, access points and service models. Below, we detail how institutions are taking advantage of our trading, custody, lending, and analytics capabilities.

Trading

In July 2020 Coinbase acquired Tagomi, the crypto industry's leading algorithmic, multi-venue brokerage capability designed to facilitate large trades for institutions. Tagomi's technology is fundamental to the Coinbase Prime Broker and has been one of the key elements of our over-the-counter (OTC) trading service since we agreed to acquire Tagomi in May 2020.

Multi-venue algorithmic execution is a natural next step for Coinbase. Coinbase Pro is already the market's largest regulated exchange, operating a central limit two-sided order book with web, mobile and API access. Now, our prime broker provides smart order routing to provide deeper, multi-venue liquidity, including other vetted third-party exchanges and liquidity providers. Advanced execution algorithms give investors a powerful new toolkit, e.g. TWAPs (time-weighted average price), "float" orders that optimize for execution price, and "opportunistic" orders for more aggressive trading. Our prime broker's transparent post-trade transaction cost analysis shows precisely how orders are split, routed and filled optimally across venues.

The Prime Broker interface – post-trade TCA report



Coinbase Prime Broker aggregates liquidity from multiple exchanges and market makers and routes orders algorithmically as smaller trades to find the best all-in prices.

Coinbase Prime Broker's agency-only model aligns Coinbase's incentives directly with those of our clients — we do not trade against them, but work to find them the best price in the market. Using a single counterparty for execution and custody allows institutions to access crypto markets safely and discreetly, minimizing potential information leakage. Client confidentiality is a critical component of Coinbase's institutional operating model.

We also selectively allow our clients to trade directly from cold-storage, using our balance sheet to pre-fund trades. This gives Coinbase Prime Broker clients the security benefits of cold storage while still maintaining access to instant liquidity.

Clients can use the Coinbase Prime Broker via a range of access points — our OTC desk provides white-glove human service and accepts orders by voice, encrypted chat or email. Actively trading clients who want a hands-on experience can self-manage their trades via the prime broker web application. Finally clients can trade via our REST and FIX APIs. Our more frequently trading clients and introducing brokers, such as fintechs, banks, and crypto businesses, often choose this approach.

Custody

Coinbase Custody has built a considerable lead as the world's largest digital asset custodian, and is trusted by the most demanding institutional investors globally.

Since Coinbase Custody's launch in 2018, we have prioritized security above all else in our product development plans. Coinbase Custody now operates with fifth-generation security infrastructure, and our proprietary key generation and storage, transaction security controls, and transaction signing processes provide clients with peace of mind, knowing their crypto is secure.

Coinbase's regulatory and compliance approaches are also critically important for our institutional clients. Our U.S. custodial entity, Coinbase Custody Trust Company, is a fiduciary under New York State banking law. Coinbase also operates a Dublin, Ireland-based custodial entity, Coinbase Custody International, which services many of our overseas clients. Coinbase Custody is audited by Deloitte & Touche and has completed SOC 1 Type 2 and SOC 2 Type 2 audits.

Breadth of asset support is key to both our direct institutional investor clients and our introducing brokers, allowing us to service a diverse client base. Coinbase Custody supports more than 90 assets. Our dedicated asset additions team uses a proprietary asset evaluation and integration framework to quickly vet, approve and integrate new assets to our platform.

Coinbase Custody has seen growth in our introducing-broker segment, partly thanks to our breadth of asset support. Fintechs, banks, broker dealers, and asset managers who use Coinbase on a white-label basis for subcustody can represent the industry's leading custodial capability to their own clients and generate additional revenue by instantly supporting the widest range of assets on the market. They also benefit from key features for certain assets, such as staking and on-chain governance, which provide added value to their end clients. We expect subcustody for the introducing-brokers segment to continue to grow and have allocated resources accordingly.

"It became clear as larger institutions came into the space that when someone came to us with a large transaction, we could bring them the best the industry has to offer with our new enhancements and integrations."

Greg Tusar
VP, Institutional Product for Coinbase

Lending

For many institutions, finding reliable access to credit to facilitate trading has been a major challenge. Given that most trading venues require pre-funding, institutions have had to deposit funds on a number of different exchanges to meet their liquidity needs. This is inefficient and ties up capital.

Coinbase is excited to be solving this problem by providing credit to some of the world's largest investors, helping them tap the liquidity needed to act opportunistically on an attractively priced trade.

With the Coinbase Prime Broker, we aim to minimize counterparty risk for institutional clients by allowing them to use Coinbase alone for credit-based connectivity to the entire market. We shield our clients from market risk and operational headaches with this model; institutions no longer need to wrestle with a wide number of exchanges to aggregate liquidity.

The size of our asset base and our expertise in credit risk management give us a strong foundation to scale our lending businesses in future. We will introduce new forms of credit for clients soon, while continuing to work within responsible regulatory and risk-management frameworks.

Analytics

Coinbase Analytics provides an accurate map of activity and risk in the cryptoeconomy, helping our clients and partners understand on-chain fund flows in the highest level of detail. Like many of our other institutional product capabilities, Coinbase Analytics was born out of necessity and originally developed as an internal tool. As the cryptoeconomy grew, other institutions also required more robust on-chain monitoring software to uphold their compliance standards, and we made our technology available to our clients as well.

We expect Coinbase Analytics to play an increasingly important role in our product suite as more of our introducing brokers, such as fintech and banks, interface directly with public blockchains or allow their clients to do so. Any organizations that enable wallet-to-wallet on-chain crypto transfers, or otherwise accept inbound transfers from external wallets, are especially concerned with understanding fund flows. They can use Coinbase Analytics for a range of applications, including monitoring unusual on-chain behavior and blocking inbound transfers from suspicious wallets.

Insurance

Coinbase is a pioneer in the use of traditional insurance concepts in crypto, securing our policy in 2013. We have expanded this policy continually since then to keep pace with the growth of the asset class and our client base. Our syndicate includes a highly rated group of A+/A insurers who have rigorously audited our systems and risk profile.

“We manage our own balance sheet capital across various trading venues instead of placing this burden on the client and also extend additional trading credit when needed. This has de-risked the crypto markets for large institutions.”

Caroline Tarnok
Head of Counterparty and Credit Risk



The strength of our risk-control processes and security infrastructure has earned us the trust of the industry's leading insurers. Our cryptographically enforced, decentralized private key management system has been battle-tested over the past eight years without losing client funds.

This strong profile means that we pay lower premiums for a greater amount of asset coverage, which we pass on to our clients. Coinbase's commercial crime policy included \$255 million of coverage as of Q3 2020 and an additional \$500 million in specie coverage (for customers that opt in).

Coinbase has also been an innovator in insurance structures, establishing an operational insurance captive — an insurance vehicle owned by the company it insures (Coinbase in this case). We are one of the first companies in the industry to secure the services of reinsurers through an insurance captive structure of this kind.

“We are constantly working with insurers to help build market capacity for our clients, which is possible because of our long-established relationships and trust we've built with them. Insurers want to better understand how to define and manage risk in crypto in novel ways — and that's exactly where we can help.”

Philip Martin CISO, Coinbase & Custody Trust Company, LLC

How to buy \$500 million of crypto

The digital asset class is now open to the largest allocators in the world, thanks to deeper, more consistent liquidity and the advanced tools available for execution and post-trade custody through the Coinbase Prime Broker. Investors can trade more than \$1 billion in crypto at a time via Coinbase. With algorithmic execution tools and guidance from our seasoned trading team, these large orders have minimal market impact.

Particularly in the second half of 2020, Coinbase's institutional practice saw growth in nine-figure crypto trades on our platform, led by hedge funds, corporates, and endowments. Below, we summarize the life cycle of a large trade execution of this kind, from investment approval through post-trade settlement into Coinbase Custody. The process outlined below is reflective of our work with Microstrategy,⁴¹ One River Asset Management,⁴² and others who we have helped acquire large amounts of crypto, with certain details obscured to protect client confidentiality.

Investment approval

Clients elected to create new allocations to digital assets, chiefly to provide diversification benefits and "insurance" against a period of potential monetary debasement.

Prime broker selection

Clients searched for a full-service prime broker and were interested in Coinbase's institutional execution expertise and security standards for custody to support them as they added digital assets to their portfolios. Clients chose Coinbase Institutional as their primary partner based on the following criteria:

1. Algorithmic smart order routing

Coinbase's smart order router aggregated liquidity from multiple venues (exchanges and market makers) and routed orders algorithmically to find the best all-in price. Each algorithm was optimized for the degree of urgency for the trade, ranging from passive to very aggressive.

2. White-glove service

Coinbase's experienced trading, coverage and client-services teams helped clients plan and execute the trade. The agency model means clients can capture the best price possible; none of the trades would be executed from inventory on a principal basis. Coinbase's position as an unconflicted partner and trusted advisor was an important factor, especially for clients entering the cryptocurrency markets for the first time.

3. Custody solution

Coinbase's proven custody solution was key to providing clients with peace of mind. Coinbase Custody is the industry's largest and most trusted digital asset custodian. Built for maximum security, the offline cold-storage solution uses fifth-generation wallet infrastructure and has been battle-tested over eight years without losing client funds. Additionally, Coinbase's industry-leading insurance policy protects online and offline assets across all products.

4. Strong counterparty

Clients valued Coinbase's position as one of the most trusted players in the digital asset industry for more than eight years. Coinbase can deploy its own balance sheet capital on external trading venues to insulate clients from additional counterparty risk. Coinbase can also allow instant trading for funds in cold storage as needed, eliminating the need for clients to make tradeoffs between liquidity and security.

5. Confidentiality

Clients trusted Coinbase's high confidentiality standards. Coinbase provides end-to-end discretion in its trading and custody services. By using one trusted counterparty, clients can limit exposure to information leakage, which is the greatest risk to execution cost. Additionally, Coinbase can trade on a client's behalf with every major exchange and principal desk without revealing the size or name of the end client.

Onboarding

Coinbase provided a full operational checklist and due diligence materials to facilitate onboarding in a robust and compliant manner. Additionally, Coinbase provided an extensive list of references, including other leading hedge-fund managers, endowments, wealth managers and investment consultants.

Trade execution

Trades were executed at different speeds to work through varying market conditions. The Coinbase trading team systematically evaluated trade volume statistics and worked to optimize each trade by actively communicating and adjusting speed and aggression. With the right controls in place, institutional clients could execute a series of trades without moving the market materially higher. Most trades were executed algorithmically, with a smaller portion executed by crossing other opportunistic client flow.

Below is an example of a timeline for a large institutional client, from onboarding to trade settlement:



Results

Both Microstrategy and One River were ultimately able to accumulate substantial positions without materially impacting market prices.

“Our clients benefit from our experience guiding large digital asset trades from onboarding to custody — working across each of the major trading time zones, evaluating the shifting market liquidity, while varying the timing, sizing, and trading approaches to get the best outcome.”

Brett Tejpaul Head of Institutional Sales, Trading, Custody, and Prime Services

“The controls and security protocols offered by Coinbase met our rigorous operational and compliance standards.”

Ian Malloch

Chief Operating Officer and Chief Risk Officer of One River Asset Management

Evolution of Coinbase's clients

Lauren Abendschein, Senior Manager on our Institutional Sales team and US & Americas Lead, has been with Coinbase since 2018 and played a pivotal role in growing our institutional practice. Below, she describes the evolution of our client base during this period.

Microstrategy, One River and other large clients we added in 2020 represent the latest profile of investors in the crypto asset class, but the earliest adopters of crypto were large venture funds, both crypto-dedicated and traditional firms such as Ribbit Capital, a16z, and Polychain. These players first engaged with Coinbase in 2018 via our institutional custody offering. We subsequently added leading crypto asset managers including Grayscale Investments. Many of these clients were registered funds with blue-chip limited partners, requiring an institutional-grade custodian as well as crypto-first capabilities such as broad asset support and staking.

For capital allocators, investments in crypto via these funds became a means of understanding not only the investment characteristics of digital assets but also the infrastructure required to trade, hold and interact with them. Meeting the requirements of blue-chip investors pushed the entire service provider stack to figure out how to bring institutional services to the crypto space. The big four auditors became willing to audit crypto funds as Coinbase and other custodians completed SOC 1 Type 2 and SOC 2 Type 2 certifications. Additionally, leading law firms began supporting institutions in the market and fund administrators started considering how to assign a net asset value ("NAV") for crypto funds.

Even as crypto markets receded from view through much of 2018 and 2019, Coinbase's institutional team spent time with endowments, large family offices, consultants, and other institutional investors. Engagements ranged from teach-ins and introductions to funds on our platform to assistance in holding or liquidating donations and fund distributions. 2020 gave way to a new conversation: how to acquire and hold Bitcoin, Ethereum, and other digital assets directly.

This year also brought traditional hedge funds to the forefront of participation, with macro funds being the earliest adopters. In this evolution, Coinbase's agency brokerage option has provided a critical pathway for sophisticated investors. Several large funds have begun trading Bitcoin and Ethereum directly with investor capital, the most visible of which may be One River.

Blue-chip institutional investors have begun to see crypto exposure expand in the holdings of their managers. We continue to help drive their learning process via our institutional practice, providing them with insights on liquidity, volume, and the technical trading characteristics of the asset class.

"In the second half of 2020, Coinbase helped a number of endowments, institutional family offices, and leading wealth-management platforms buy and store crypto assets for their investment portfolios."

Lauren Abendschein
Senior Manager, Institutional Sales,
US & Americas Lead

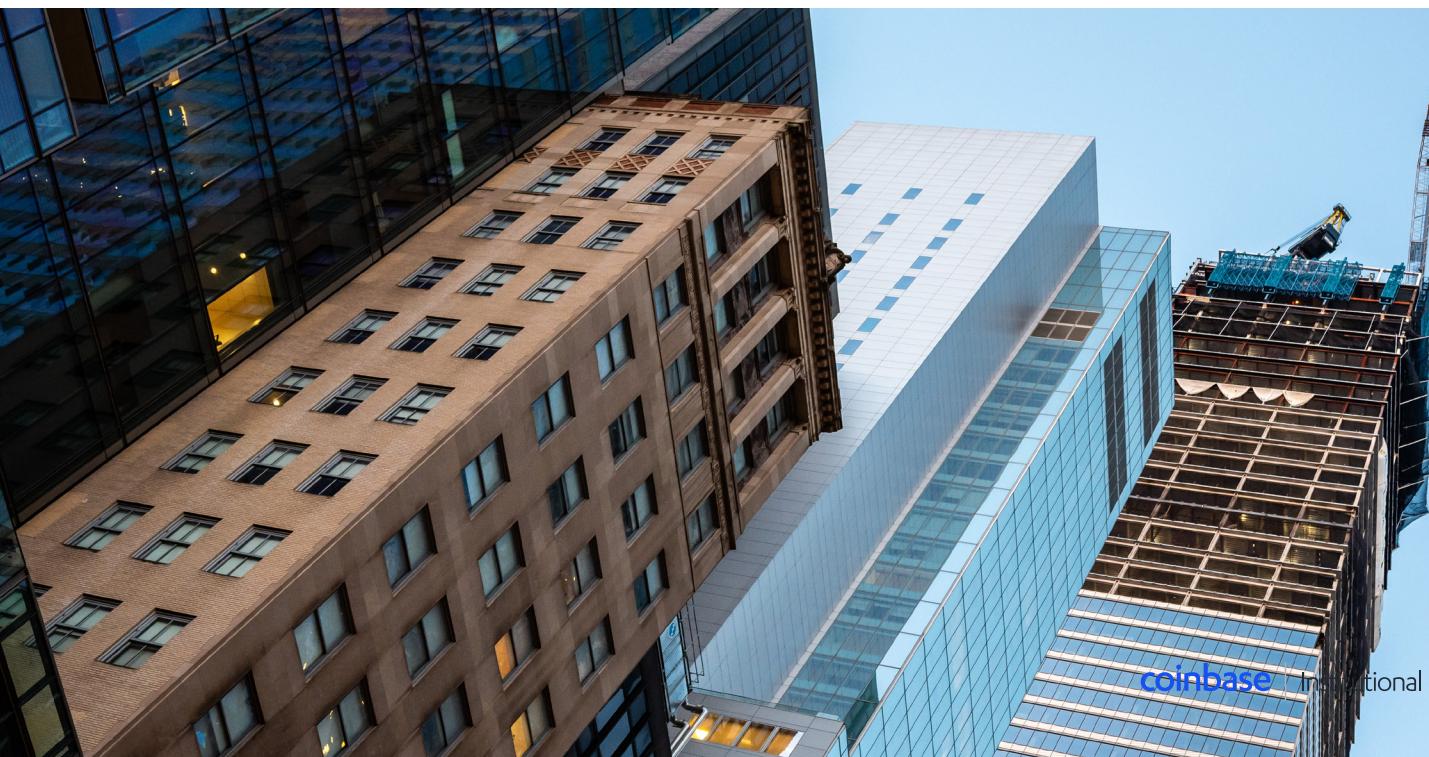
Demand-side growth – onramps everywhere

During the crypto market's earliest stages only a handful of platforms, led by Coinbase, gave new users a way to buy, sell and store crypto safely. These early movers were predominantly retail-focused.

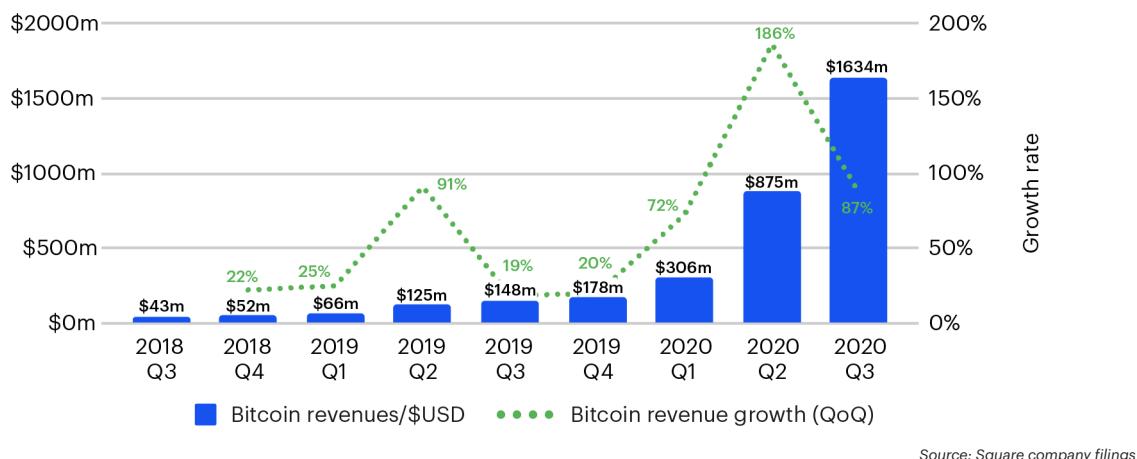
Today, the “onramps” to crypto have evolved significantly. Other large fintechs have entered the market, recognizing clear demand for crypto spanning investment, savings, and payments use cases. These companies recognize crypto’s ability to drive new user growth as a part of a larger financial services offering. SoFi, Cash App, eToro, Robinhood, Revolut, Voyager, and Paysafe entered the market in recent years, and in 2020, payments behemoth PayPal became the next major name to announce a crypto brokerage capability.⁴³ Together these platforms provide direct crypto access to hundreds of millions of new users, in addition to Coinbase’s more than 43 million verified users.

Initially most of these fintechs offered only buy/sell features (i.e. basic crypto brokerage), but we expect many to add P2P send/receive and payments functionality in the near future, powered by segregated wallets. We also expect fintechs to expand their asset support, as crypto users want to engage with a wide variety of assets, not just the largest few. Coinbase’s white label B2B infrastructure offering will allow companies to explore this space.

Building the internal business case for adding crypto has become far easier in 2020. Previously, the early movers among the non-crypto native fintechs, e.g. eToro and Robinhood, were viewed as pioneers. But more recently Cash App’s highly visible offering, as part of a public company that discloses its performance metrics, gave new entrants greater confidence that adding crypto is a boon for business. Product decision-makers can point to impressive growth numbers for a scaled and visible public company and, more broadly, a rapidly developing asset class.



Cash App bitcoin QoQ revenue and growth rate



	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3
Square total net revenue	\$933m	\$959m	\$1174m	\$1266m	\$1313m	\$1381m	\$1924m	\$3034m
QoQ growth rate	6%	3%	22%	8%	4%	5%	39%	58%
Cash App bitcoin revenue	\$52m	\$66m	\$125m	\$148m	\$178m	\$306m	\$875m	\$1634m
QoQ growth rate	22%	25%	91%	19%	20%	72%	186%	87%
Cash App bitcoin gross profit	\$0m	\$1m	\$2m	\$2m	\$3m	\$7m	\$17m	\$32m
QoQ growth rate	-11%	69%	158%	-1%	48%	113%	161%	85%

In 2020, Cash App continued its rapid ascent among retail-focused fintechs. Cash App is the fastest-growing unit within its parent company, Square — and within Cash App, Bitcoin is the fastest-growing revenue stream, generating \$32 million in gross profit in Q3 2020.⁴⁴

In 2020, crypto capabilities within fintech platforms began the transition from being a cutting-edge feature to becoming part of the core business. Beyond the increasingly obvious business case, the ease of integrating crypto to a product suite — made possible by advancements in Coinbase’s turnkey B2B crypto infrastructure services — is likely to speed up the entry of remaining platforms into the market. We believe all relevant retail fintech brokerage, payments, and banking platforms will have to provide crypto capabilities to remain competitive, and we expect more fintechs to announce they are entering the crypto market in 2021.

Why are fintechs adding crypto? What we hear from our fintech clients:

"It will drive growth for us"

"High margins — it's an instant profit center"

"Additional investment options for our users"

"Cash App's data is impressive and proves there's demand"

"It's easy to add by building on Coinbase's APIs and infrastructure"

"I know millennials want access to crypto — we want to capture generational wealth transfer"

"The market leaders are doing it and we have to compete"

Banks, brokerages and wealth managers

Traditional banks, brokerages, and wealth-management firms are a few steps behind their fintech peers, but we saw significant mobilization from this cohort in 2020. Incumbent retail banking giants recognize the threat from fintechs to their core business. They must compete to stay relevant and appeal to new users who want access to crypto.

Within the largest investment banks that offer trading services, custody, and wealth management, we saw a major increase in crypto interest in 2020, driven by a desire to better serve institutional and high-net-worth clients. Appetite for crypto has stemmed from various internal business groups, but the most frequently appearing stakeholders and their motivations are:

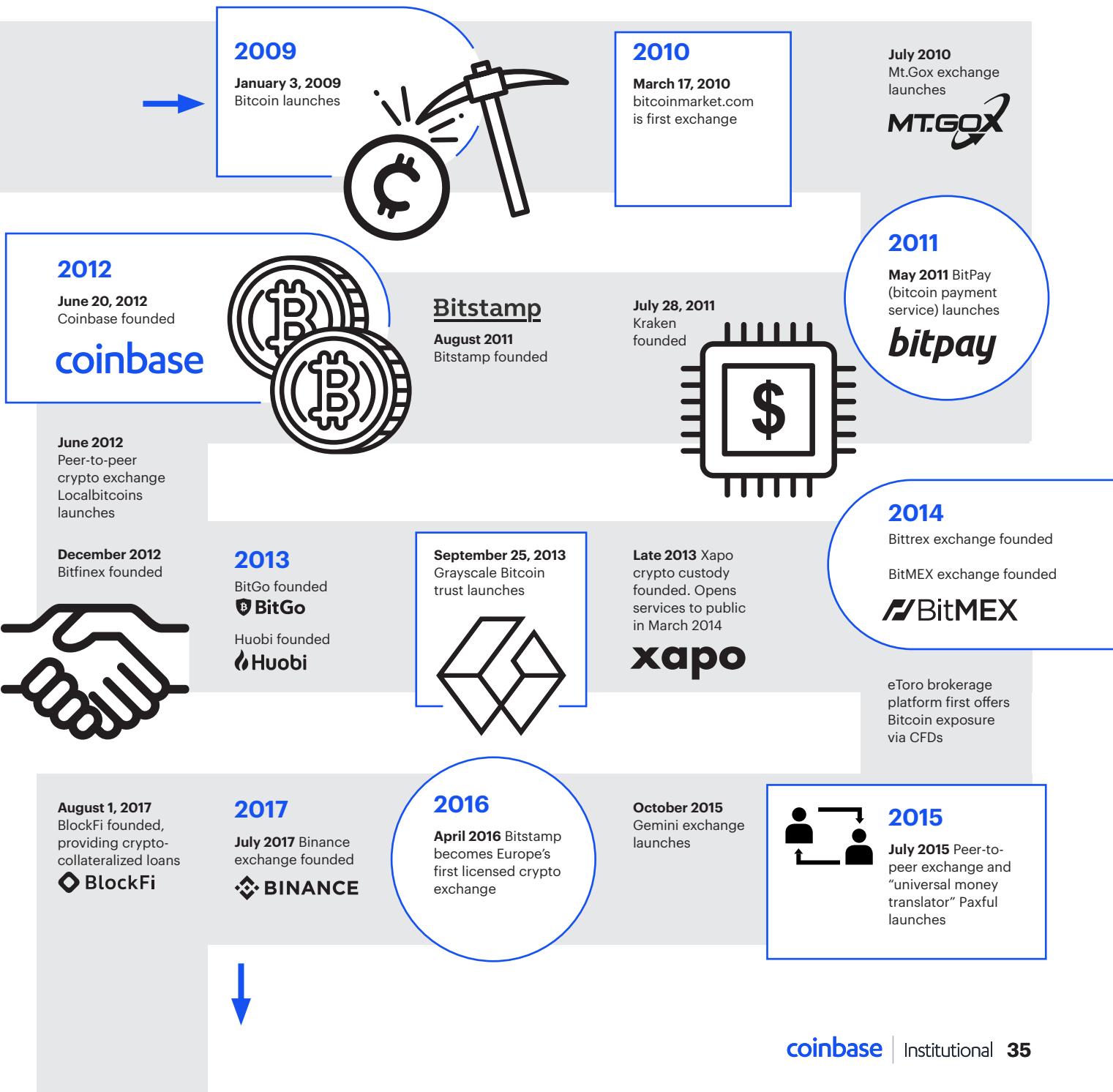
Sales and trading Seeking to trade crypto for their clients by leveraging Coinbase's B2B trading-as-a-service capability, powered by our prime broker.

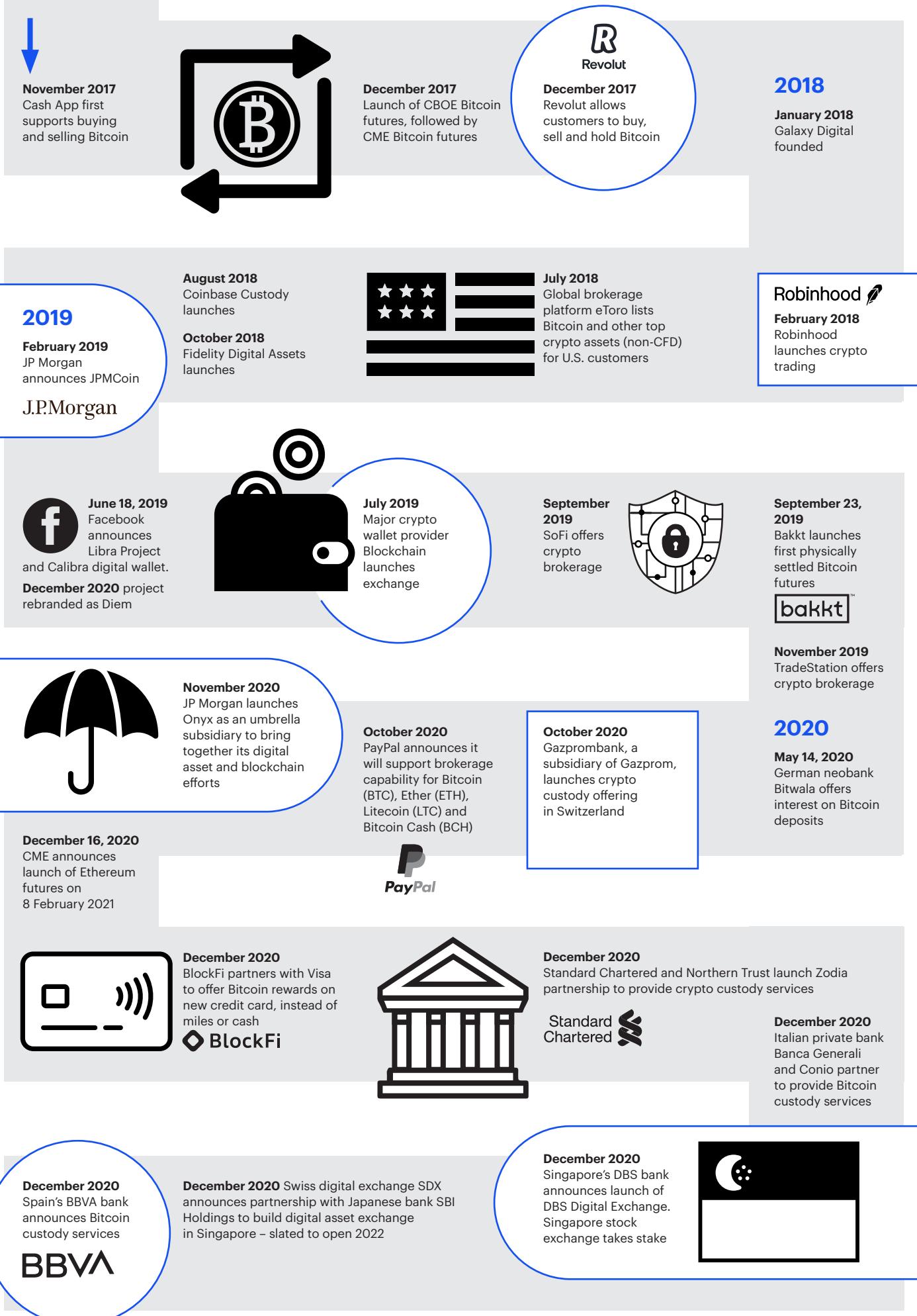
Wealth management Advisors wanting to meet clients' demand for allocation in crypto, using Coinbase's turnkey institutional prime broker capability to build and custody crypto positions.

Custody Business and product leaders aiming to add an additional capability and revenue stream, using Coinbase as their sub-custodian to instantly support more than 90 digital assets for their clients with the industry's highest security standards.

The path to cryptocurrency adoption

The below timeline illustrates the evolution of crypto onramps available to investors, from early moving retail players to large, sophisticated banks and fintechs who have entered the fray today.





Large banks are naturally slower moving and more risk-averse than their fintech counterparts, but **we are reaching a tipping point in the growth of the crypto asset class at which deferring is perceived by many banks to be riskier than decisive action.** The benefits of adding crypto have become more obvious, while the perceived risks have softened.

Clearer benefits

- While crypto is still a small asset class on an absolute basis, its growth trajectory has been steep, and this has caught banks' attention. Many who questioned crypto's longevity in the last major market cycle in 2017 now recognize that it is likely here to stay. All-time-high asset prices and client interest are a tailwind.
- Like fintechs, banks recognize the more attractive profit margins and ability to drive new client growth by offering differentiated investment options.
- There is a clear "defensive" benefit to banks: they are keen to retain their clients' assets on-platform rather than losing visibility and fees to third-party crypto service providers outside their ecosystem.

Softening risks

- The greatest obstacle to banks' embracing crypto has arguably been "career risk" for key decision-makers. In 2020, these decision-makers found themselves in increasingly reputable company and this risk diminished. Names like PayPal, Paul Tudor Jones, Stanley Druckenmiller, Microstrategy, and Square⁴⁵ have improved the legitimacy of crypto in the public eye.
- Regulatory risk has also decreased, with the OCC providing definitive guidance⁴⁶ in July that federally chartered banks can legally custody crypto.
- Proven technology infrastructure supports their entry. Large, conservative institutions have given Coinbase Institutional their seal of approval and banks recognize that using Coinbase entrusts clients' assets with a large and secure partner.

We expect significant developments from major banks in 2021 as they vie for a slice of the growing crypto market. Coinbase will work with these institutions to "meet them where they are." We will help banks develop a thriving crypto business, powering their trading, custody, analytics, and other services behind the scenes with our flexible B2B infrastructure.

Asset-management products

For most of its history, crypto has been disconnected from major brokerage platforms such as Schwab, TD Ameritrade, and Fidelity because it is not "wrapped" in a structure these venues can support — e.g. as securities, or within an ETF. These traditional channels are being unlocked, however, opening up the potential for large new inflows to the crypto asset class. The ability to gain crypto exposure via existing platforms would reduce friction for them.

The market widely recognizes the need (and large opportunity) in crypto ETFs as a solution to the brokerage channel problem. However, the SEC has continually rejected applications in recent years, citing lack of evidence⁴⁷ to assuage concerns over fraud and market manipulation.

The crypto industry is actively working with regulators to help them understand that crypto markets are liquid, mature, and suitable for investment via ETFs. We believe that with new, clearer regulatory guidelines, proven service providers, and deepening legitimate liquidity across trading venues, the asset class is moving towards a state that will improve the odds of eventual ETF approval.

Grayscale Investments, a client of Coinbase's institutional practice, is the market's largest crypto-native asset management firm and arguably the closest proxy to a crypto ETF today. Its asset base has been growing with rising crypto demand. Grayscale's AUM swelled from \$2 billion at the

beginning of 2020 to \$20.2 billion at the end of the year, representing a 910% increase.⁴⁸ Grayscale offers a range of trust products that contain crypto assets, including Bitcoin (GBTC), Ethereum (ETHE), and Bitcoin cash (BCHG). They can be traded over the counter, in traditional brokerages and in tax-advantaged accounts.

Other asset managers are also making headway in pursuit of the brokerage channel. Bitwise Investments offers a range of index and fund products, and launched its Bitwise 10 Crypto Index Fund (BITW) for trading in traditional brokerages in December. The index includes a market-cap-weighted basket of the 10 largest crypto assets, which is automatically rebalanced. Bitwise is a [client](#) of Coinbase's institutional practice.

In Canada, 3iQ Digital Asset Management's crypto funds have seen strong growth. The firm's Bitcoin fund, launched in April 2020, trades on the Toronto Stock Exchange. As of December 31, 2020 it held a net asset value of \$528 million.⁴⁹ 3iQ followed its first Bitcoin fund with a similar product for Ethereum — the Ether Fund began trading in December and as of December 31, 2020 held a net asset value of \$95.9 million.⁵⁰

Valkyrie, another new entrant in the crypto asset management category (and a Coinbase client), launched its Valkyrie Bitcoin Trust product in December. It has a similar structure to Grayscale's products. Valkyrie also filed for a family of ETFs in partnership with SEI, a traditional investment manager with more than \$1 trillion in assets under management and supervision.⁵¹ The family includes an ETF that invests in publicly traded companies that hold or trade Bitcoin, and an ETF that holds Bitcoin directly.

We will continue to work closely with asset managers, supporting them with our market-leading custodial and trading capabilities. Using Coinbase, asset managers can programmatically convert new fund commitments into crypto via our trading infrastructure, and sweep assets into Coinbase Custody post-trade, assuring clients that their assets are safe.

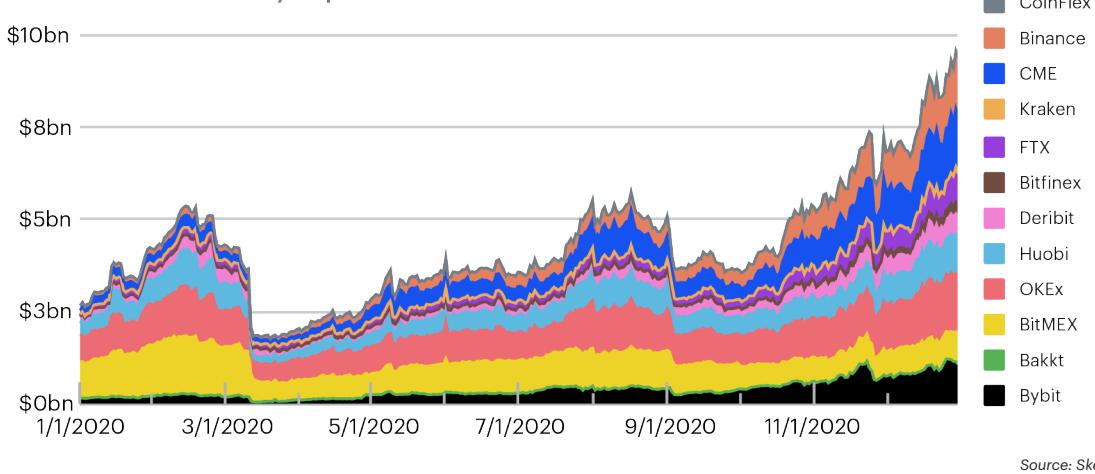
Derivatives

The crypto derivatives market grew in 2020 as investors sought out more ways to take positions beyond the spot market. Futures and options were the dominant contracts traded and, as in the spot markets, BTC was the primary asset of focus.

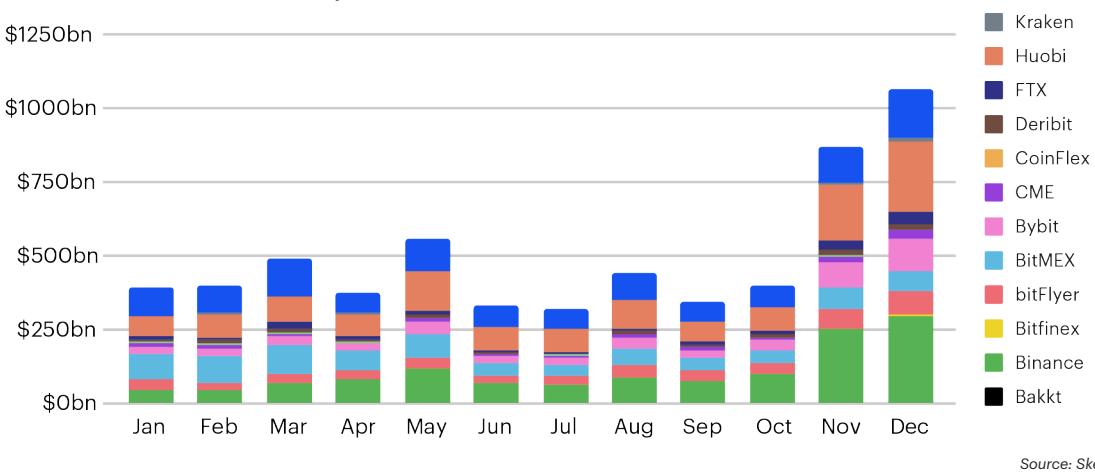
Daily open interest in BTC futures rose 248% in 2020, from \$2.7 billion on January 1 to \$9.4 billion on December 31. (Open interest is the aggregate value of unsettled contracts at any time.) Aggregated monthly volumes in BTC futures rose 169% for the period, from \$394 billion in January to \$1.1 billion in December.⁵²

In December the CME Group announced plans⁵³ to offer Ethereum futures beginning in February 2021, expanding its tradable crypto derivative products beyond just Bitcoin. This marked a clear step forward for Ethereum's legitimacy in the institutional market.

BTC futures daily open interest

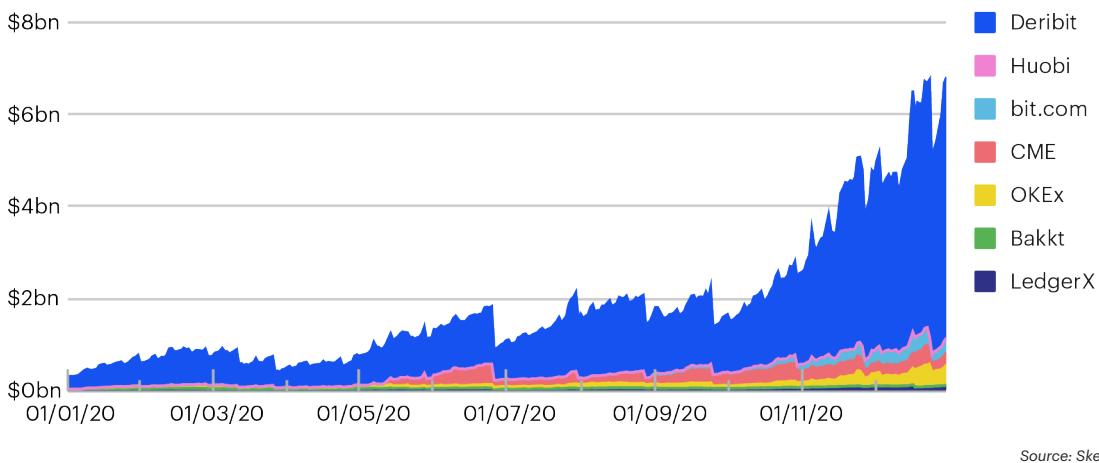


BTC futures monthly volume



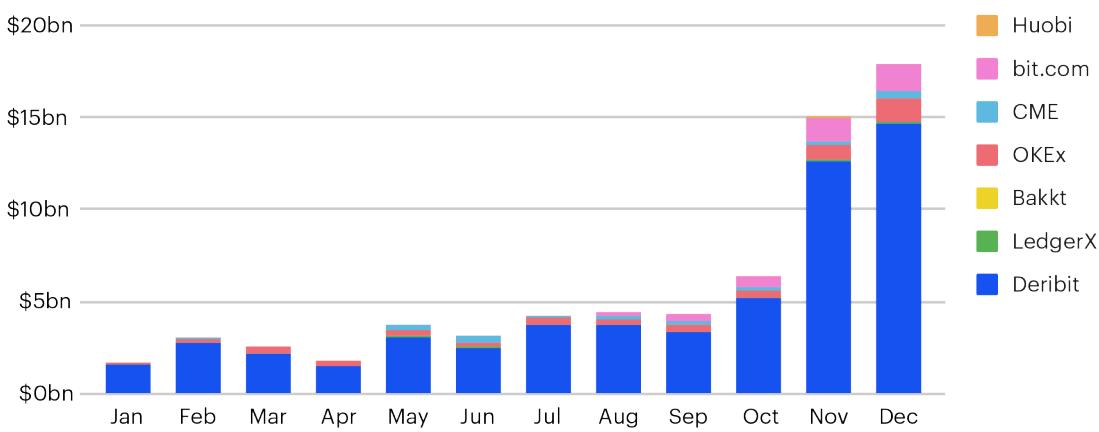
BTC options also saw steep gains, with open interest rising 2,132% in 2020 from \$305 million on January 1 to \$6.8 billion on December 31.⁵⁴ Monthly options volumes rose 938%, totaling \$1.7 billion in January and jumping to \$17.9 billion in December.

BTC options daily open interest



Source: Skew

BTC options monthly volume

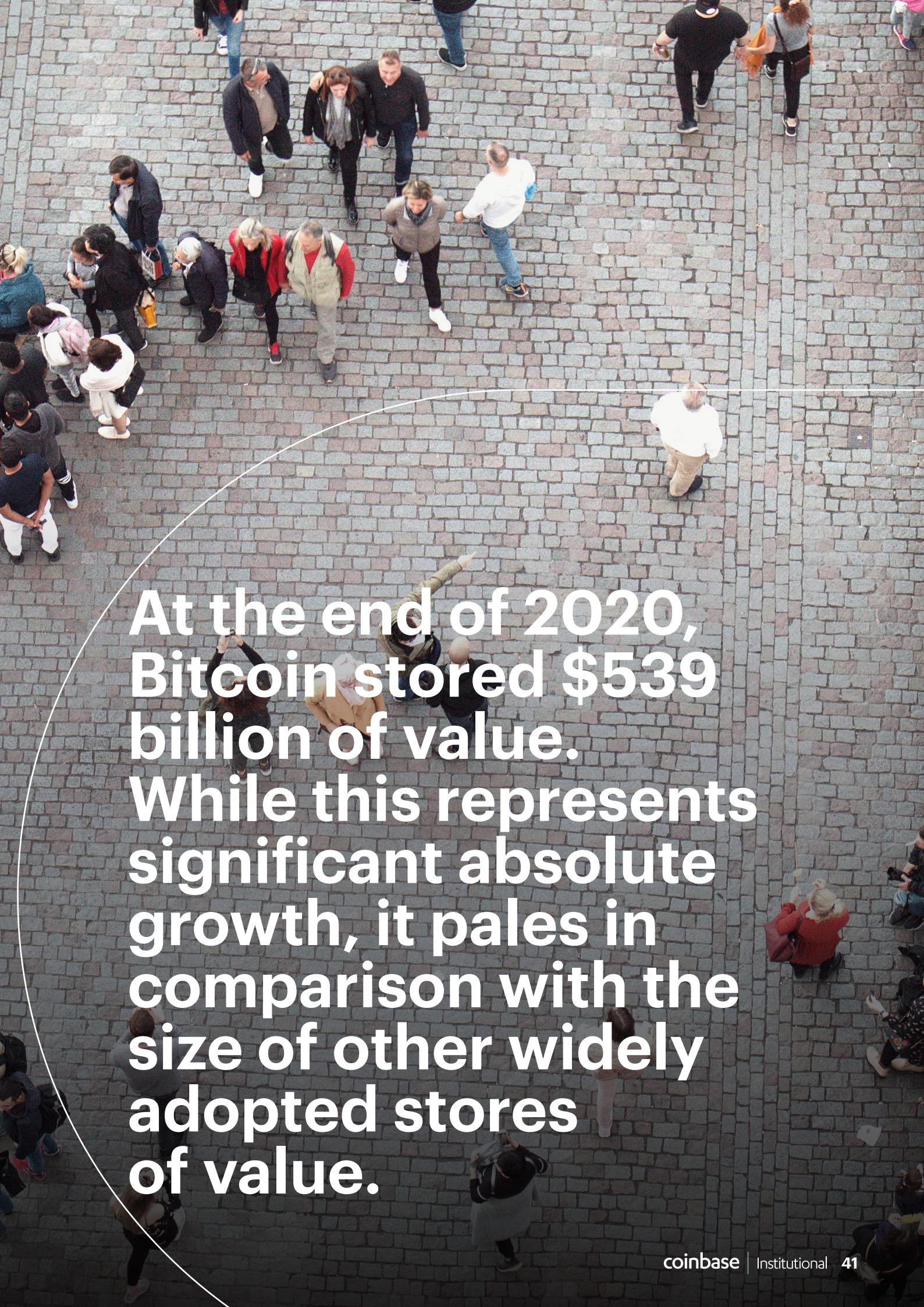


Source: Skew

Most crypto derivatives volume today still flows through unregulated trading venues in Asia and Europe. While their growth figures are impressive, we maintain the view stated in our H1 2020 [report](#) that regulated venues will play the most significant role in the institutional market in coming years, providing viable access for fiduciaries who cannot deal with unregulated service providers.

Regulatory enforcement enforcement may also tilt the playing field further towards the most professional, compliant venues. In October 2020 the Department of Justice and Commodity Futures Trading Commission took action against HDR Global Trading Limited (BitMEX).⁵⁵ Its management was charged with operating an unregistered derivatives exchange and violating the Banking Secrecy Act and the Commodity and Exchange Act (CEA), in connection with failing to maintain proper KYC/BSA hygiene with its customers. We view this as a signal that regulators will continue to hold trading venues to the same standards as traditional financial services.

Today the derivatives market is less developed than the spot market in crypto, but if this asset class mirrors others that came before it, we can reasonably expect growth for derivatives. Compliant, regulated trading venues that can support institutional capital will be the key to unlocking additional derivatives growth for institutions.

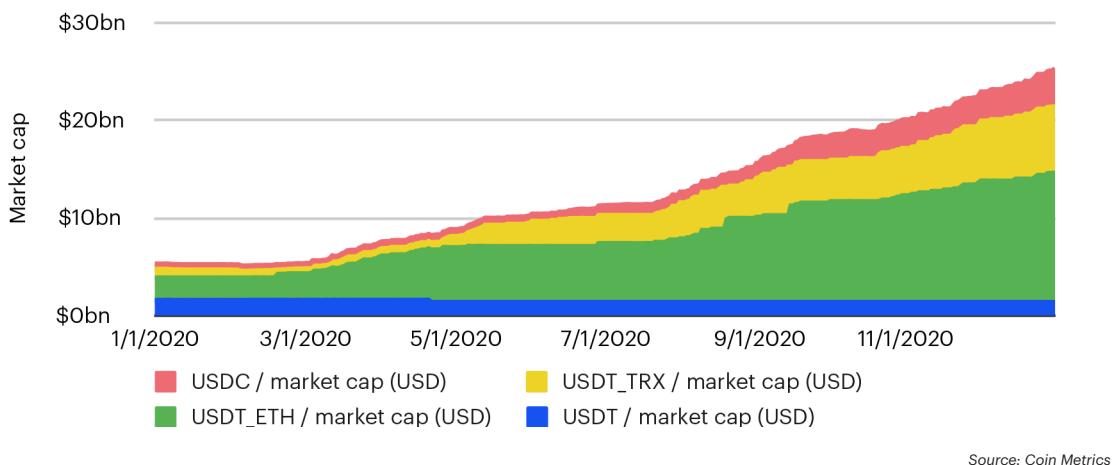


At the end of 2020,
Bitcoin stored \$539
billion of value.
While this represents
significant absolute
growth, it pales in
comparison with the
size of other widely
adopted stores
of value.

Cryptodollars (stablecoins)

Cryptodollars continued to grow in 2020. Tether and USDC remained the dominant assets, with Tether's market capitalization increasing by 350% from \$4.75 billion to \$21.4 billion (inclusive of its Ethereum, Omni, and Tron formats) and USDC increasing by 655% from \$518 million to \$3.91 billion.

Tether and USDC growth in 2020



Source: Coin Metrics

Tether and USDC are collateralized by USD and bring a less volatile, fiat currency into the cryptoeconomy. This allows investors, traders, and transactors to move in and out of fiat currency while remaining on “crypto rails.” The most common-use case we see for crypto dollars is efficiently moving funds between exchanges. Increasingly, we also see private financings, e.g. venture investments in start-ups and new crypto assets, being funded with USDC by more crypto-savvy investors. Finally, we see a growing number of crypto users leveraging cryptodollars to engage with DeFi protocols.⁵⁶

The benefits of using cryptodollars include lower transaction costs and near-instantaneous movement of funds across exchanges and between smart contracts. Crypto users typically prefer this approach to wires or ACH transactions, which often carry high fees and can have limits or fraud-related friction at banks. We also see crypto users favoring cryptodollar transactions for cross-border payments, which are expensive and slow via most fiat currency based options. In the case of DeFi, smart contracts bypass the legacy financial system by design in favor of crypto; cryptodollars are the only option for representing fiat value on-chain.

As we first highlighted in our H1 2020 [report](#), cryptodollar usage in DeFi is growing rapidly.⁵⁷ Because Tether and USDC have native ERC-20 (Ethereum based) formats, they can move seamlessly in and out of smart contracts. An example of a simple DeFi workflow that uses a stablecoin is converting USD held on Coinbase into USDC, then instantly sending the USDC on-chain to a lending pool on [Aave](#) or [Compound](#) to earn a yield on the USDC. This can all occur in minutes while staying within the cryptoeconomy and without interacting with a bank or a person. (Note that using DeFi involves risks and users should aim to thoroughly understand the smart contracts they engage with before depositing funds.)

We expect that stablecoin growth will continue as more people enter the cryptoeconomy and seek to move assets efficiently and cheaply between exchanges and smart contracts. Similarly, we believe the growth of DeFi will directly drive usage of stablecoins, as they are the only viable mechanism for using fiat currency as collateral or part of a trading pair within DeFi.

A final key cryptodollar theme to monitor is the emergence of central bank digital currencies (CBDCs). Governments are beginning to recognize the merits and staying power of digital assets and are seeking to leverage this technology to “upgrade” their existing currencies to crypto rails. Countries are at various stages in their exploration of CBDCs, with China being notably vocal and fast moving in its pursuit of a digital Yuan.⁵⁸

Coinbase is watching the development of CBDCs closely and helping to educate governments about the potential of digital assets, while promoting the importance of privacy preservation and true decentralization in CBDC designs.

There are obvious benefits to CBDCs from the standpoint of both governments and citizens: the events of 2020 brought this to light as nations around the world grappled with mechanisms for distributing post-COVID stimulus payments with varying degrees of success. No doubt crypto assets and widely accessible digital wallets could help provide a more efficient solution to this problem (and others). As governments push forward in the design stage of CBDC systems, Coinbase hopes that they will work to preserve individual liberties and privacy. We encourage members of the cryptoeconomy who understand these systems to continue to share constructive feedback with their elected representatives about the importance of verifiable decentralization, and to advocate for a future wherein governments develop CBDCs on top of open, public blockchain networks.





Data analytics

The crypto data analytics market continued to mature in 2020. As we highlighted in our H1 2020 [report](#), the data landscape in crypto is vast as it combines both on-chain (network) data, i.e. publicly auditable fund settlements on blockchain networks, and financial (market) data, i.e. trading activity and asset valuations.

Data analytics are critical to enabling institutional participation in the crypto asset class, as investors seek a deep understanding of activity in the cryptoeconomy and need to represent their investment decisions analytically.

Coinbase strengthened its analytics capabilities in 2020 via our Coinbase Analytics product, which provides institutional clients with a detailed map of on-chain fund flows, as described previously in the “Coinbase Prime Broker” section of this report. Our introducing broker clients are especially interested in understanding on-chain activity using Coinbase Analytics so they can satisfy their compliance obligations.

A handful of other reputable data analytics providers stand out in the market and are frequently used by our institutional clients. We encourage readers of this report seeking to deeply explore the data behind the cryptoeconomy to delve into their capabilities in on-chain data, market data, DeFi and trading insights:

[Coin Metrics](#)

All-in-one crypto data provider for institutions spanning financial and on-chain metrics

[Nomics](#)

API-first, professional grade trade and order book data

[Dune Analytics](#)

Free platform for the creation and sharing of Ethereum analytics

[IntoTheBlock](#)

Machine learning, statistical modeling, and proprietary trading strategies for investors

[Messari Crypto](#)

Transparent cryptoeconomy data for investors, regulators, and the public

[Flipside Crypto](#)

Cohort-level business intelligence for understanding crypto network fund flows

[Etherscan](#)

Ethereum blockchain explorer

[Cryptocompare](#)

API for market trading data

EMEA update

2020 was a productive year for Coinbase in the EMEA region. In January we launched Coinbase Custody International from our Dublin office to serve our growing global client base.

In the first half of the year we saw considerable growth in our EMEA-based proprietary trading firms, but the second half was dominated by rising volumes from investors seeking long exposure to crypto, chiefly hedge funds, family offices and other asset managers.

Our EMEA introducing broker segment grew in 2020, led by activity stemming from London's "Silicon Roundabout." Fintechs and banks were eager to work with Coinbase via our white-label offerings to deliver crypto capabilities to their own clients.

As in the U.S., regulatory activity in the EMEA region increased in 2020 as the crypto asset class grew. On January 1, 2020, the German financial regulator BaFin incorporated crypto custody into the country's Banking Act, allowing traditional financial institutions and crypto-native firms to provide regulated services there.⁵⁹ Coinbase is one of about 40 financial entities that have applied for the BaFin custody license.

In the second half of the year, the European Commission — the EU's executive arm — debuted the Markets in Crypto Assets Regulation (MiCA) legislative framework.⁶⁰ This created a path to EU-wide regulation of crypto, which will bring greater conformity to the current patchwork of regulatory and supervisory arrangements in the bloc's 27 countries. We expect MiCA to act as an important catalyst for bolstering institutional interest in the European crypto sector. We see the Commission's initiative, and Germany's move on banking, as pivotal developments for the crypto asset class in Europe and as a model for other jurisdictions.

Leaning into the clearer regulatory picture, Coinbase opened a Berlin office in October — our third in Europe after London and Dublin. We now have 120 full-time employees across Europe and will continue to hire in the region.

"2020 firmly cements the year that Coinbase Institutional arrived in EMEA with the launch of Coinbase Custody International and our dedicated OTC trading desk in the region."

Drew Robinson

Manager, Institutional Sales, EMEA Lead

APAC update

The Asian crypto markets are still largely dominated by retail investors, and the scale of this retail demand has created opportunities for exchanges and brokers such as Coinbase, Binance, and FTX, as well as a handful of sophisticated market makers.

While the institutional landscape in Asia is not as developed as in the U.S., Coinbase is seeing growing demand from family offices, hedge funds, venture capital firms, brokerages, and proprietary trading firms. Today we serve clients in 17 countries in the Asia Pacific region, serviced in a cross-border model via our U.S. and European entities.

Singapore and Australia are particularly active for our family office clients, who appear to be influenced by the same themes driving U.S. investors into crypto, i.e. fiat currency inflation hedging and portfolio diversification.

Regulatory regimes across the APAC region have taken a range of approaches towards crypto. Japan introduced licensing of crypto exchanges in April 2017, but a number of high-profile security incidents with local exchanges subsequently brought higher scrutiny.⁶¹

China has adopted a position of “strategic ambiguity.” Citizens can own crypto, but operating a crypto exchange that provides RMB-to-crypto trading pairs is prohibited. The government has been among the most vocal regimes in supporting central-bank-issued digital currency (CBDCs), and views blockchain technology as critical new infrastructure, according to the National Development and Reform Commission.⁶² The exact degree of control that China will aim to exert over service providers within its borders, as well as centrally planned CBDCs, is yet to be determined.

Singapore has been more decisive than many of its neighbors in defining clear crypto regulations, creating rules that span both trading and payments.⁶³ We expect further guidance on custody and brokerage from its government in the near future.

Due to this clarity and Singapore’s standing as a financial center of the Asian markets, Coinbase is continuing to explore ways to expand its presence in the city state in 2021, to serve as our regional headquarters in Asia. Singapore will be the staging post for Coinbase’s broader expansion into Asia’s many markets.

“Despite being relatively new to Asia, Coinbase’s brand in the region is already well recognized as being the most trusted.”

Kayvon Pirestani
Director, Institutional Sales, APAC Lead

Regulation

The regulatory landscape in crypto continues to evolve. In 2020 the market saw heightened activity — particularly from federal U.S. regulators including the Department of the Treasury's Office of the Comptroller of the Currency (OCC) and Financial Crimes Enforcement Network (FinCEN), the U.S. Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission (CFTC), and the U.S. Department of Justice (DOJ).

While institutional market participants' reactions to specific regulations remain mixed, the industry generally embraced moves in 2020 towards more precise guidelines on how crypto businesses can operate legally and fairly. Coinbase and others already provide safe, regulated onramps to the crypto markets for institutional clients. Additional guidelines from regulators take this trust one step further by clarifying the legality of various actions and the standing of specific assets.

The OCC allows banks to custody crypto assets

The OCC made headlines in July by clarifying that federally chartered banks can legally provide custody of crypto assets.⁶⁴ This was welcome for traditional banks, many of which remained on the sidelines in the absence of clear guidance on the legality and potential scope of participation in the crypto markets. Following the OCC's letter, Coinbase saw interest from large banks seeking help with building crypto capabilities to meet growing demand from clients.

Coinbase believes the entry of major banks into the crypto market, aided by clear regulation, may drive long-term growth. These players bring added trust and large-scale distribution to hundreds of millions of their customers. We will continue to partner with banks to help them bring crypto to their clients following the OCC's clarification.

FinCEN proposes reporting requirements for self-hosted wallets

The Financial Crimes Enforcement Network announced in December that it was seeking comments on its proposal to heighten reporting requirements for owners of self-hosted (non-custodial) crypto wallets transacting above certain thresholds.⁶⁵ FinCEN intends for the proposed regulation to aid anti-money-laundering efforts. Stakeholders in the cryptoeconomy have been quick to point out the proposed policy's inconsistencies with similar rules in traditional banking, and a lack of evidence that unhosted wallet transactions enable illicit activity. The public comment period was also unusually short — 15 days, spanning two national holidays. Coinbase's Chief Legal Officer, Paul Grewal, published an initial response⁶⁶ to FinCEN, which can be found on the Coinbase blog [here](#).

The SEC files against Ripple Labs

In December, the SEC filed an action⁶⁷ against Ripple Labs, claiming that it had conducted an unregistered securities offering in its continuing sales of XRP tokens. Ripple Labs responded⁶⁸ by announcing it would challenge the SEC in court, emphasizing the need for clear, consistent regulation in the market and its intent to work with regulators. The SEC's move is one of the more visible actions to date against an asset issuer — the XRP token is widely owned by retail investors and has held a top-five market capitalization for most of its existence since 2012.

The DoJ and CFTC charge BitMEX

As stated earlier, in October the Department of Justice and Commodity Futures Trading Commission charged BitMEX executives with operating an unregistered derivatives exchange and violating the Banking Secrecy Act and the Commodity and Exchange Act (CEA), citing a failure to maintain proper KYC/BSA hygiene with its customers.⁶⁹ BitMEX responded by saying it would "defend the allegations vigorously."⁷⁰

Looking ahead

Coinbase embraces thoughtful crypto regulation. We see clear rule-setting as fundamental to our long-term goal of growing the cryptoeconomy. However, we will continue to play an active role in helping educate regulators to ensure that rules provide freedom, privacy, and fairness to the millions of crypto users globally who are working to shape a better financial future.

It is difficult to forecast the future of crypto regulation, but we can safely assume that the asset class will attract more attention, not less, as it grows. We hope governments will look to the success of internet regulation in the U.S. as a model for crypto. Like the internet, the crypto market is built on a combination of distributed, open-source software protocols (e.g. TCP/IP: Bitcoin). And like the internet, service providers in crypto build applications on top of these protocols, making them useful and accessible to the masses (e.g. Amazon: Coinbase). We believe that regulation at the service provider, not the protocol level, is the fairest and most practical form of rule-setting. Regulators can set clear, reasonable expectations for how service providers engaging with these protocols may operate, then promote free-market competition to attract the best companies in crypto to build within their purview and generate economic growth.



“There is an increasing sense of regulatory stability and clarity with digital assets. One of the most common questions we get from institutional players is: ‘Is this space regulated?’ The answer very much is yes, as we’ve seen over and over again in the last few years.”

Dhawal Sharma
Associate General Counsel

DeFi

[Decentralized finance](#) or “DeFi” continued to grow in 2020 as a handful of high-profile protocols launched and gained traction with users. Notable examples included decentralized lending markets [Aave](#) and [Compound](#), decentralized exchanges (“DEXes”) [Curve](#) and [Balancer](#), and the yield aggregation protocol Yearn Finance.

Many DeFi protocols also launched (or upgraded) their native crypto assets in 2020. These use a range of mechanisms to enforce on-chain governance and/or capture value from their underlying protocols as use increases. Examples include Curve’s launch of [CRV](#), Compound’s launch of [COMP](#), Balancer’s launch of [BAL](#), Yearn Finance’s launch of [YFI](#), Uniswap’s launch of [UNI](#), and Aave’s 2.0 upgrade from LEND to [AAVE](#).

DeFi and institutional investors

Outside a select group of venture capital funds and family offices, we have not yet seen significant investment in DeFi assets from our institutional clients in 2020 — this part of the crypto asset class remains primarily retail-driven.

As in the early days of Bitcoin adoption, reliable and compliant tools for accessing DeFi protocols are hard to find, and maturity will take time (most DeFi protocols are less than two years old). However, given the large market opportunity to recreate financial services with efficient, open-source DeFi markets, it’s reasonable to expect reliable “bridges” to DeFi to be built in coming years. We can imagine a future in which institutional investors can access both traditional and decentralized financial services through trusted, regulated onramps.

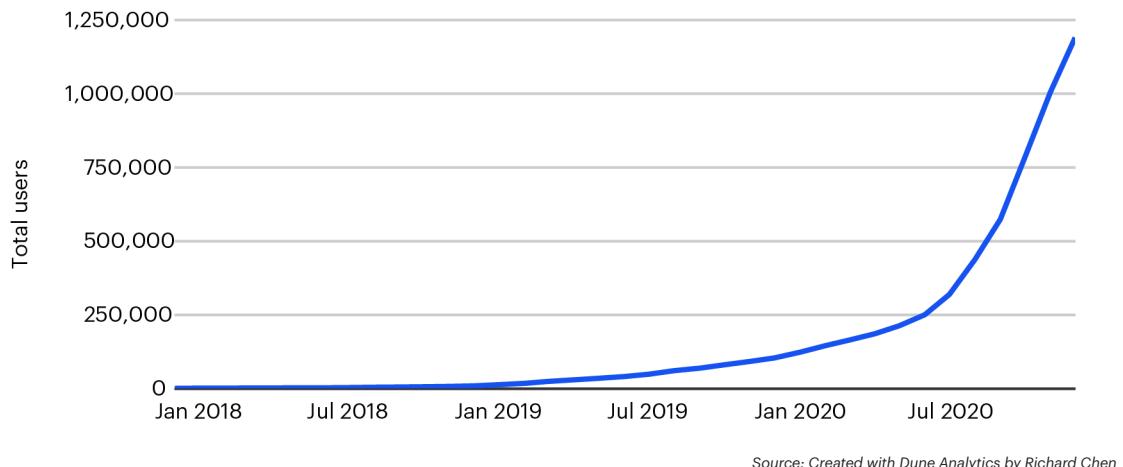
The long-term reasons why investors may want to engage with DeFi protocols are numerous, but center around the notion that global, programmatic, decentralized, 24/7/365 markets for financial services are likely to provide a serious competitor to similar services offered by banks along certain dimensions, including cost, speed, breadth of options, and ease of use.

This may be difficult to imagine today given the relatively small size of the DeFi market, a bottom-up trend that is occurring out of view for most of Wall Street. However, 1.2 million DeFi users around the world are taking out loans, investing in derivatives, trading thousands of crypto assets and buying insurance contracts, all using decentralized, open-source software built by developers outside the traditional financial system.

Growth

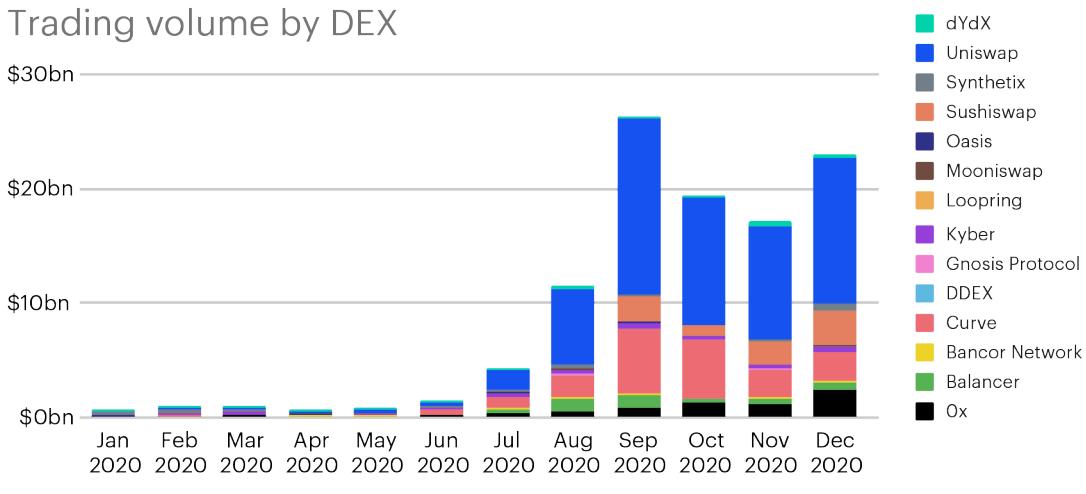
The below chart shows the growth trajectory of this user base over the past three years, as represented by the cumulative number of unique wallet addresses that are connected to major DeFi protocols.

Total DeFi users



For these users, trading on decentralized exchanges offering an extremely broad range of assets is a common use case. Monthly volumes across the major venues, reflective of the growing number of DeFi users, rose 3591% from \$624.6 million⁷¹ in January 2020 to \$23.1 billion in December.

Trading volume by DEX



Source: Created with Dune Analytics by Fredrik Haga

DeFi versus banking

Our most crypto-savvy venture capital clients investing in DeFi assets generally believe the rapid, iterative and permissionless design process in DeFi sets it apart from traditional finance and gives it potential to compete over the long term. Programmable, open-source crypto networks have, for the first time, put financial product development directly in the hands of engineers, who no longer need to work at a bank and “ask permission” to create products. Instead they need only an internet connection to ship something that can be used by anyone in the world with a crypto wallet.

Value creation in the internet and mobile software eras of this century’s first two decades may be instructive here: history shows that broadening access and lowering costs for developers on a new computing platform generally leads to rapid innovation. Coinbase is excited to see what DeFi developers build next, and we intend to play a key role in supporting them — including by investing in their work via Coinbase Ventures, supporting custody and trading of DeFi assets and providing trusted ways for large, institutional investors to engage with their protocols.

Coinbase Ventures

Coinbase Ventures launched in 2018 with a mission of supporting the most promising founders and startups helping to grow the cryptoeconomy. Since then we have made more than 100 investments spanning crypto infrastructure, Web3, DeFi, custody and wallets, exchanges, data analytics, developer tools, security token platforms, and more.

In 2020, the early-stage crypto landscape was very active, and an increasing number of talented entrepreneurs chose to build their next venture in the cryptoeconomy. Coinbase Ventures made 44 minority equity or token investments in the year. Given the rapid rate of innovation in the crypto space, we plan to continue our pace and support the best entrepreneurs and teams pushing the ecosystem forward. Apart from our ecosystem investments, we also selectively make larger strategic investments in growth-stage companies and have observed more compelling opportunities at this stage as the industry has matured.

Coinbase Ventures takes a generalist approach, but some themes observed in 2020 that are particularly relevant include: improving access to the crypto market internationally, liquidity aggregation, security token infrastructure, structured products, cross-venue settlement, and solving key tooling challenges such as tax and reporting.

Notable investments from 2020 can be found below. The larger list of investments can be found on the Coinbase Ventures page [here](#).

Coinbase Ventures: 2020 portfolio overview

Coinbase is one of the most active investors in crypto; 100+ investments made in some of the most promising early-stage crypto companies.

Coinbase Ventures investments	Notable investments in 2020																																
<p>Number of investments (#)</p> <p># of investments by category</p> <p>Over 100 investments in the ecosystem</p> <table border="1"><thead><tr><th>Category</th><th>Number of Investments</th></tr></thead><tbody><tr><td>Web3</td><td>32</td></tr><tr><td>Custody/“Top of funnel”</td><td>14</td></tr><tr><td>CeFi</td><td>19</td></tr><tr><td>Data / Analytics</td><td>9</td></tr><tr><td>Dev tooling “AWS”</td><td>7</td></tr><tr><td>BD / ATS</td><td>6</td></tr><tr><td>Int'l exchange</td><td>5</td></tr></tbody></table> <p>Investments allocation (%)</p> <p>Capital allocation by category</p> <table border="1"><thead><tr><th>Category</th><th>Allocation (%)</th></tr></thead><tbody><tr><td>BD / ATS</td><td>3%</td></tr><tr><td>Data / Analytics</td><td>5%</td></tr><tr><td>Dev tooling “AWS”</td><td>6%</td></tr><tr><td>CeFi</td><td>11%</td></tr><tr><td>Web3</td><td>23%</td></tr><tr><td>Int'l exchange</td><td>13%</td></tr><tr><td>Custody / “Top of funnel”</td><td>15%</td></tr></tbody></table>	Category	Number of Investments	Web3	32	Custody/“Top of funnel”	14	CeFi	19	Data / Analytics	9	Dev tooling “AWS”	7	BD / ATS	6	Int'l exchange	5	Category	Allocation (%)	BD / ATS	3%	Data / Analytics	5%	Dev tooling “AWS”	6%	CeFi	11%	Web3	23%	Int'l exchange	13%	Custody / “Top of funnel”	15%	<p>Uniswap Decentralized exchange protocol</p> <p>BITSO Leading Mexico/LatAM crypto exchange</p> <p>EVENTUS SYSTEMS Compliance software for crypto markets</p> <p>TAXbit Enterprise crypto tax software provider</p> <p>AMBER Leading crypto trading and technology firm</p> <p>Dune Analytics Ethereum analytics provider</p>
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“We believe that crypto is still in the very early innings of its adoption curve. The industry’s nascent — coupled with the many potential use cases — provides fertile ground and opportunity for entrepreneurs to drive innovation.”

Shan Aggarwal
Head of Corporate Development & Coinbase Ventures



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Endnotes

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- ⁶ [CoinGecko](#)
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- ²³ [Investopedia](#)
- ²⁴ [Coin Metrics](#)
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- ⁷⁰ [Bitmex](#)
- ⁷¹ This figure is higher than our January figure from the H1 2020 [report](#) because we've expanded our data set to include the top 14 DEX venues vs 11

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