

CoinDesk Quarterly Review

Second Quarter 2020



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Returns, volume, volatility and correlations

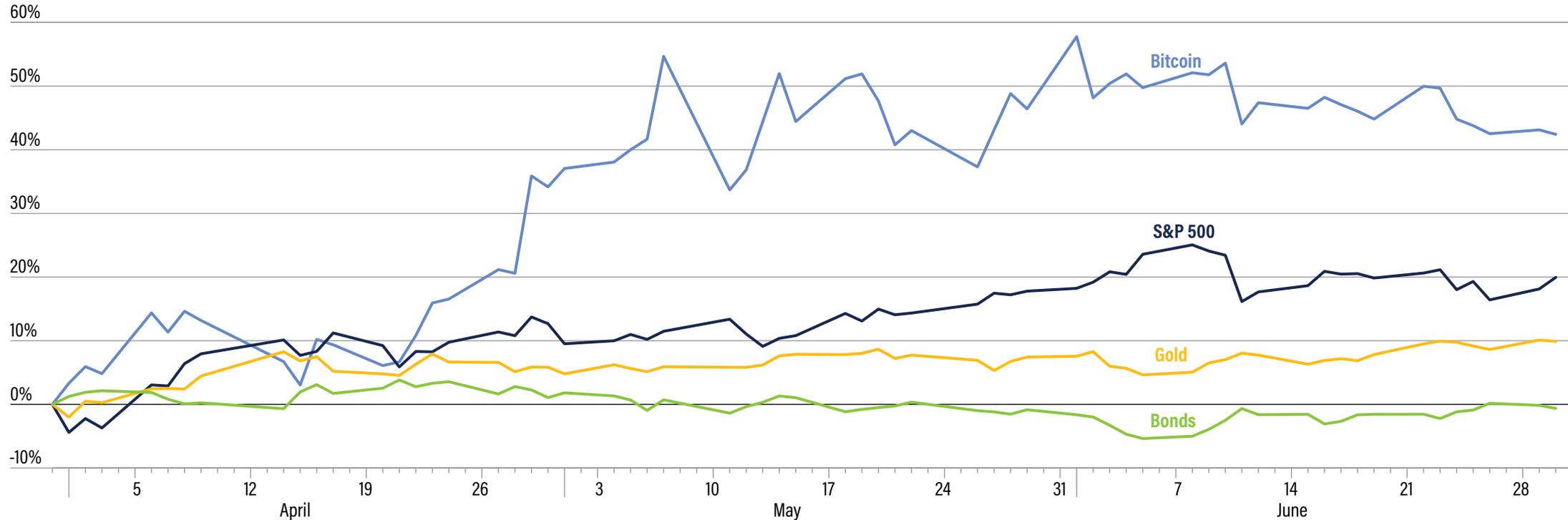
Bitcoin has outperformed other asset categories, even as its historical volatility sank back to pre-Q1 levels.

Returns

Bitcoin outperformed traditional macro assets such as stocks, gold and bonds in the second quarter of 2020. Bitcoin, stocks and gold all provided double-digit returns; only bonds were negative on the quarter. The gains made from bitcoin were more than double the gains made from the S&P 500 and quadruple the gains made from gold.

Bitcoin & Macro Assets Quarterly Returns

Quarterly Returns (%)

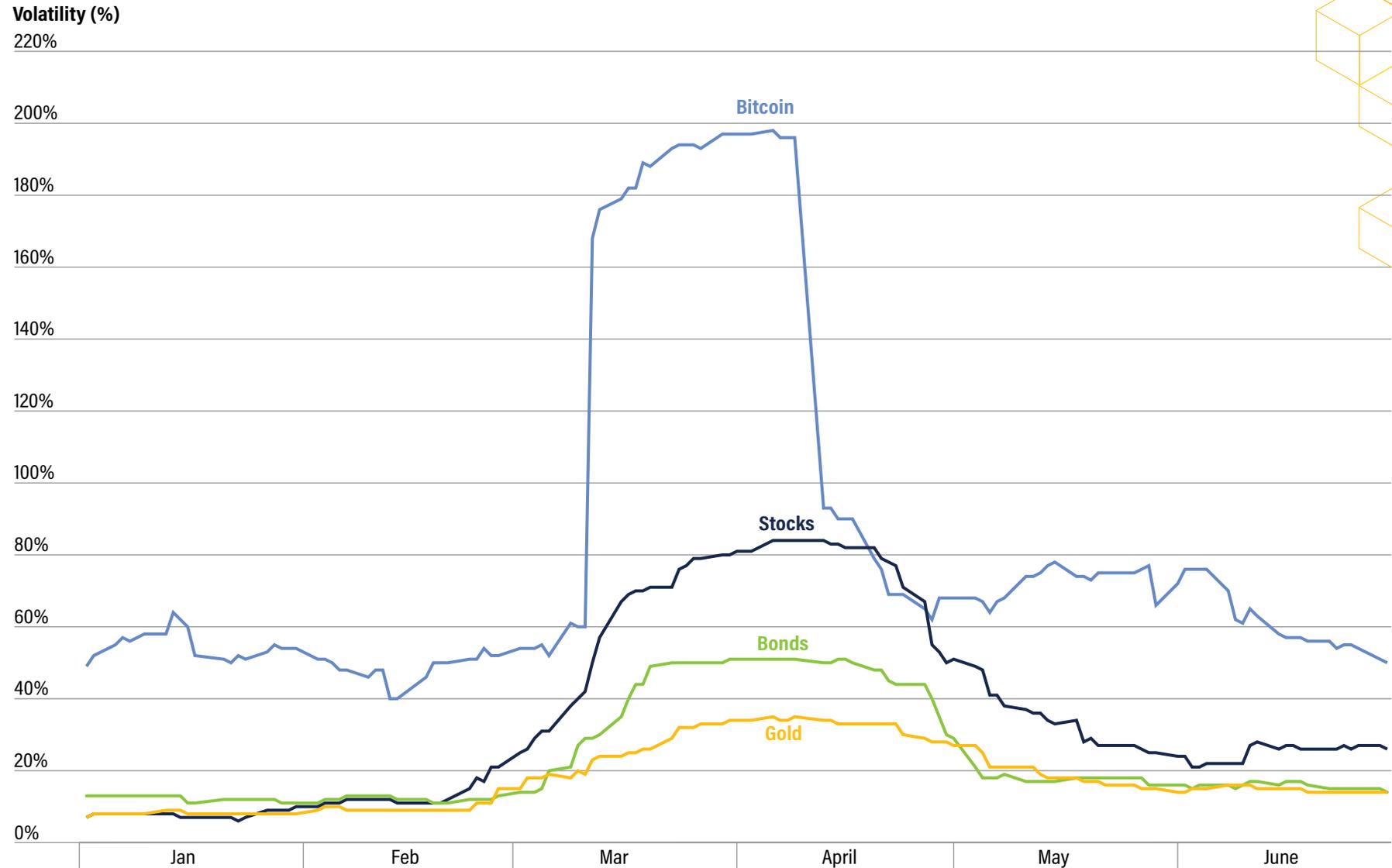


Source: [Nomics](#), [St. Louis Fed](#), [Yahoo Finance](#). Bonds = iShares 20+ Year Treasury Bond ETF; Gold = London Bullion Market pm fixing price.

The 30-day volatility of daily returns for bitcoin has consistently trended higher than other macro assets since the end of April. The volatility of stocks climbed to levels equivalent to bitcoin's normal price swings. All three macro assets were slower than bitcoin to fall back to near-normal volatility; stocks and gold remain more volatile than normal.

Volatility

30d Historical Volatility of Daily Log Returns in 2020 Q2

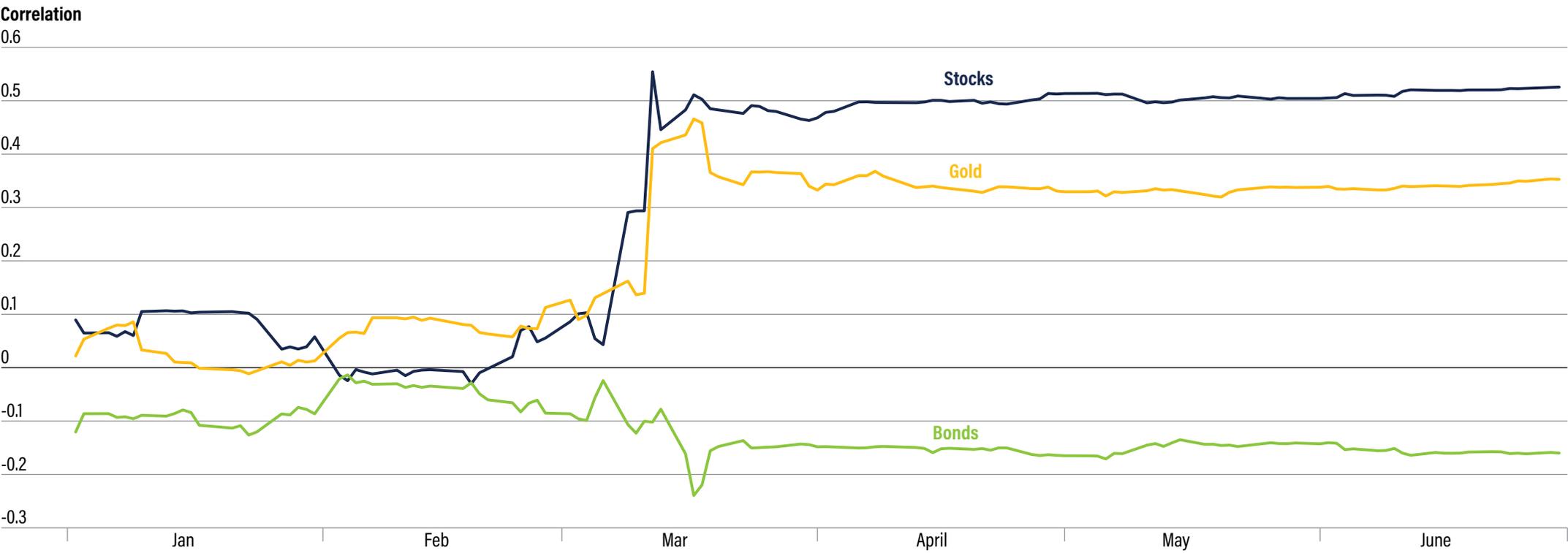


Source: [Coin Metrics](#) & [FactSet](#). Stocks = S&P 500 Index; Bonds = iShares 20+ Year Treasury Bond ETF; Gold = SPDR Gold Trust.

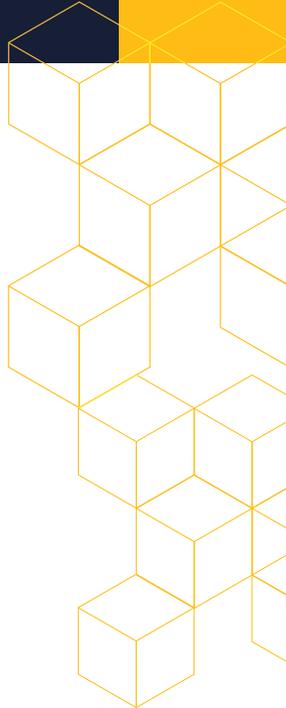
Correlations

Since the infamous March 12 market crash when BTC price nearly halved, bitcoin has maintained a higher level of correlation with the price movements of both stocks and gold. Before March 12, 90-day correlation of daily log returns with both the S&P 500 and gold rarely exceeded 0.1 in 2020.

Bitcoin & Macro Assets: 90d Correlation of Daily Log Returns



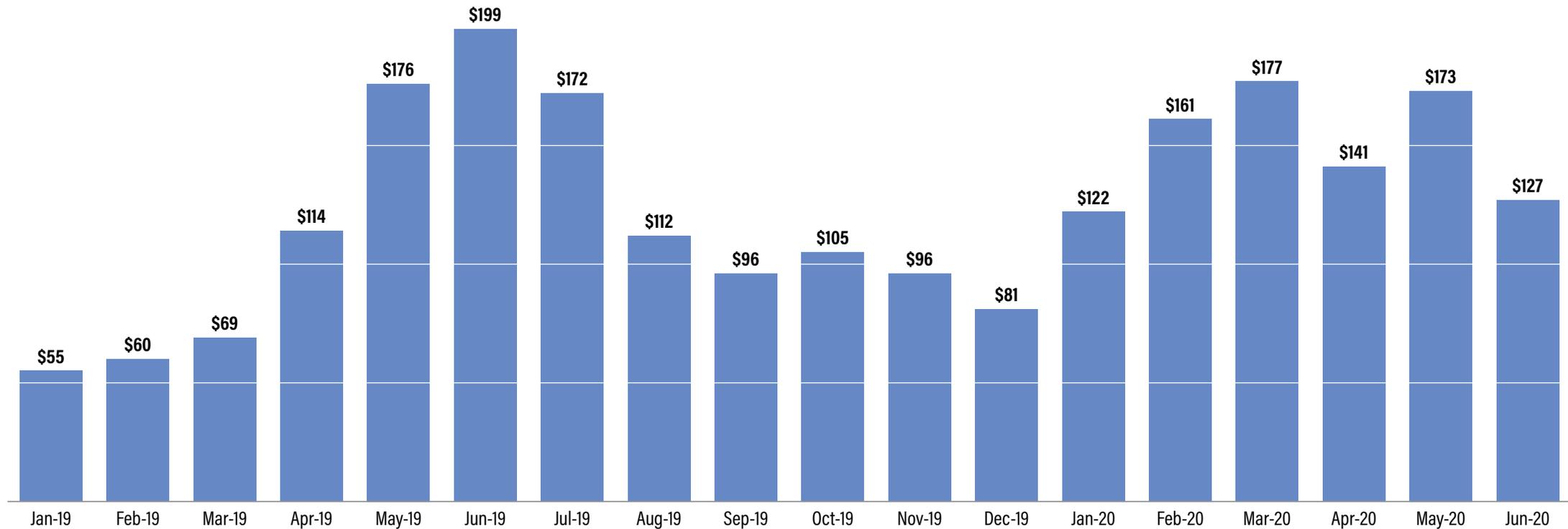
Source: [CoinDesk BPI](#) & [FactSet](#). Bitcoin price at 4pm Eastern; Stocks = S&P 500 Index; Bonds = iShares 20+ Year Treasury Bond ETF; Gold = SPDR Gold Trust.



Volume

The dollar volume traded on crypto exchanges with a high transparency grading as dictated by Nomics was around \$127 billion for June, its lowest month in a quarter that again saw volumes fall short of last year's highs. Last year, monthly transparent dollar volume for June was at a 2019 high of roughly \$200 billion.

Crypto Assets Verifiable Monthly Dollar Volume (USD Billion)

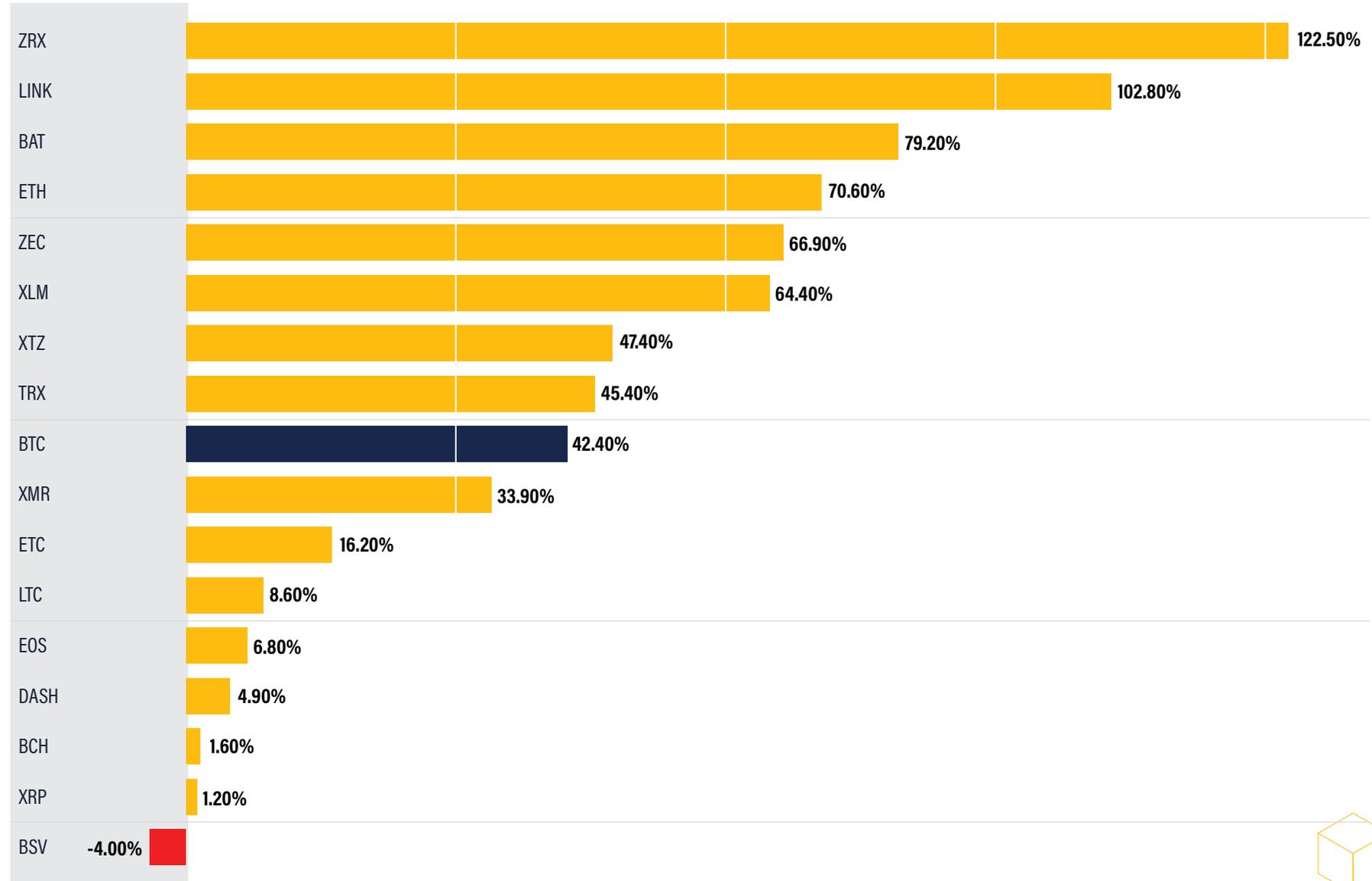


Source: [Nomics](#)

Bitcoin outperformed eight other cryptocurrencies in the CoinDesk 20, this quarter, including the world's fourth and fifth largest coins by market cap, XRP and BCH. [The CoinDesk 20](#) is a list of crypto assets with the highest aggregate verifiable dollar volume in two consecutive quarters. ZRX ranked the highest for quarterly returns. All of the top crypto assets except BSV posted positive returns for Q2 2020. The CoinDesk 20 includes stablecoins, which are excluded here.

Returns, crypto assets

Quarterly Performance of Assets in the CoinDesk 20



Source: [Nomics](#), CoinDesk Research





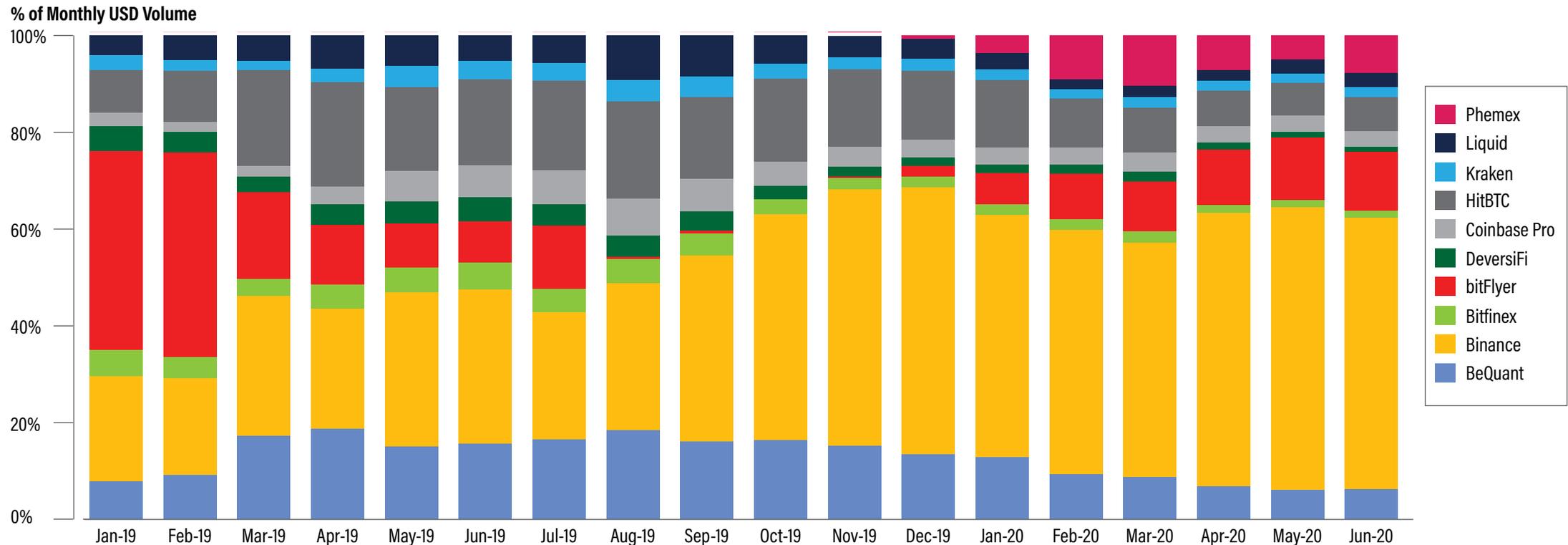
What market volumes tell us

Regulated bitcoin futures markets are bigger than ever; meanwhile, new exchanges are grabbing market share with new models and new geographic markets.

Winners and losers among the largest spot exchanges

The first half of 2020 saw Japan-based crypto exchange BitFlyer recovering part of what it lost in 2019, picking up in both absolute volume and market share. Binance also grew modestly, consolidating its place as the largest among those measured here. Meanwhile, U.K.-based BeQuant's market share faltered in Q2, compared with Q1.

Market Share (Volume) by Month Among the Largest Crypto Spot Exchanges



Source: [Nomics](#)

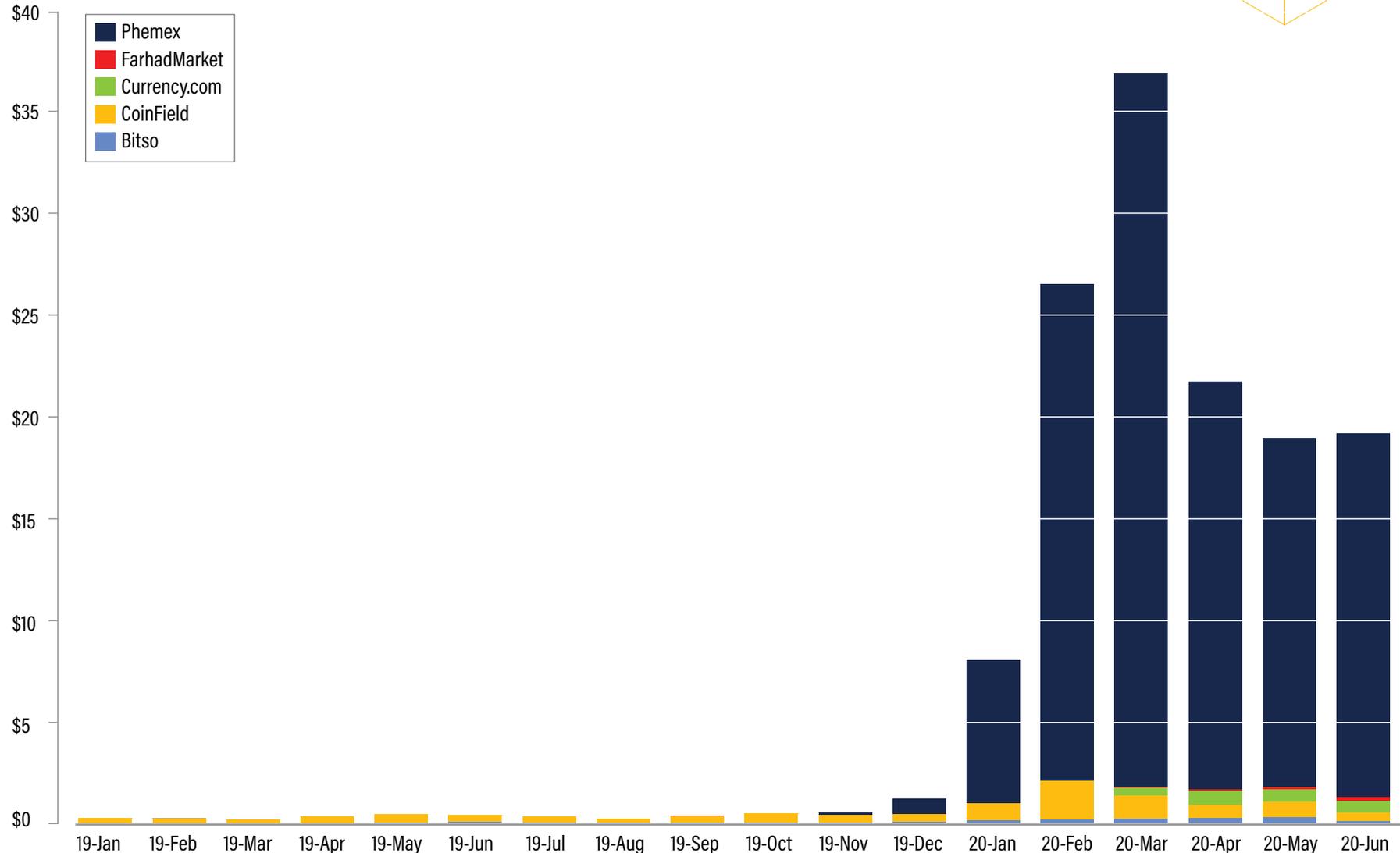
Fastest-growing spot exchanges

Monthly Volume Among the Fastest-Growing Spot Exchanges in Crypto

Five up-and-comers stood out:

- Singapore-based **Phemex** has seen phenomenal growth in the first half of 2020. In May, it began offering zero-fee spot trading.
- **CoinField**, headquartered in Europe, first reached \$1 billion in volume in February.
- Launched last month in Belarus, **Currency.com** offers tokenized securities.
- In May, Iran-based **Farhad Exchange** reached \$100 million in volume for the first time since 2019.
- Mexico-based **Bitso**'s volume has been increasing since September and reached a new high of \$350 million in May.

Monthly Volume (USD Million)



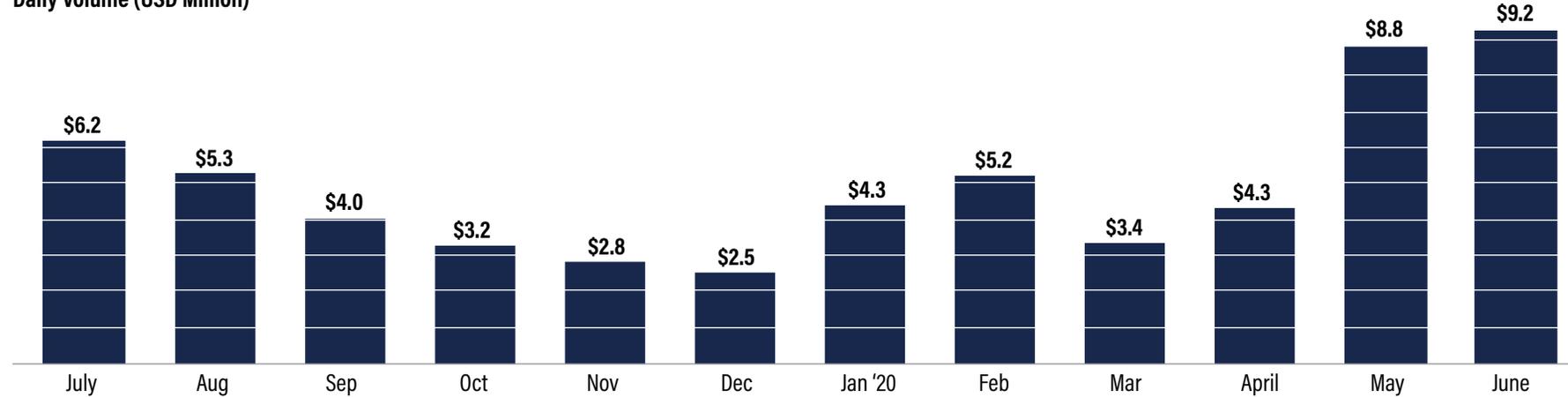
Source: [Nomics](#)

CME's bitcoin futures market is a U.S.-regulated alternative to much larger derivatives markets operating offshore, like BitMEX, FTX, Huobi and OKEx. The size of the CME futures market, measured in the dollar value of the number of open contracts, reached new highs in Q2 and has remained elevated. Activity in the market, measured in the dollar volume of contracts exchanged each day, spiked in May, as it has around the time of other recent price run-ups: Jan-Feb 2020 and July 2019.

Regulated bitcoin futures

CME Bitcoin Futures Daily Dollar Volume

Daily Volume (USD Million)



CME Bitcoin Futures Daily Open Interest (\$)

Daily Open Interest (USD Million)



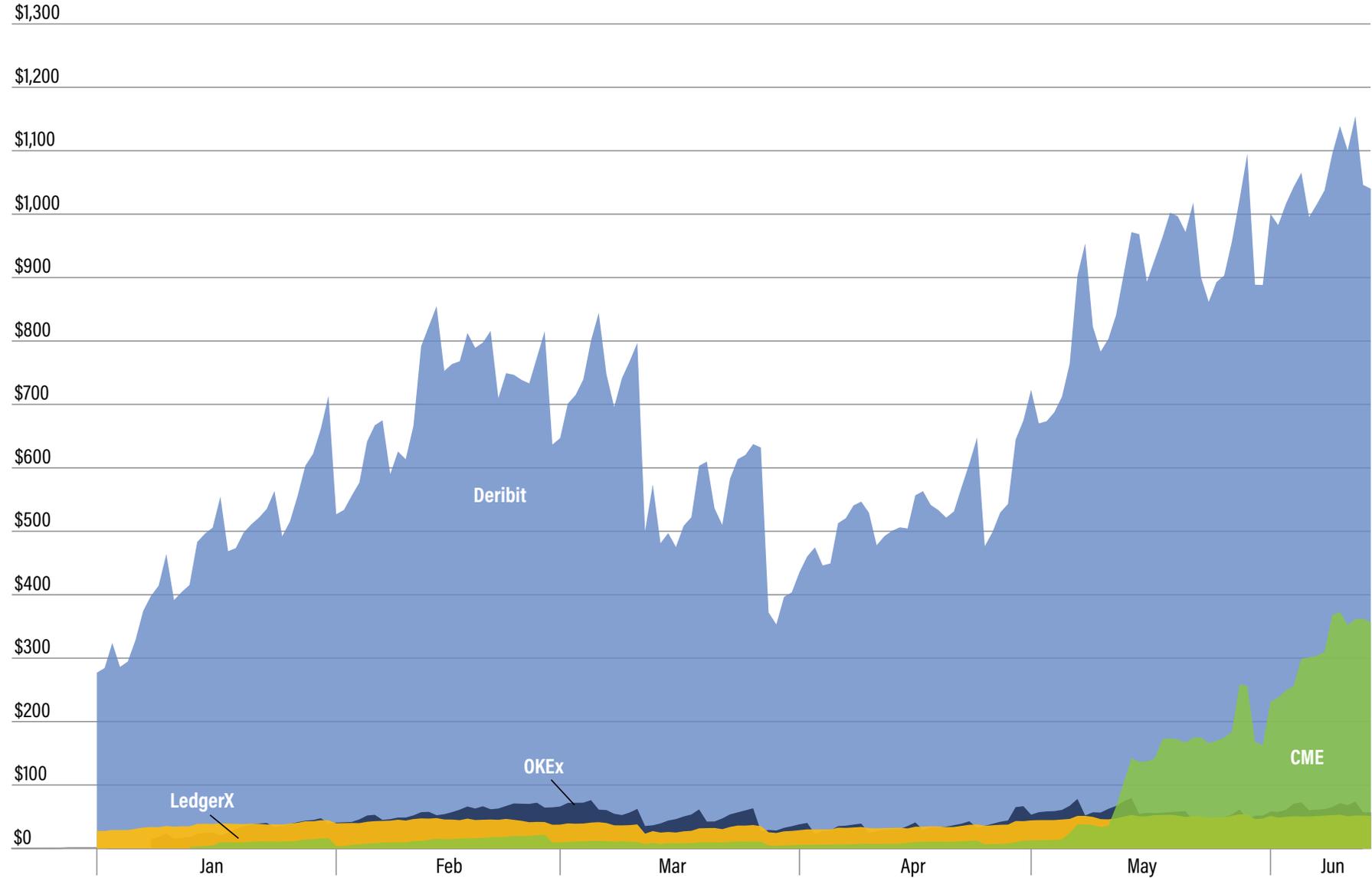
Source: [skew](#)

Options open interest

The size of bitcoin options markets, as measured by the dollar value of open contracts, crossed \$1 billion in May (as noted in May's [CoinDesk Monthly Review](#)). It continued to grow in June, reaching peaks above \$1.6 billion, before falling back drastically on June 26 with the expiration of June contracts. Bitcoin options markets are still small, compared to futures, but they have reached a size that makes them worth watching as a barometer for price predictions.

Bitcoin Options Daily Open Interest (USD)

Daily Open Interest (USD Million)

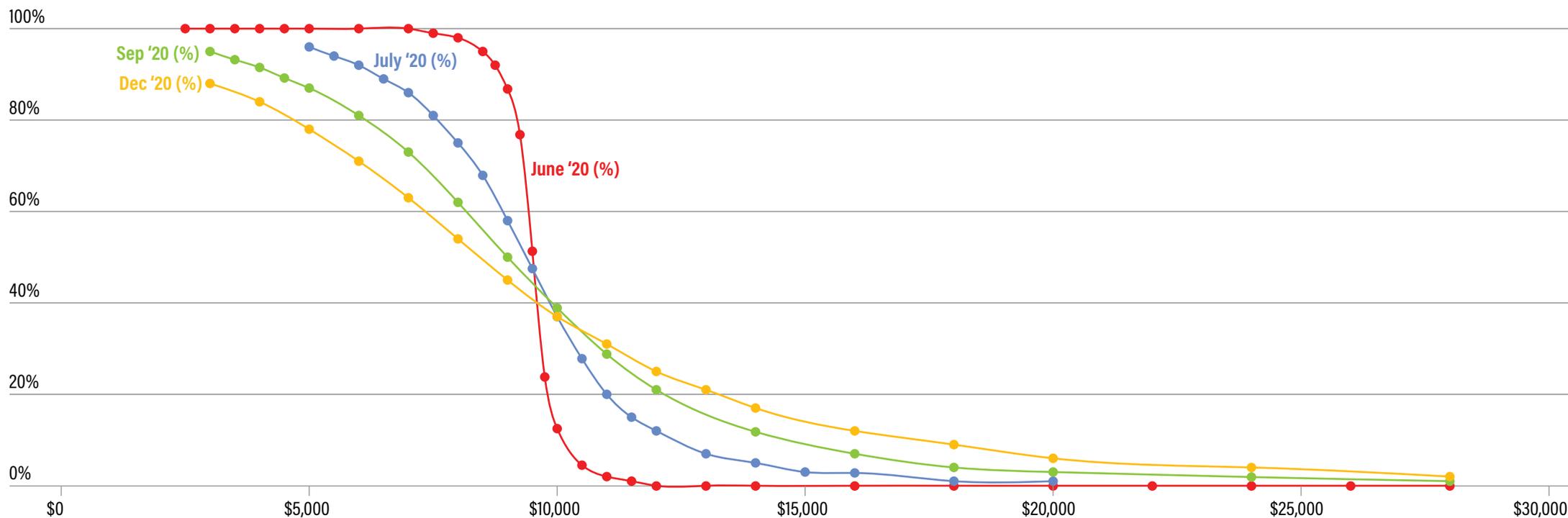


Source: [skew](#)

Bitcoin options probabilities have changed little

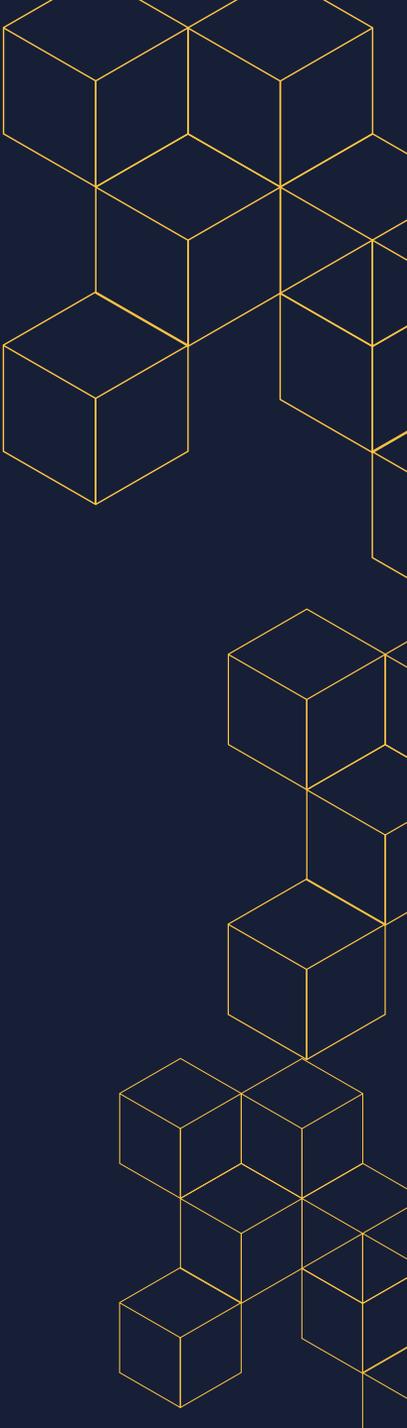
The bitcoin futures price probability curves for contracts expiring in September and December show little change, since May. All options series continue to show a less than 50% chance that the BTC price will show a significant increase this year.

Probability of BTC Being Above x\$ per Maturity



Source: [skew](#)

BTC vs. ETH

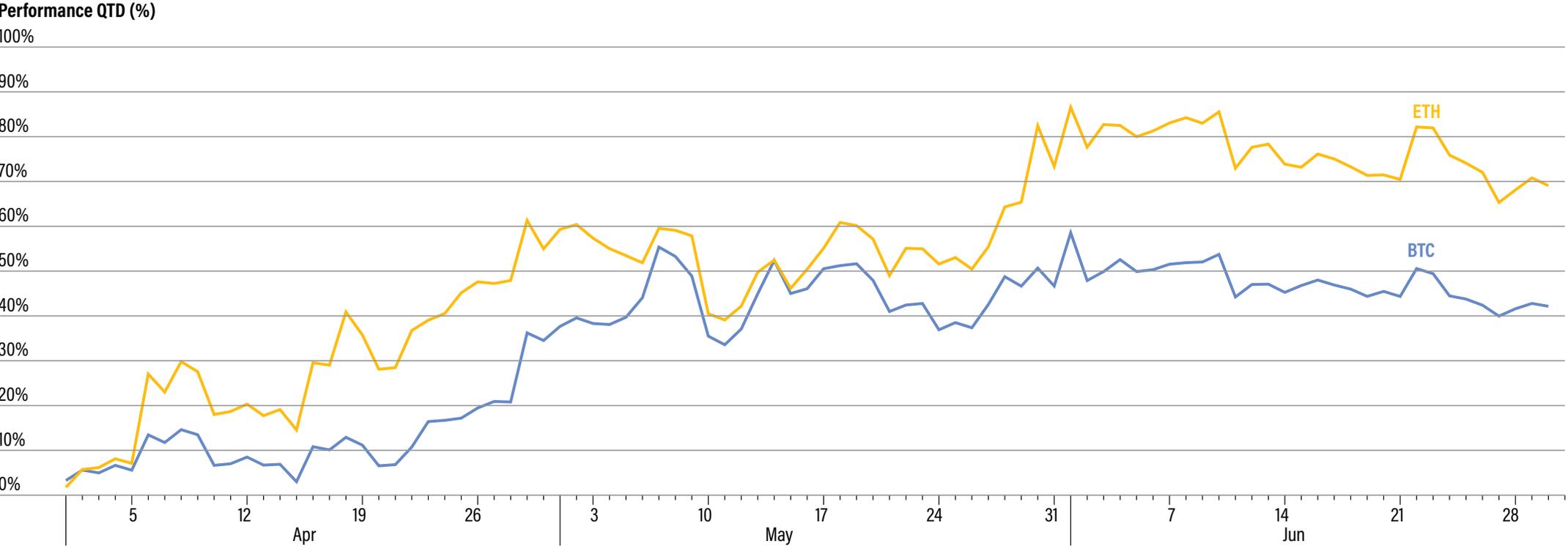


Ethereum's fifth birthday is on July 30. The runner-up crypto network remains a fraction of bitcoin's market cap, but in other key metrics—returns, fees and value transacted—it is outperforming.

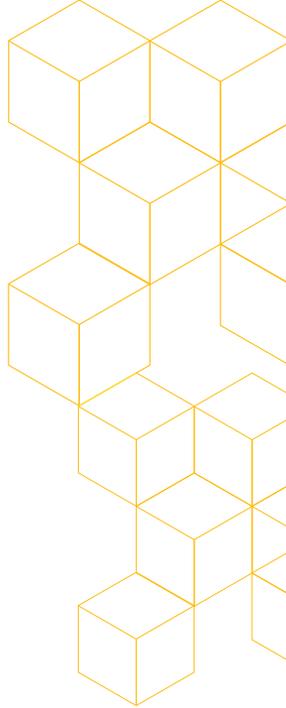
BTC vs. ETH: Performance

ETH significantly outperformed BTC in 2020 Q2. This could be due to a number of factors such as the upcoming shift to a proof-of-stake protocol (known as [ETH 2.0](#)) expected to launch some time before the end of the year. In addition, there has been [continued growth](#) in the number of users and transaction activity for decentralized applications on ethereum, specifically with a finance focus.

BTC & ETH Quarterly Returns



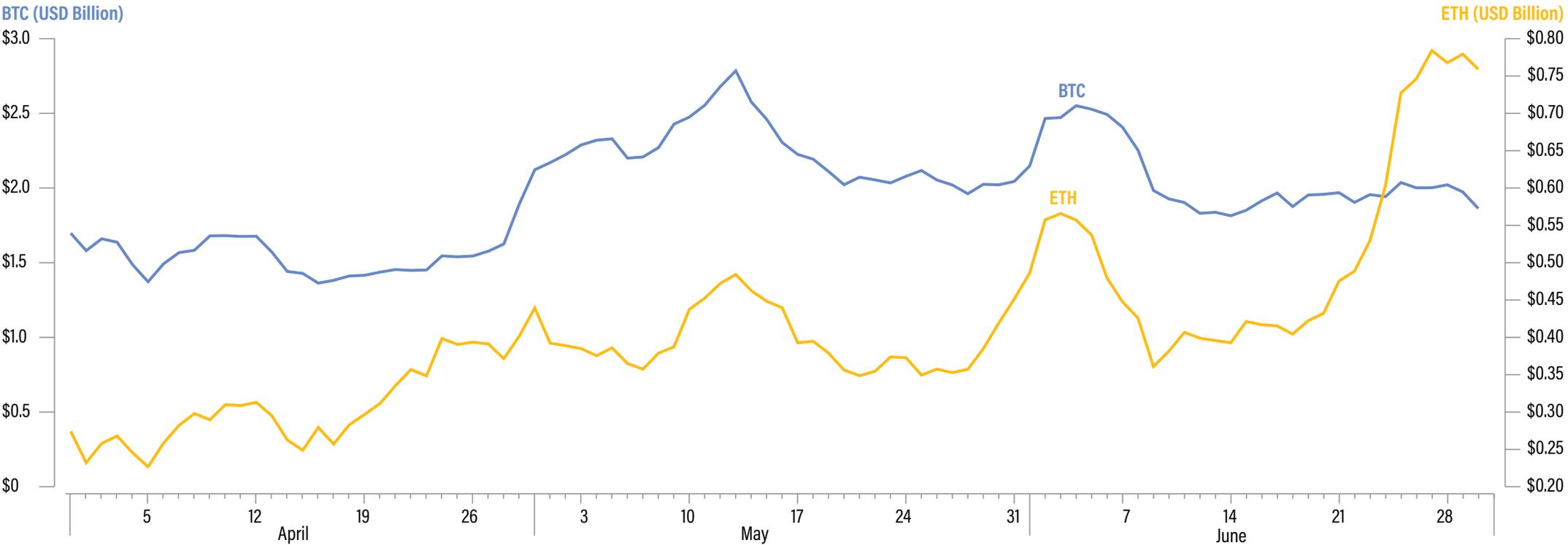
Source: [Coin Metrics](#)



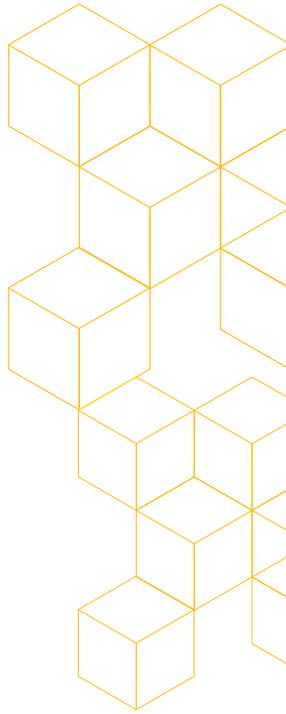
BTC vs. ETH: Value transacted

The difference in growth in activity on the bitcoin and ethereum blockchains can be seen in the USD value of BTC and ETH transferred between wallets. At the end of June, the 7-day rolling average transfer value in USD for ETH was over 225% higher than the level at the beginning of the quarter, whereas for BTC it was 40%.

Daily Value Transacted (USD, 7d Moving Average)



Source: [Coin Metrics](#)



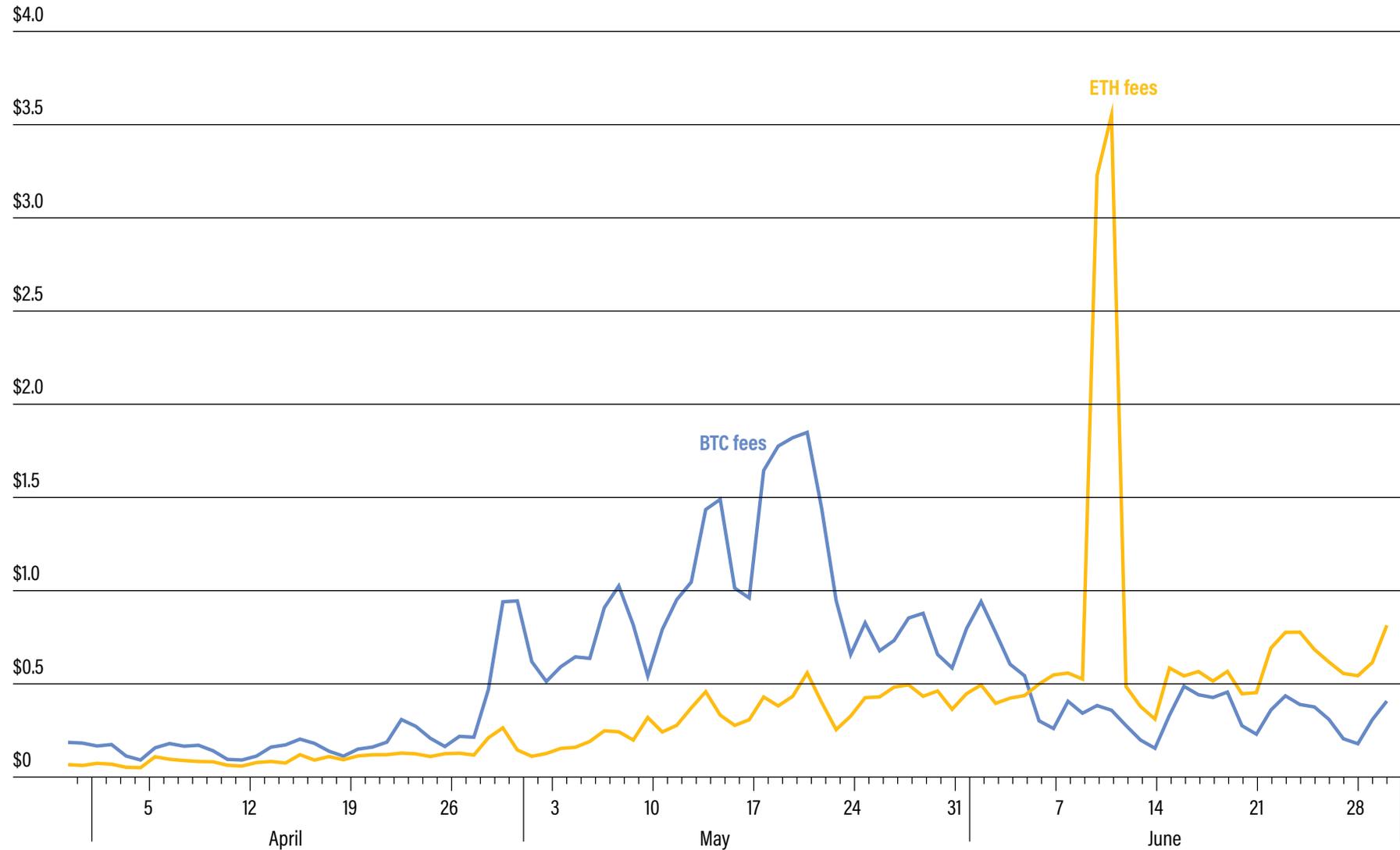
The relative growth in activity on the ethereum blockchain versus the bitcoin blockchain can also be seen in the transaction fees paid on each: for most of June, ethereum fees exceeded those on bitcoin in dollar terms, even though the dollar transfer amount is less than half.

On June 11, the fees on ethereum spiked to their highest level since January 2018. This could indicate growing congestion on the network, which the move to ethereum 2.0 aims to solve.

BTC vs. ETH: Fees

USD Value of Daily Network Fees Paid

Value of Daily Network Fees Paid (USD Million)



Source: [Coin Metrics](#)

Synthetic bitcoins: Market map

Synthetic bitcoins are representations of bitcoins created on platforms and blockchain protocols outside of bitcoin's main network.

Timeline of Synthetic Bitcoins



March 2018

The **Lightning Network** is a second-layer payments platform running atop bitcoin. It enables faster and more cost-effective transactions of BTC.

Token: BTC
Platform: Lightning

[More info >](#)



October 2018

Liquid Bitcoin is a representation of bitcoin on a sidechain, Liquid. Liquid is a blockchain platform with faster transactions and more feature-rich smart contract functionality than bitcoin.

Token: L-BTC
Platform: Liquid

[More info >](#)



January 2019

Wrapped Bitcoin is the first ERC20 token backed 1:1 with bitcoin. The aim is to boost asset liquidity of decentralized finance applications in the ethereum ecosystem.

Token: WBTC
Platform: Ethereum

[More info >](#)



February 2019

Launched by decentralized synthetic asset platform Synthetix, **sBTC** is non-custodial and can be traded against other synthetic assets at Synthetix Exchange.

Token: sBTC
Platform: Ethereum

[More info >](#)

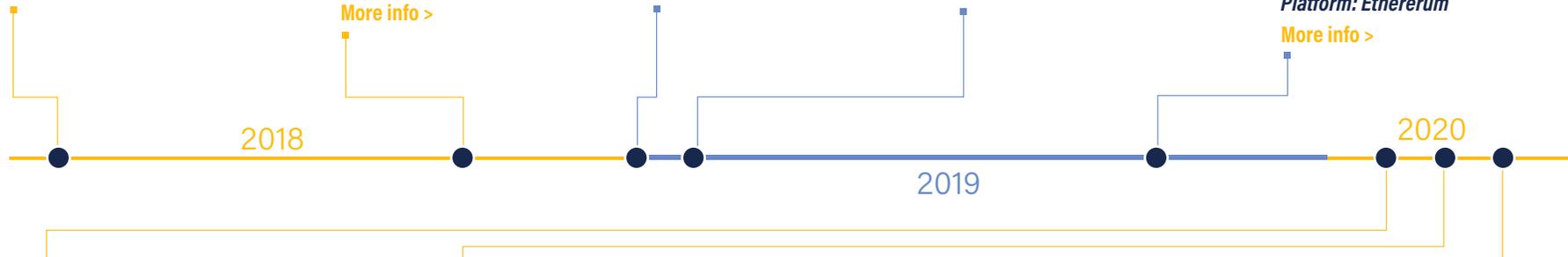


October 2019

Launched by cryptocurrency exchange Tokenlon, **imBTC** is a stablecoin on ethereum backed 1:1 with bitcoin. To compensate for the liquidity loss of BTC after purchasing imBTC, Tokenlon pays imBTC holders interest.

Token: imBTC
Platform: Ethereum

[More info >](#)



February 2020

Launched by cryptocurrency exchange Huobi, the **Huobi BTC** token aims to promote growth of the decentralized marketplace by injecting bitcoin into the decentralized finance (DeFi) ecosystem.

Token: HBTC
Platform: Ethereum

[More info >](#)



March 2020

Launched by decentralized finance tool pTokens, **pBTC** enables bitcoin to be used on ethereum. PToken offers redemption of pBTC in bitcoin.

Token: pBTC
Platform: Ethereum

[More info >](#)



May 2020

RenVM is a tool to unlock inter-blockchain liquidity. It supports three cryptocurrencies, BTC, BCH and ZEC. RenBTC is a one-to-one representation of bitcoin on ethereum.

Token: renBTC
Platform: Ethereum

[More info >](#)



May 2020

The **tBTC** token is an ERC-20 asset pegged to the price of bitcoin. Days after its launch, tBTC was forced to shut down temporarily due to a bug in its code.

Token: tBTC
Platform: Ethereum

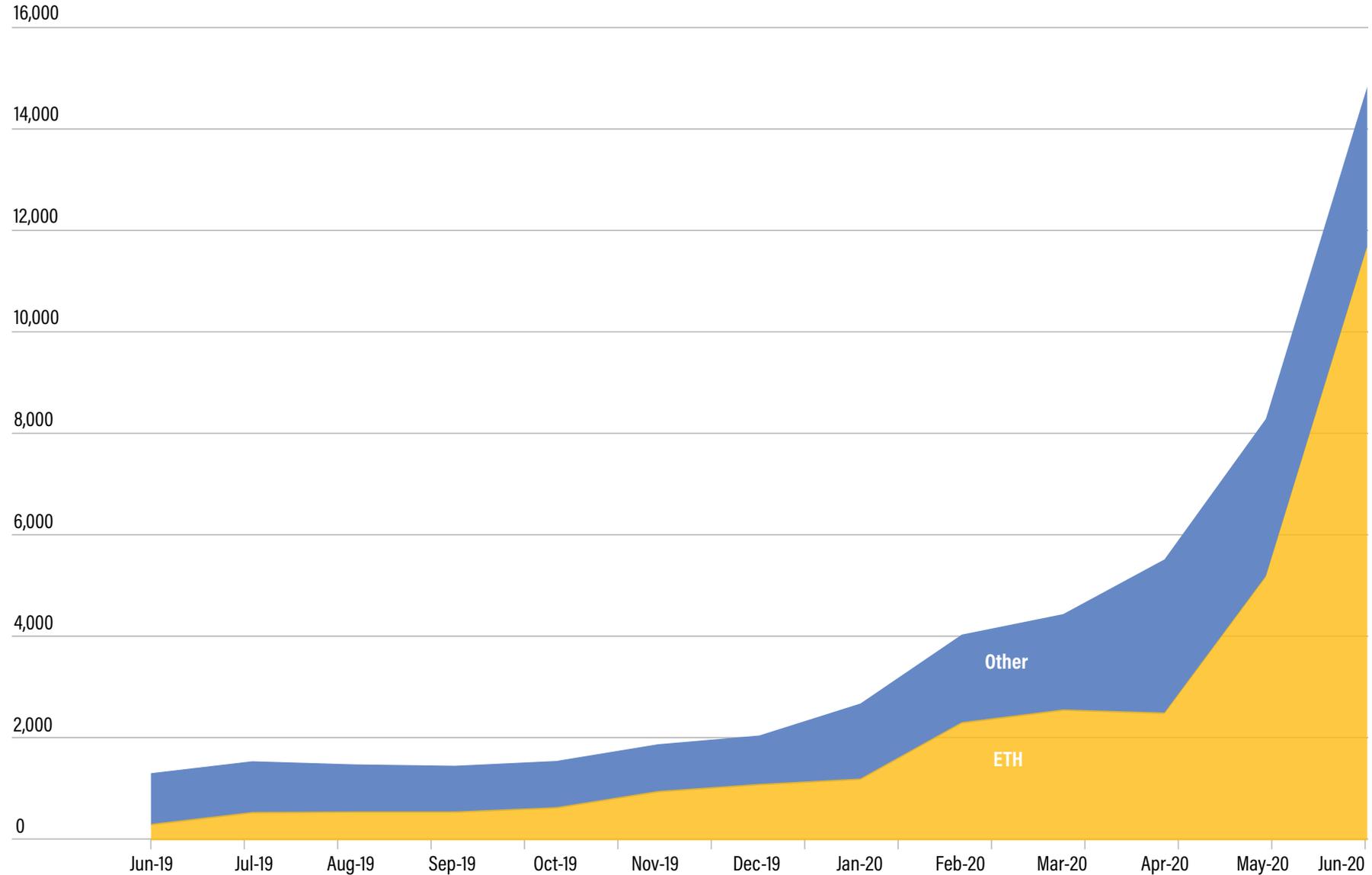
[More info >](#)

Over three quarters of the total bitcoin represented outside of the main bitcoin network is now issued on the ethereum blockchain. The rise in the number of bitcoin issued off-chain may be [a bullish case](#) for further adoption according to some industry experts.

Synthetic bitcoins: Issuance

Growth in Off-Chain Bitcoin Supply (Ethereum & Other)

Off-Chain Supply (BTC)

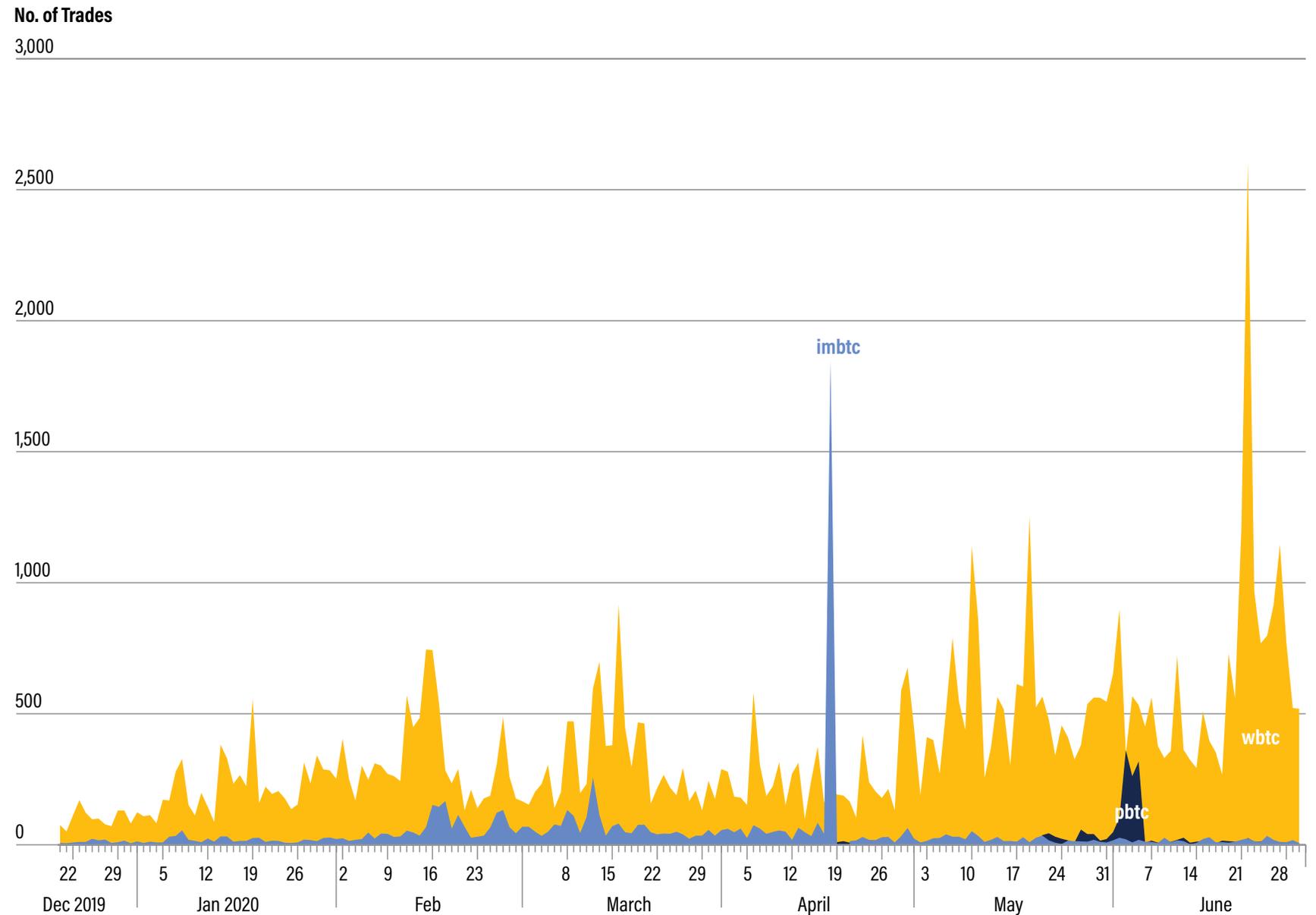


Source: [Bitcoin Visuals](#), [BTCOnEthereum.com](#), [Liquid.net](#)

Synthetic bitcoins: Trade activity on DEXs

The aim of most synthetic bitcoin projects built on ethereum is to support the decentralized finance (DeFi) ecosystem with increased liquidity. As an instrument for liquidity, synthetic bitcoins are being used more frequently on decentralized exchanges. The WBTC token is currently driving the majority of trade activity happening on decentralized exchanges for synthetic bitcoins.

Number of Trades Using Synthetic Bitcoin on Decentralized Exchanges

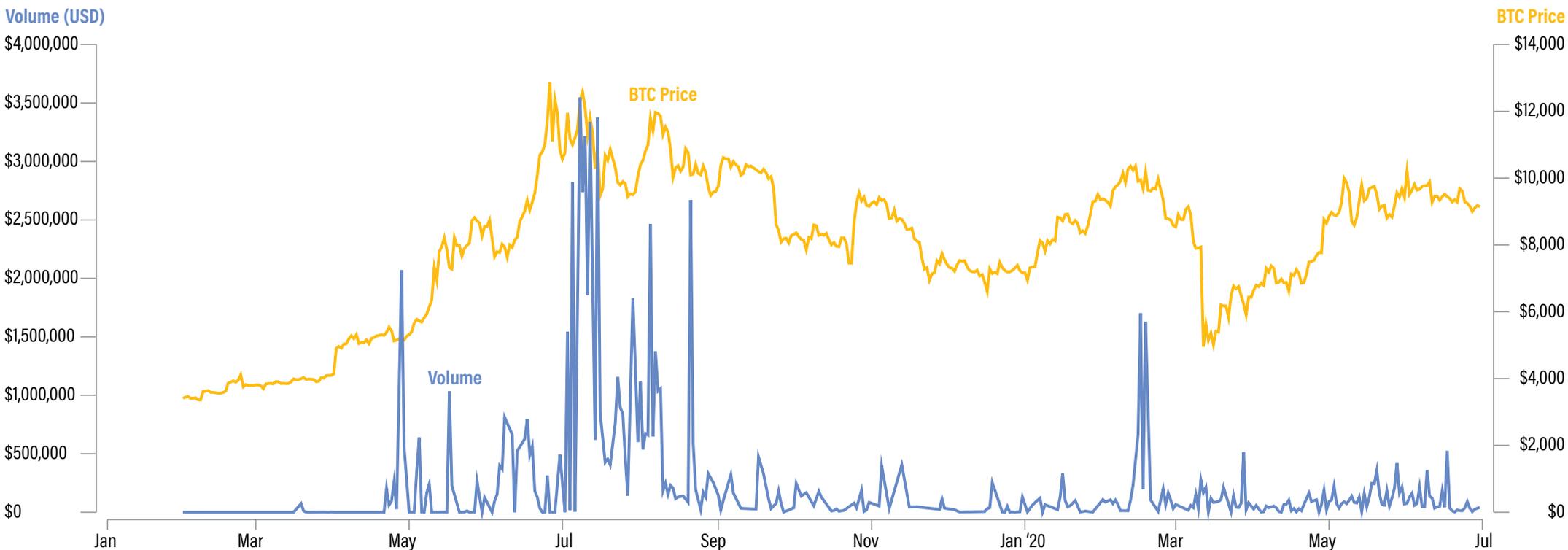


Source: Elias Simos, Senior Research Analyst at Decentral Park, via [DuneAnalytics](#)

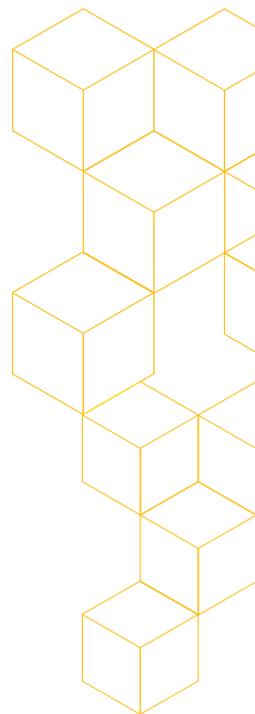
WBTC: Volume

About 75% of the market share of synthetic bitcoin on ethereum is dominated by WBTC, the first ERC-20 token to be created with a 1:1 peg to Bitcoin. WBTC volume on exchanges with a high transparency grading as dictated by Nomics surged during last year's BTC bull run but quickly plummeted in the second half of 2019 as bitcoin gave back some gains. Dollar volume has remained relatively constant for the past two quarters, only spiking temporarily in February when BTC broke over \$10,000 for the first time in 2020.

BTC Price & WBTC Monthly Average Dollar Volume since Launch



Source: [Nomics](#) and [Coin Metrics](#)





Stablecoins & CBDCs

Beyond the impressive growth of Tether, fiat-pegged digital assets are changing in significant ways. This section includes updates on CBDCs and Libra, and a picture of how market share among stablecoins is changing.

CBDC update: Latest global launches

At least 17 countries are pushing blockchain-based CBDC projects. Eleven (including six countries from the Eastern Caribbean Currency Union) are testing or have already completed pilot versions of their projects, four plan to launch their CBDC projects this year and next, and two countries (Bhutan and Venezuela) have already officially rolled out their CBDC programs.

Upcoming Blockchain-Based CBDCs

Country	Project Start Date	Expected Launch date	Name of Project/Coin	Description
 Belarus	2020/6	2021/1 (Pilot)	N/A	Twelve Belarusian commercial and state-owned banks have received permission from the national central bank to issue digital tokens. The pilot program will take place in Belarus Hi-Tech Park.
 Cambodia	2017	Later in 2020	Project Bakong	Project Bakong is a permissioned blockchain that will work alongside traditional banking accounts in the country. The digital currency of the blockchain is envisioned to be exchangeable for Khmer Riel, the official currency of Cambodia.
 Lithuania	2018/3	2020/7	LBCoin	The Bank of Lithuania is issuing "LBCoin" tokens, a digital token exchangeable for physical legal tender that is not intended for daily use. The LBCoin will be a commemorative coin meant for holders to collect, rather than spend.
 Marshall Islands	2018/2	Later in 2020	Marshallese Sovereign (SOV)	The SOV will be the new legal tender of the Republic of the Marshall Islands. Supply of the cryptocurrency will be algorithmically fixed to grow at 4% each year until it reaches a hard cap of 24 million tokens. Blockchain firm Algorand is working with the Marshallese government on the SOV as a technology partner.

Source: CoinDesk Research

CBDC update: Libra Association

Libra 1.0 (Unveiled June 2019)

One multi-currency stablecoin

Libra Coin plans to be a global means of payment backed by a basket of existing fiat currencies, like EUR and USD, and government bonds.

Lack of regulation

The currency is not regulated by any international finance organization.

A permissionless system with no single authority

The system starts as a permissioned network for the Libra consortium members and becomes a "public" network after five years.

Raise the idea of Libra Reserve

Libra Reserve is a proof of concept rather than a finished roadmap for the project.

Libra 2.0 (Up-to-date as of June 2020)

Multiple single-currency stablecoins + one multi-currency stablecoin

Each single-currency stablecoin is backed by a single sovereign currency and might be replaced with the country's CBDC in the future. The multi-currency stablecoin will fill the void in regions with no stable sovereign currency.

Work more closely with regulators

The Libra Association will be regulated by central banks or an international organization (e.g., IMF) under the guidance of the Swiss Financial Market Supervisory Authority (FINMA). The new whitepaper also focuses on the prevention of illicit activity.

A permissioned blockchain based on Libra Association

The network will be well controlled by a centralized system, so all the participants' identity can be verified and their roles can be defined. The Libra Association will gradually expand its membership.

Build protection for Libra Reserve

Each stablecoin on the Libra network will be fully backed by a Reserve of liquid assets and the Libra Reserve is endowed with an additional capital buffer, which can be used in times of crisis.

Source: CoinDesk Research

Who's new in the Libra Association

Change in Roster of the Libra Association (June 2019 – June 2020)

The Libra Association is an independent membership organization, headquartered in Geneva, Switzerland. The Association is responsible for the governance of the Libra network and the development of the Libra project.

June 2019

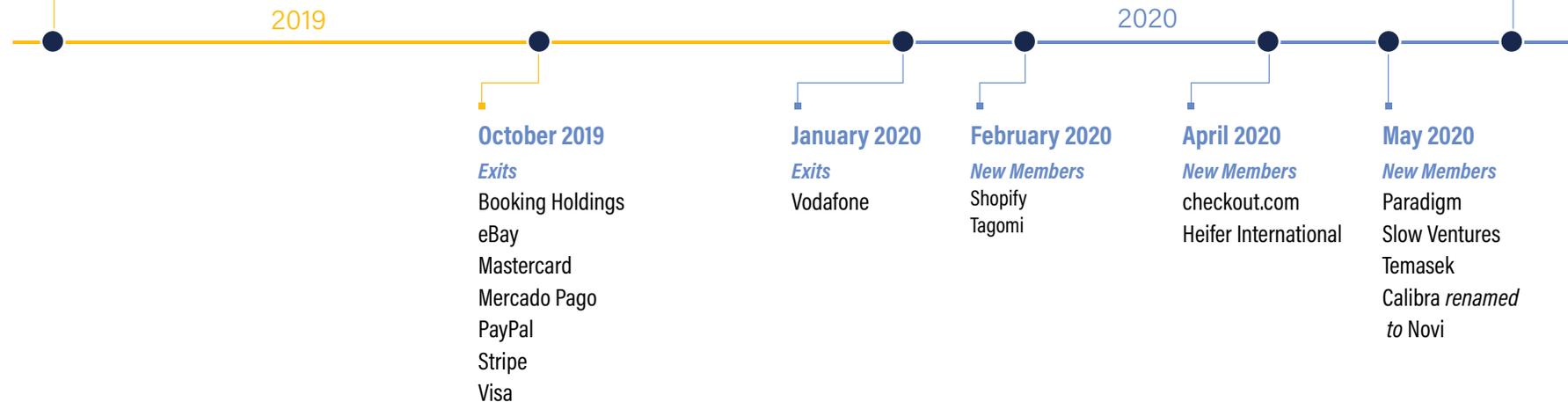
Original Roster

Anchorage	Mercado Pago
Andreessen Horowitz	Mercy Corps
Bison Trails	PayPal
Booking Holdings	PayU
Breakthrough Initiatives	Ribbit Capital
Calibra	Spotify
Coinbase	Stripe
Creative Destruction Lab	Thrive Capital
eBay	Uber
Farfetch	Union Square Ventures
Iliad	Visa
Kiva Microfunds	Vodafone
Lyft	Women's World Banking
Mastercard	Xapo

June 2020

Current Roster

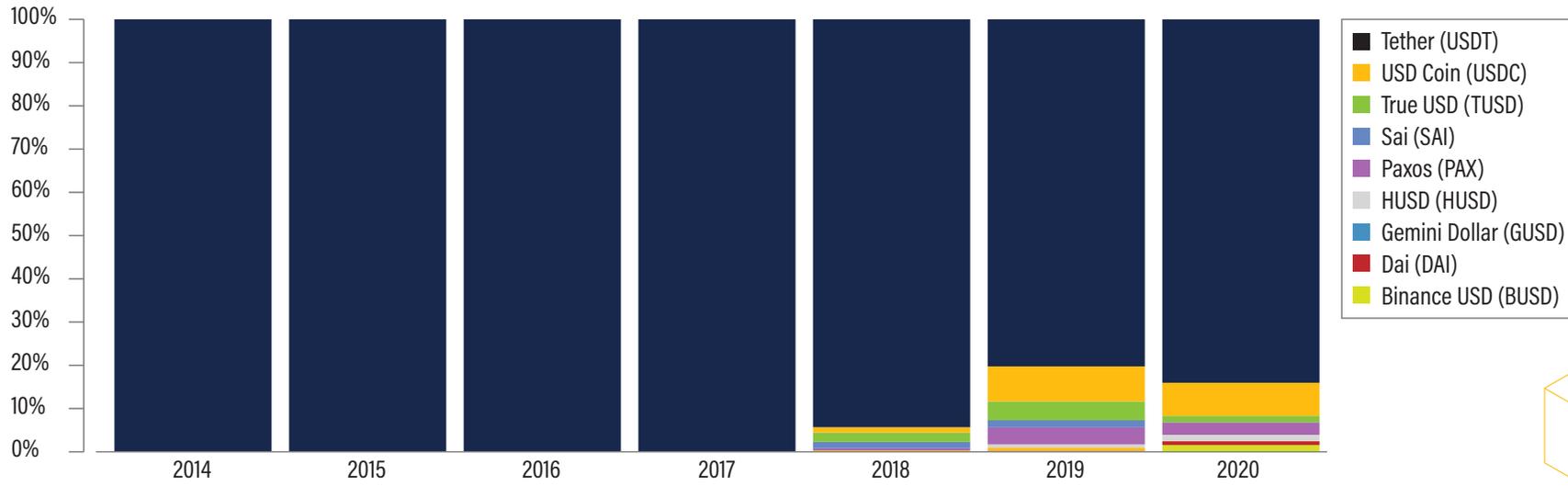
Anchorage	Paradigm
Andreessen Horowitz	PayU
Bison Trails	Ribbit Capital
Breakthrough Initiatives	Shopify
checkout.com	Slow Ventures
Coinbase	Spotify
Creative Destruction Lab	Tagomi
Farfetch	Temasek
Heifer International	Thrive Capital
Iliad	Uber
Kiva Microfunds	Union Square Ventures
Lyft	Women's World Banking
Mercy Corps	Xapo
Novi	



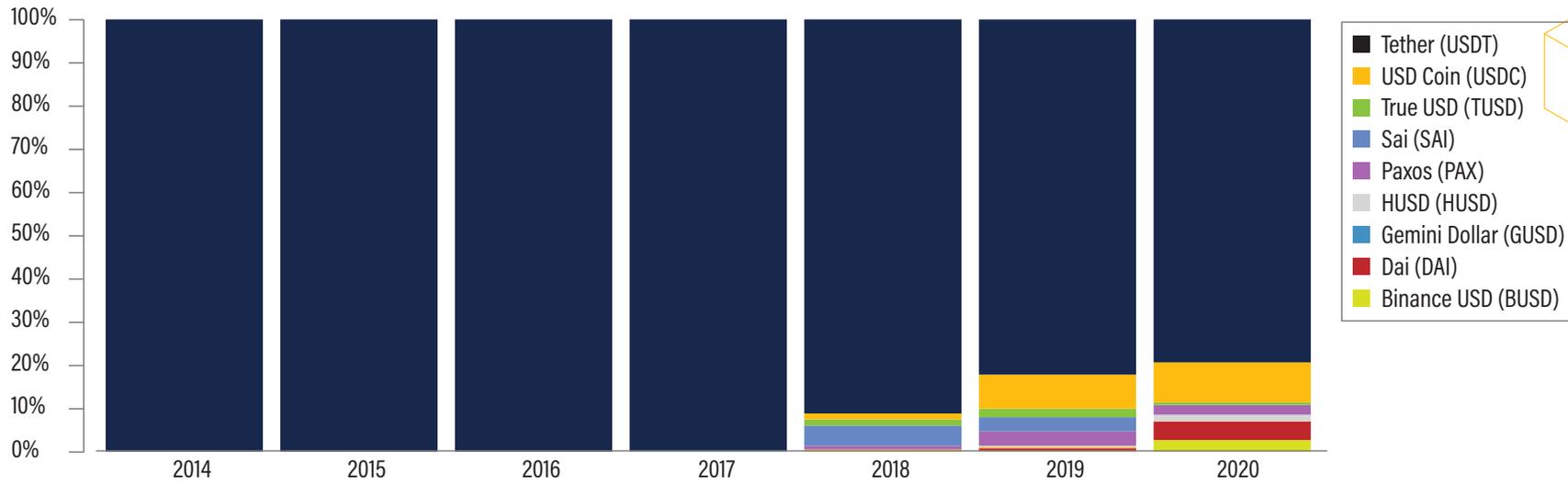
Source: CoinDesk Research

Stablecoin market cap and transaction value share

Share of Stablecoin Market Cap



Share of Stablecoin Transaction Value



Source: [Coin Metrics](#); latest data of TUSD are from June 10; latest data of other ten crypto assets are from June 30

Tether (USDT) made up 100% of stablecoin market capitalization and transaction value between 2014 and 2017. Only in the last three years have others, such as USDC and PAX, started to gain a share of the stablecoin market. Still, USDT issued on omni, tron and ethereum make up the bulk of stablecoin market cap and transaction value.

Bitcoin mining update

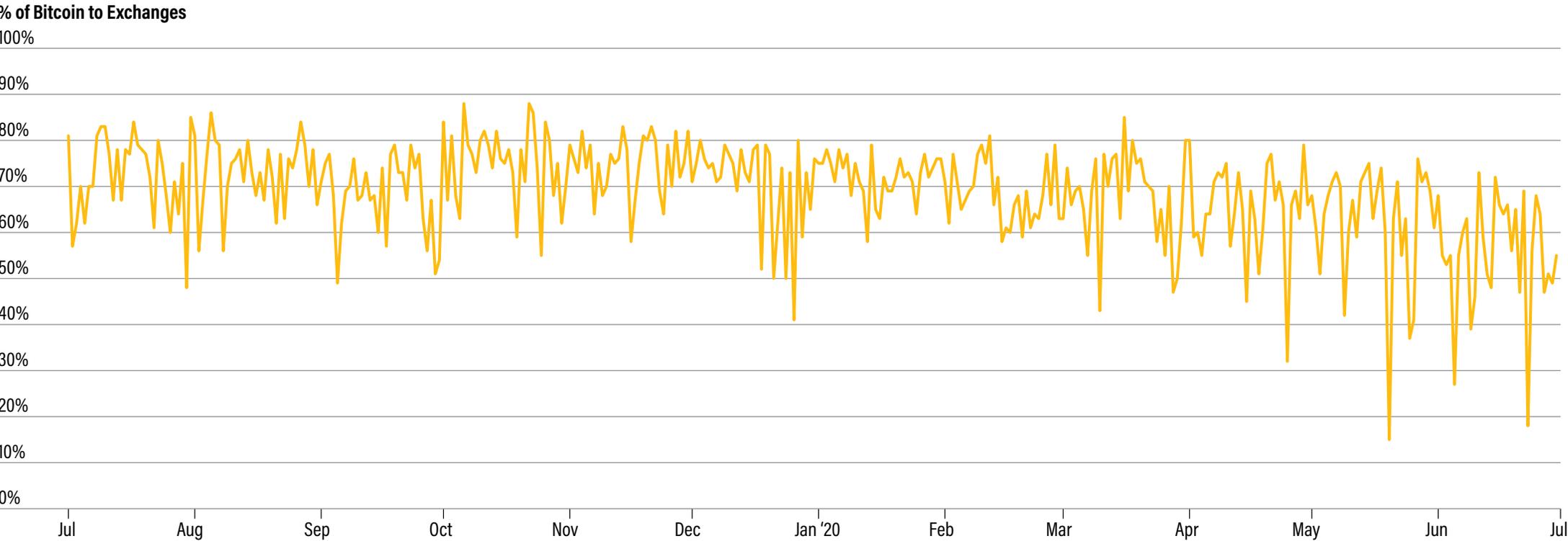


Hashrates are flat, fees have spiked and the persistence of a once-dominant piece of equipment signals emerging uses for bitcoin mining.

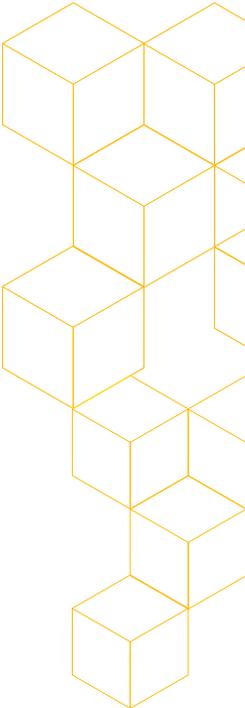
Miners hodl

Mining pools represent the lion's share of bitcoin mining. And mining is a capital intensive and competitive business, forcing most operators to lock in returns when they can. Miners' selling activity, as measured by the percent of bitcoin moved onto exchanges, plumbed new 365-day lows in Q2. It seems miners, at least, expect to be able to sell bitcoin higher in the coming months.

Percent of Bitcoin Sent by Mining Pools and Coin Generation to Exchanges



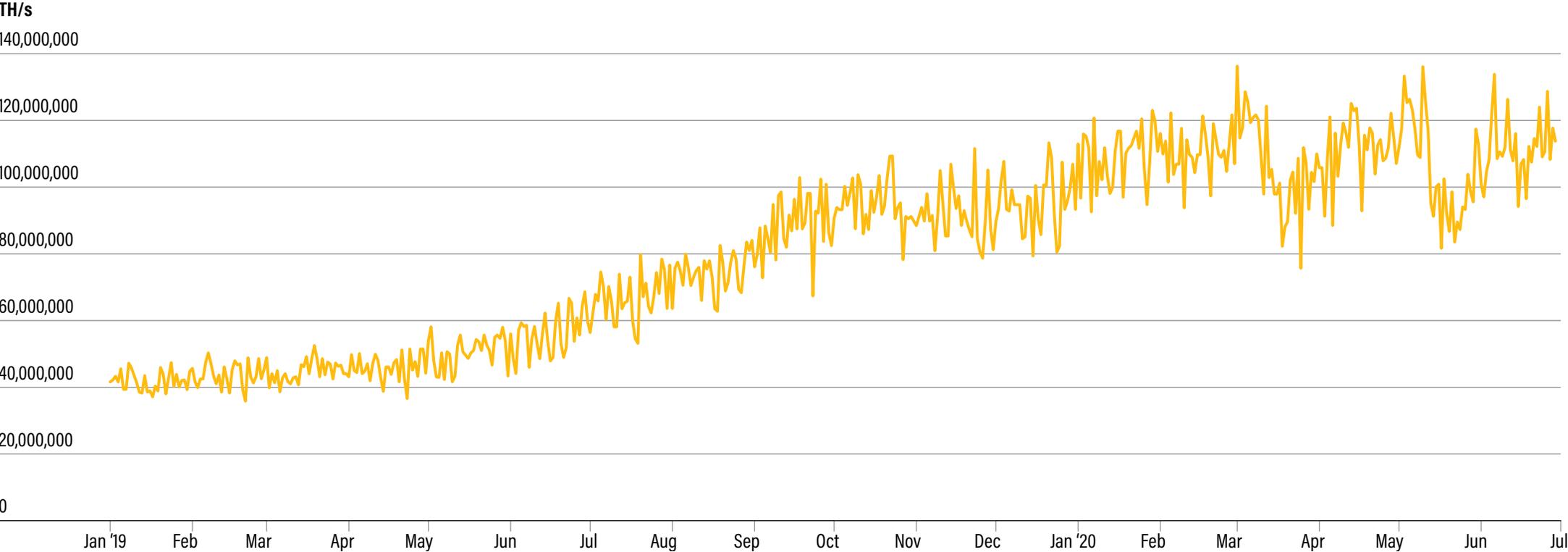
Source: [Chainalysis](#)



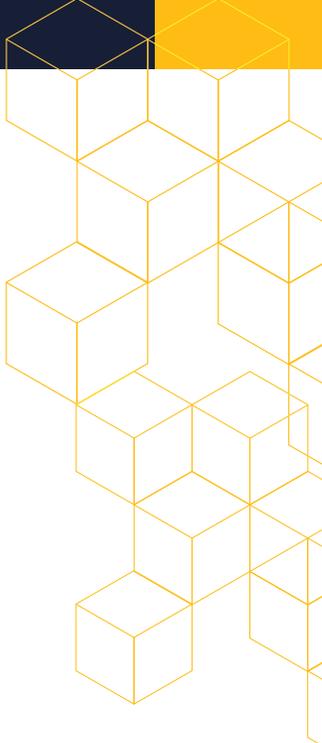
Bitcoin miners: Hashrate

Hashrate is a supply-side fundamental, measuring the amount of computing power invested in the bitcoin network. After more than doubling in 2019, it's stayed relatively even in the first two quarters of 2020, returning to around 120 million terahashes per second, twice, after two events that temporarily cut it by a third: the price crash of March 12 and the halving of May 11.

Bitcoin Daily Hashrate



Source: [Coin Metrics](#)



Bitcoin miners: Fees

After the third bitcoin halving in May, there was a surge in the percentage of miner revenue coming from transaction fees. On average, only about 2% of miner revenue comes from fees, but in May this number jumped to roughly 20%. While fees have climbed back down considerably since May, they remain at above-average levels of around 4% to 5% of miner revenue.

Bitcoin Fees as a % of Miner Revenue

Bitcoin Fees as a % of Miner Revenue



Source: [Coin Metrics](#)

Bitcoin Cash and Bitcoin SV hashrate since January 1, 2020



Ethereum Hashrate since January 1, 2020



Source: [Coin Metrics](#)

Like bitcoin, the next three [proof-of-work](#) cryptocurrencies, ranked by market capitalization, have seen little change in hashrate. Bitcoin Cash and Bitcoin SV saw a temporary dip around the time of their halving events while hashrate on ethereum, with no halvings, remained relatively constant over the past two quarters.

Mining on non-bitcoin networks

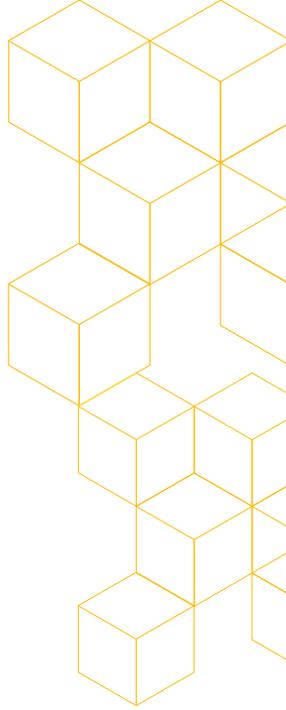
Return of the Antminer S9

Received wisdom had it that the [bitcoin halving](#) on May 11 would mark the final retirement of a champion. The low-cost Antminer S9, manufactured by Bitmain, had since its release in 2016 been the dominant equipment used by bitcoin miners. As of July 1, these machines [operate at a loss](#), unless power costs 3 cents per kw/h or less. And yet, The S9's contribution to global hashrate increased after the halving, indicating activity by miners with access to near-free power.

Bitcoin Hashrate Contributed by Antminer S9



Source: [Coin Metrics](#)





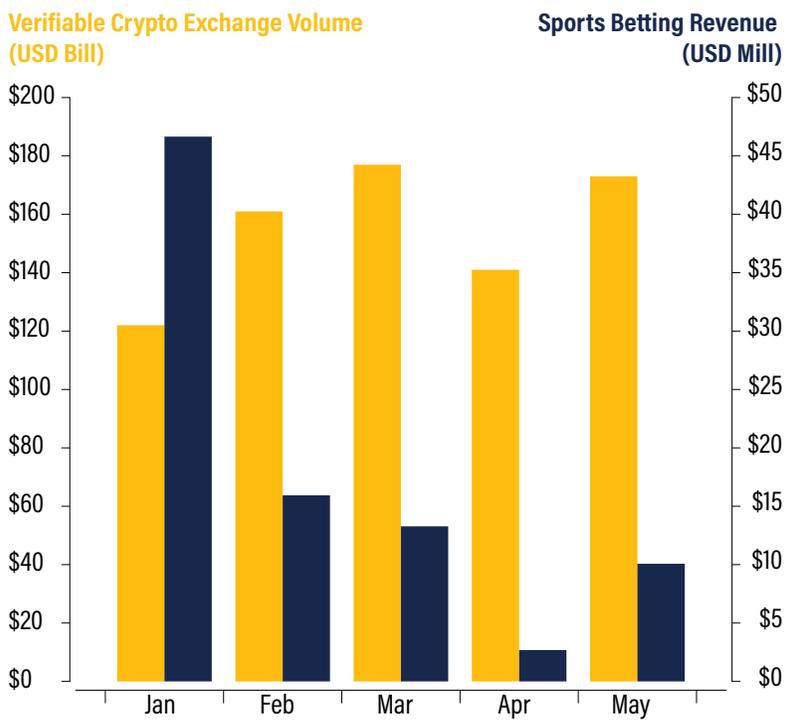
In search of volatility

Has the so-called Robinhood Effect hurt crypto assets, or helped? We look at changing crypto markets moves alongside changes in sports gambling and the VIX.

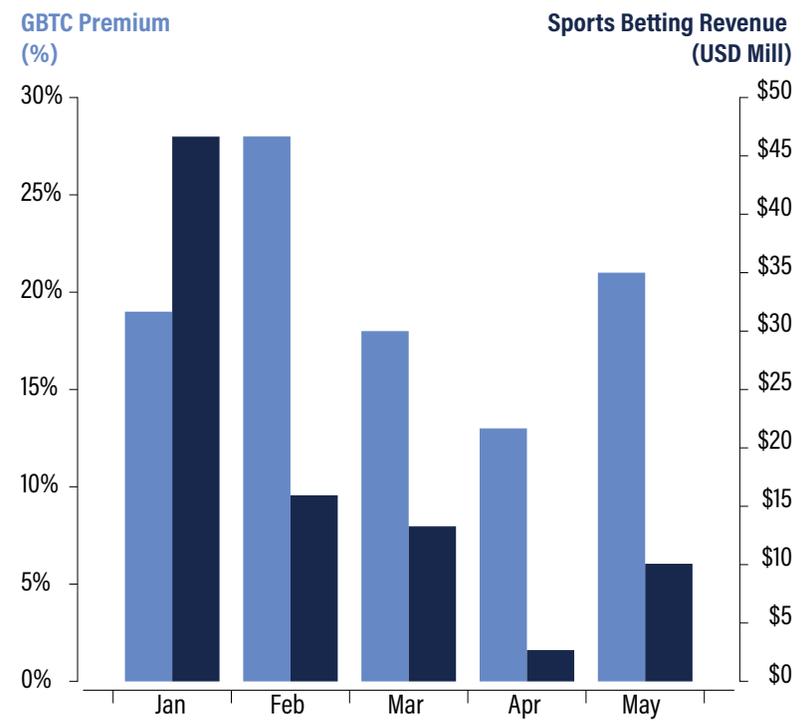
The 'March Madness' effect

Pundits have observed that the extraordinary activity in stock markets may have something to do with an absence of another venue, commonly used to access volatility: sports gambling. Using the state of New Jersey's monthly report of casinos' online sports betting revenue, there is some sense of a pattern in which stock volumes rise as sports gambling falls, and vice versa. Crypto market volume shows no such discernible pattern; nor does the "GBTC premium," which can be used to measure the enthusiasm of retail investors for a fast way to get bitcoin exposure via their their stock brokerage accounts.*

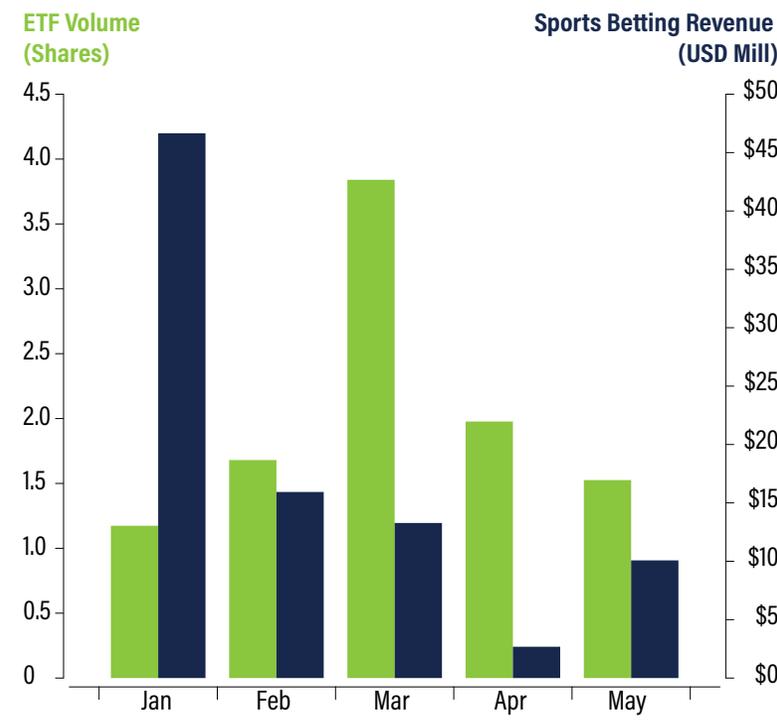
Online Sports Betting Revenue & Verifiable Crypto Exchange Volume



Online Sports Betting Revenue & Average GBTC Premium



Online Sports Betting Revenue & ETF Trade Volume



Source: Sports betting revenue via [N.J. Division of Gaming Enforcement](#); Combined volume of the top 5 ETFs by net flows YTD as of June 24 via [ETF.com](#) and [FactSet](#); Verifiable crypto market volume via [Nomics](#) "Transparent" rated exchanges; GBTC premium calculated using FactSet price data and [Grayscale](#) disclosures as of June 24.

*Disclosure: CoinDesk, like Grayscale Investments, which manages the Grayscale Bitcoin Trust and GBTC, is owned by Digital Currency Group.

Crypto assets and stock market volatility I

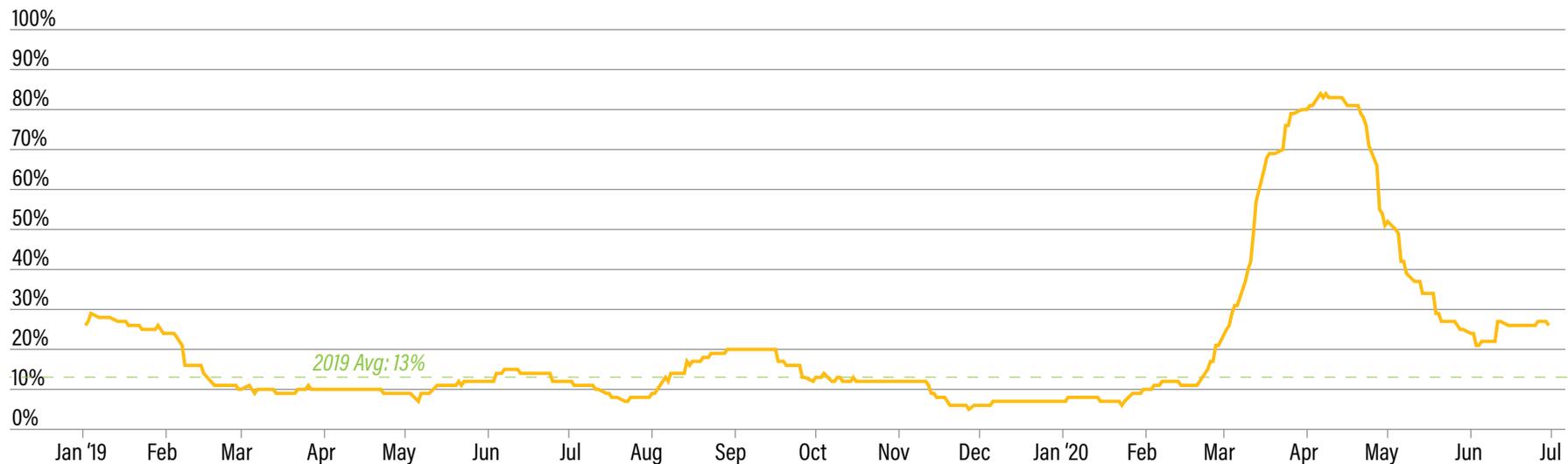
Towards the end of Q2, an interesting trend emerged: BTC's 30-day volatility continued to trend lower, while that of the S&P 500 leveled off. BTC's volatility is currently well below that of its 2019 average, while the S&P 500's volatility is significantly above. In other words, it looks like the differential between the two volatilities is narrowing. This could lower an oft-cited barrier to greater institutional involvement, of high volatility, and usher in a new role for bitcoin in global portfolios.

Annualized 30d Volatility of Daily Bitcoin Log Returns

30-Day Annualized Volatility: BTC



30-Day Annualized Volatility: S&P 500



Source: [Coin Metrics](#) & [FactSet](#)

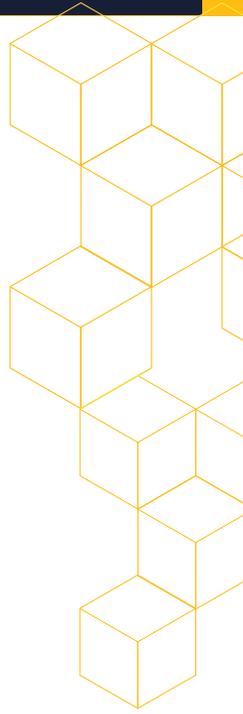
Crypto assets and stock market volatility II

Another interesting shift over the quarter is the persistently low correlation between BTC and the VIX, an index that represents the expected volatility of the S&P 500, as indicated by options pricing. Traditionally, the correlation has hovered around zero, lending support to the thesis that bitcoin is not considered a safe haven by investors. Since early Q2, however, the correlation has been negative. While this is not enough to confirm an inverse relationship, it does reinforce bitcoin's narrative as a risk-on asset.

BTC-VIX 60d Correlation



Source: [Coin Metrics](#), [FactSet](#)



Thank you

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