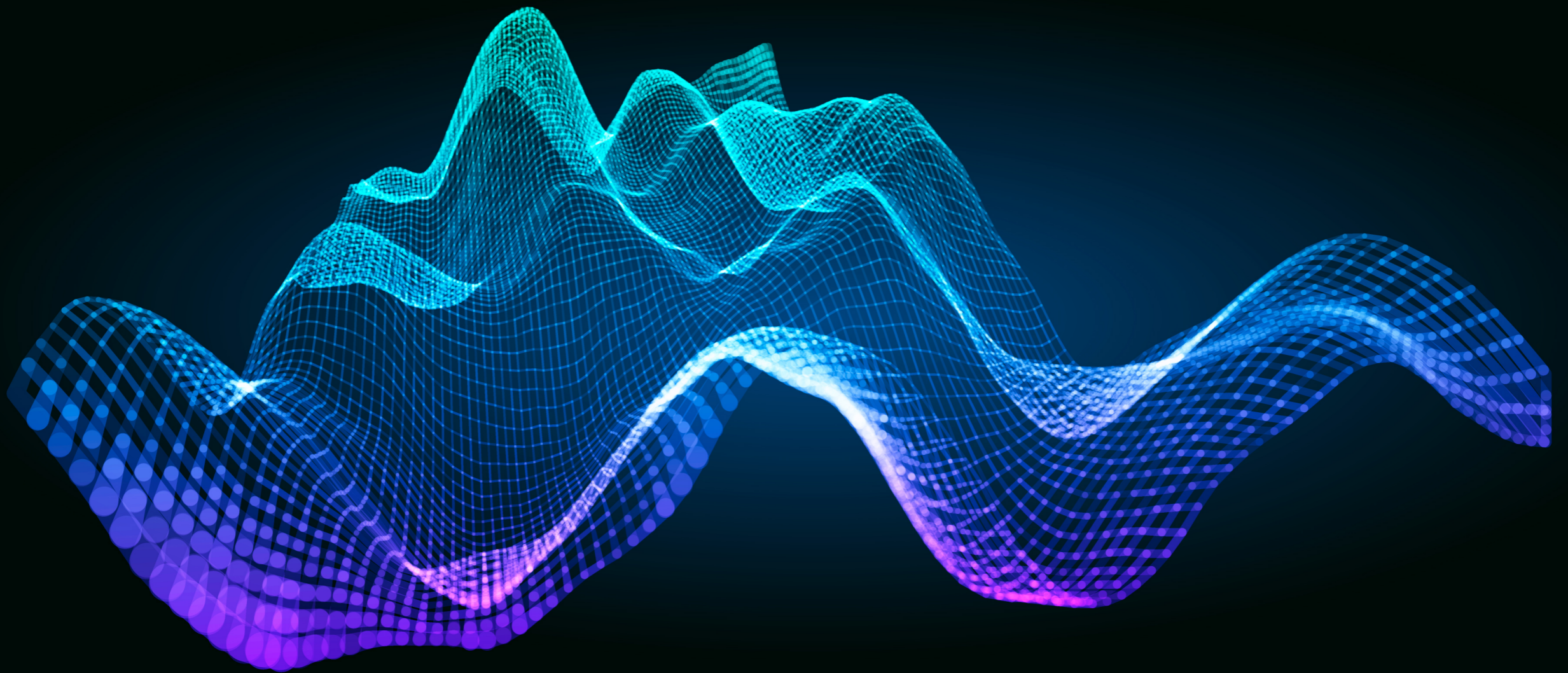


Grindin' Higher

August 2020 Bitcoin Volatility Report

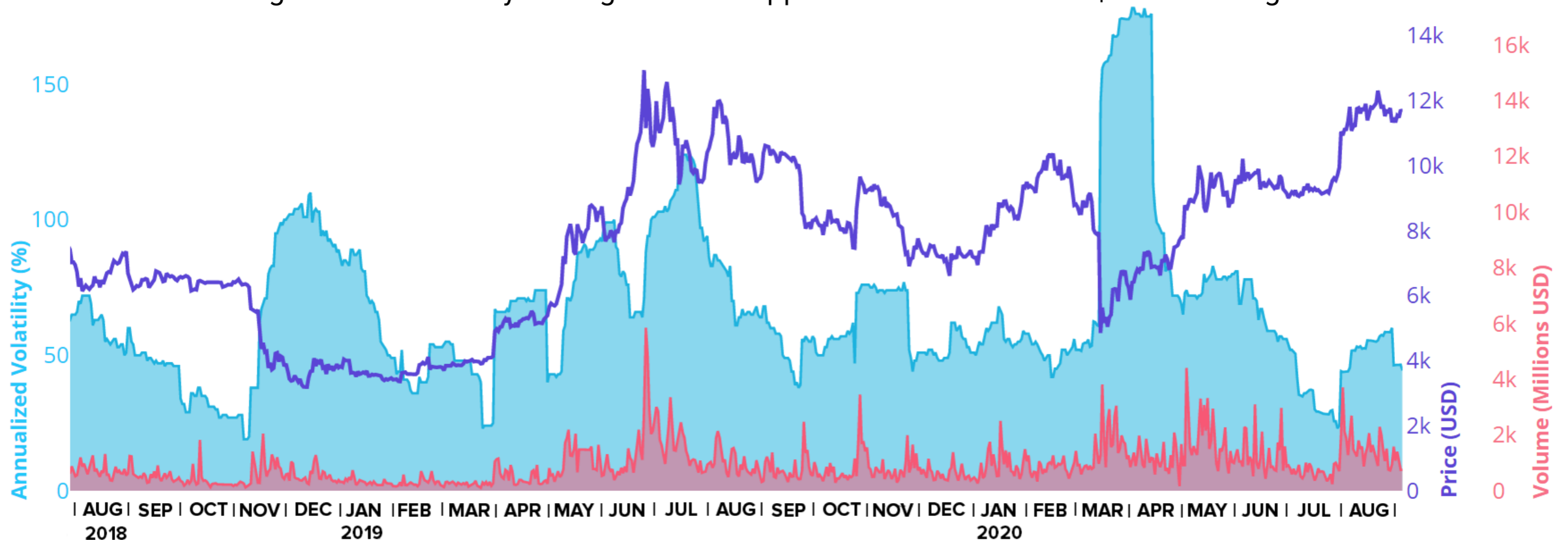


August 2020 Takeaways

- A surge in volatility in late-July trickled into August and subsequently drove annualized volatility up to an **intra-month high of 60% on August 25**, in addition to a **+53% jump MoM** in volume traded.
- Bitcoin remained range bound between **\$10,590 - \$12,480** for the month of August before finishing up +3% at \$11,657, resulting in the **weakest monthly positive return since June 2017**.
- Bitcoin's strong, positive correlation with the **S&P 500** and **gold** persisted into August and climbed **as high as 0.84 and 0.97** before plunging to -0.02 and 0.25, respectively. The ascension of bitcoin's correlation with gold to **0.97 on August 10** marked an **all-time high**.
- A rally to an intra-month high of \$12,480 coincided with Nasdaq-listed MicroStrategy announcing a **\$250M bitcoin purchase** as part of a new “capital allocation strategy,” Berkshire Hathaway **purchasing a majority stake in Barrick Gold mining company**, and gold rallying to an **all-time high of \$2,075/oz**.
- With annualized volatility having historically mean reverted up to its **315-day moving average** after falling as low as 15%, coupled with signs of **expensive U.S. equities**, a **multi-year low for bitcoin's dominance**, and a **record number of bitcoins remaining untouched for more than a year**, market dynamics suggest that incremental volatility is likely on the horizon.

Volatility Trends

- Bitcoin rallied to an intra-month high of \$12,480 on August 17 before entering in a week long correction and bottoming at \$11,120; bitcoin went on to conclude the month up +3% at \$11,657.
- Despite bouncing off of a 21-month low of 22.8% on July 25 and marching to an intra-month high of 60% on August 25, bitcoin's annualized volatility finished virtually flat MoM at 44%.
- A volatile end to July recaptured market interest and ignited a surge in trading volume in the first week of August, which slumped as the month carried on. Approximately 14% of the month's volume was traded between August 1 & 2 and daily trading volumes slipped to a 1-month low of \$750M on August 30.



The Month-Over-Month Report

- Annualized volatility climbed as high as 60% in late-August, but tumbled in the last week of the month and finished down -0.4 percentage points at a 17-month low of 44.4%.
- Amid a resurgence of market volatility through the month, trading volumes jumped nearly +53% from \$28.2M to \$43M, the largest MoM percentage and dollar change since March.
- Notwithstanding a relatively wide \$10,590 - \$12,480 trading range, the month concluded with bitcoin creeping a mere +3% higher, the weakest monthly positive return since June 2017.
- Bitcoin transaction volumes modestly outpaced the minuscule grind higher in price and subsequently drove annualized velocity up +3% to a 2-month high of 10.84x.

	08/19	09/19	10/19	11/19	12/19	01/20	02/20	03/20	04/20	5/20	6/20	7/20	8/20
Annualized Volatility	64.2%	56.6%	75.8%	51.2%	50.6%	58.2%	51.8%	178.1%	73.5%	69.3%	51.1%	44.8%	44.4%
(% Change)	-31.3%	-11.8%	34.0%	-32.5%	-1.2%	15.0%	-11.0%	243.8%	-58.7%	-5.7%	-26.2%	-12.3%	-0.9%
Volume (USD Millions)	\$31,346M	\$23,350M	\$26,837M	\$23,323M	\$18,949M	\$29,555M	\$24,499M	\$47,062M	\$37,341M	\$52,903M	\$26,634M	\$28,229M	\$43,056M
(% Change)	-38.2%	-25.5%	14.9%	-13.1%	-18.8%	56.0%	-17.1%	92.0%	-20.6%	41.7%	-49.7%	6.0%	52.5%
Closing Price	\$9,765	\$8,310	\$9,236	\$7,559	\$7,168	\$9,339	\$8,529	\$6,422	\$8,630	\$9,447	\$9,134	\$11,356	\$11,657
(% Change)	-3.2%	-14.9%	11.1%	-18.2%	-5.2%	30.3%	-8.7%	-24.7%	34.3%	9.5%	-3.3%	24.3%	2.6%
Annualized Velocity	10.89x	11.15x	10.4x	11.13x	12.24x	12.09x	13.26x	13.44x	11.86x	11.29x	10.46x	10.52x	10.84x
(% Change)	-39.1%	2.3%	-6.7%	7.0%	10.0%	-1.2%	9.7%	1.4%	-11.7%	-4.8%	-7.4%	0.6%	3.0%

sources: Kraken Intelligence, CoinMarketCap, CoinMetrics.io

notes: trading volumes summed across Kraken, Bittrex, Binance, Binance Jersey, Binance US, Bitfinex, Bitstamp, Coinbase, Gemini, Poloniex

annualized velocity = (monthly transaction volume (USD) ÷ average market capitalization) x 12

annualized volatility = 30 day std. deviation * SQRT(365)

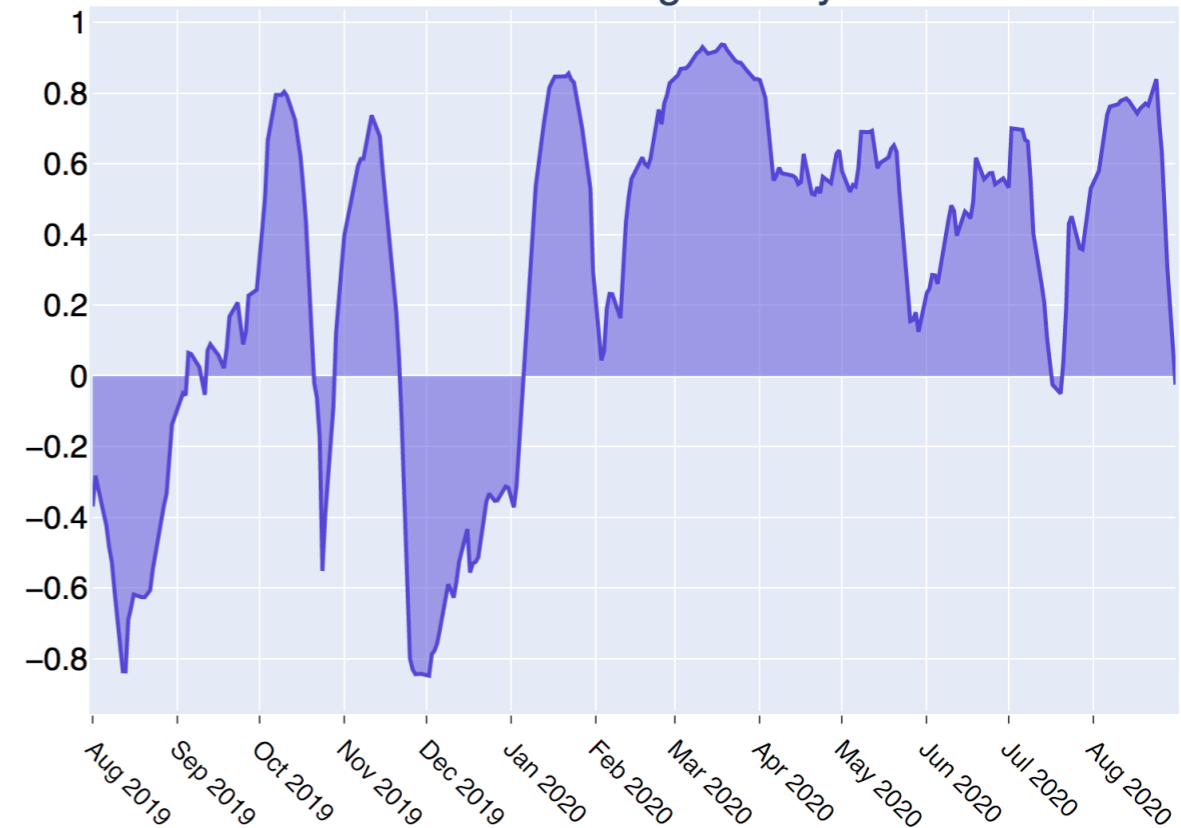


Correlations

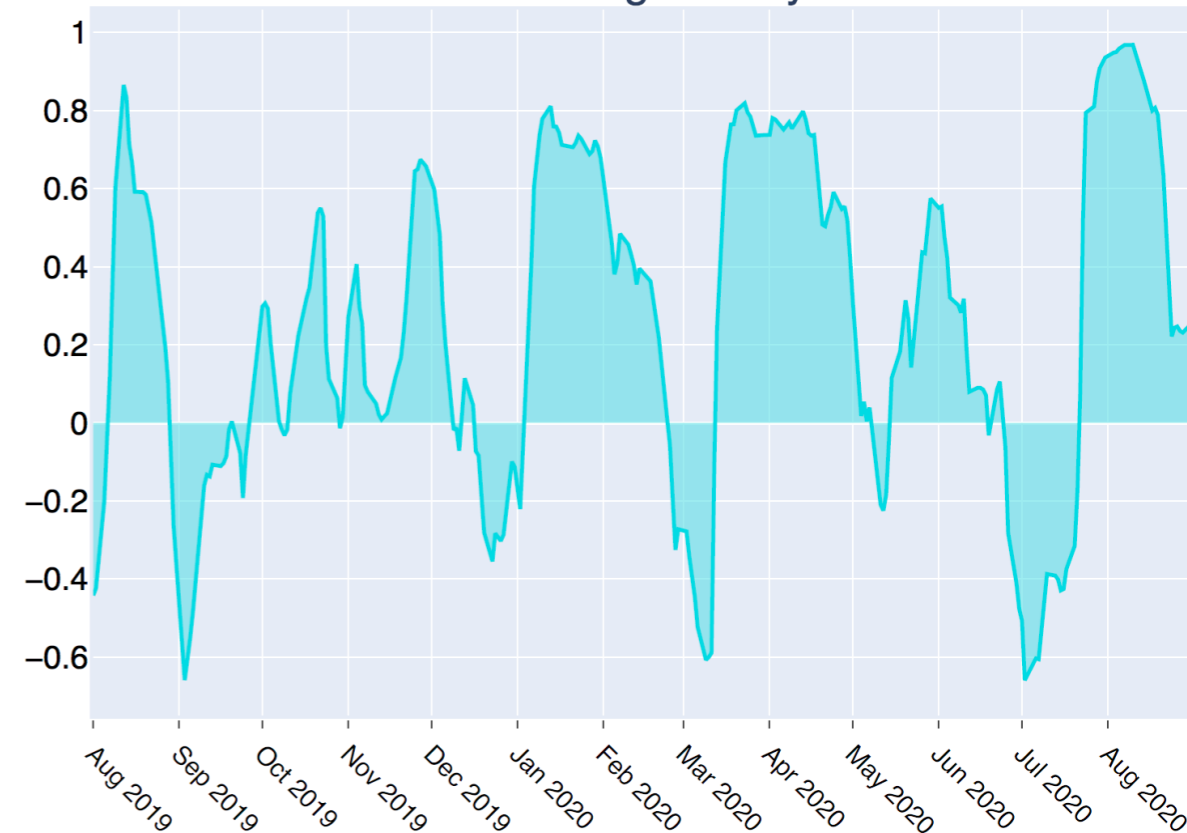
S&P 500 AND GOLD

- With the S&P 500 and bitcoin trending in lockstep for the majority of August, bitcoin's rolling 30-day correlation advanced to an intra-month high of 0.84 on August 24 and revisited levels of strong positive correlation last seen in March 2020.
- Turning to gold, one will find that bitcoin's correlation climbed in the first week of August after hitting a near 1-year high of 0.93 on July 31. Even with correlation advancing to an all-time high of 0.97 on August 10, the trend was short lived and reversed course as the month progressed.
- Although exhibiting strong, positive correlations with the S&P 500 and gold in August, bitcoin's rejection from an intra-month high of \$12,480 on August 17 put bitcoin in a 10-day correction that caused price action to deviate away from gold's sideways trading and the S&P 500's grind higher.
- As such, bitcoin's correlation with the S&P 500 and gold plunged in the last week of August and sunk to -0.02 and 0.25, respectively.

BTC vs. S&P 500 Rolling 30-Day Correlation



BTC vs. Gold Rolling 30-Day Correlation

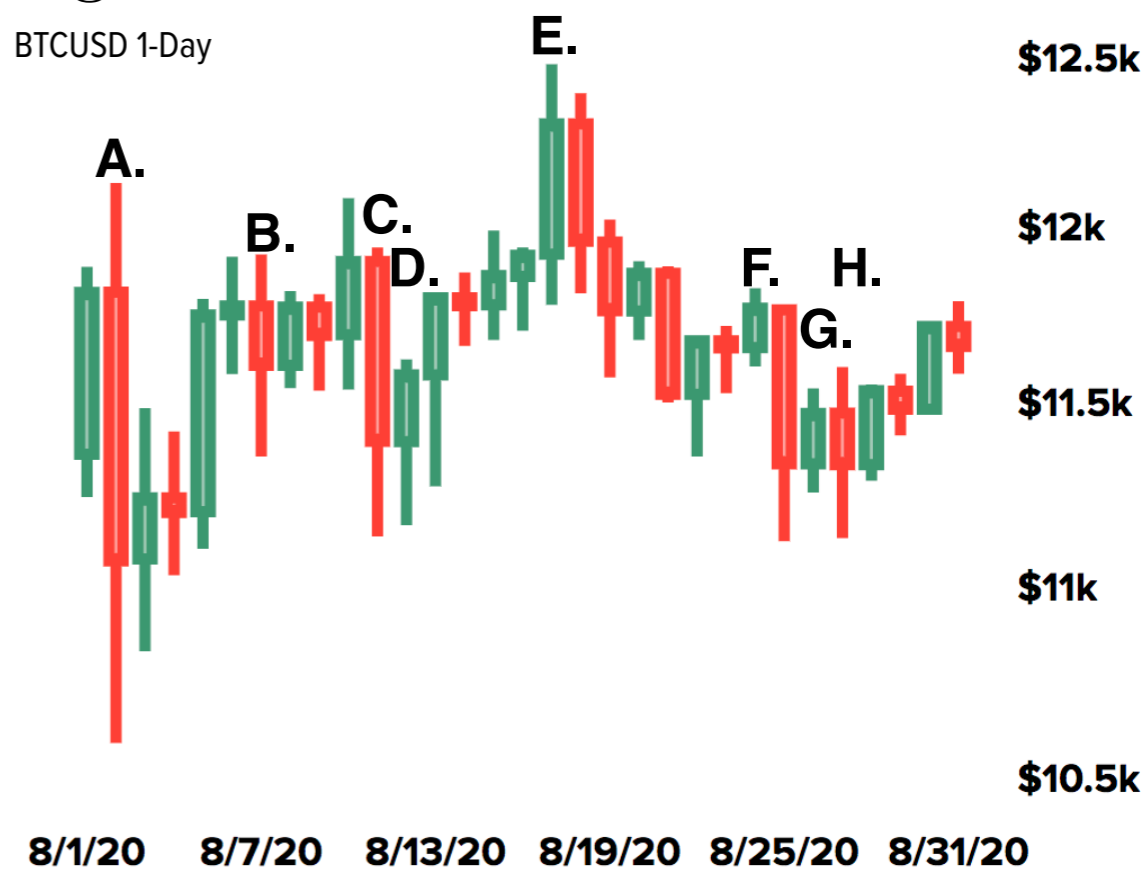


Key Events

- A. Aug. 2:** BTC and ETH fall by more than -12% in 6 minutes amid \$1B of BTC liquidations
- B. Aug. 7:** Gold roars to an all-time high of \$2,075/oz.
- C. Aug. 11:** Nasdaq-listed software firm MicroStrategy announces a \$250M bitcoin purchase as part of a “capital allocation strategy”
- D. Aug. 12:** Gold falls to a monthly low of \$1,862/oz. in early hours of trading before finishing the day at \$1,912/oz.; open interest on CME Bitcoin (BTC) futures reaches an all-time high of \$841M
- E. Aug. 17:** Berkshire Hathaway reveals the purchase of a stake in Barrick Gold mining company, sale of Goldman Sachs, and reduction of Wells Fargo and JPMorgan Chase; bitcoin climbs to levels last seen in July 2020
- F. Aug. 24:** Bitcoin mining difficulty increases +3.6% and hits an all-time high of 136 exahashes per second (EH/s)
- G. Aug. 26:** Fidelity files with the SEC to create a new bitcoin fund aimed at wealthy investors with a minimum investment of \$100,000
- H. Aug. 27:** Fed Chair Jerome Powell announces intent to achieve inflation averaging 2% over time, allowing inflation to run hot to make up for inflation rates falling short of 2% in the past

Figure 1

BTCUSD 1-Day



The Macro Trends

UNITED STATES

- A better-than-expected monthly jobs report indicated a tighter labor market for the services sector, which accounted for 1.42M (80.6%) of the 1.76M jobs added in July. However, the addition came in substantially below the 4.8M jobs added in the month prior. The U.S. economy has recouped 9.3M (40%) of the 22M jobs lost since the start of the pandemic.
- For the first time in 20 weeks, initial unemployment claims came in below 1M at 963,000 for the week ended Aug, 8, notably below estimates of 1.1M.
- The ISM surprised market participants after its services index reported a reading of 58.1 (expansion), with some subcomponents reaching multi-year highs, and its manufacturing index also rising to 54.2 (expansion); indices for new orders, production, prices, and order backlogs all increased as well.
- Construction outlays fell -0.7% MoM, well below the consensus estimate of +1.0%, and private and public construction spending both fell -0.7%. Consumer prices jumped +0.6% in July, reflecting an unwinding of pandemic-induced price cuts. Housing starts jumped +22.6% from last month, with single-family starts rising a solid +8.2% and multifamily starts surging ahead +58.4%.
- Federal Reserve chair Jerome Powell announced a major policy shift by saying that the central bank is willing to allow inflation to run hotter than normal in a bid to support the labor market and broader economy. The central bank changed its policy to “average inflation targeting,” meaning it will allow inflation to run “moderately” above the Fed’s 2% goal “for some time.”
- The S&P 500 and Nasdaq Composite finished August at an all-time high of 3,526 and 11,939, respectively. A monthly return of +7% for the S&P 500 marked the index’s steepest August gain in more than 30 years.



The Macro Trends *(cont.)*

EUROPE

- Eurozone retail sales returned to pre-pandemic levels and industrial output gained for the region's four largest economies; German industrial output rose +8.9% MoM, while in France, Italy and Spain output rose +12.7%, +8.2% and +14.0%, respectively.
- Eurozone manufacturing data also signaled improving conditions with the IHS Markit's PMI index bouncing to 51.8 (expansion) from 47.4 (contraction) - signaling growth for the first time since January 2019. Growth was particularly strong in Germany (55.6) and France (57.3) as opposed to Italy (51.6) and Spain (51.9).
- The U.K. economy shrank -21.7% in 2Q compared to the same period last year due to broad-based weakness across the economy. Consumer spending fell -23.1% QoQ, business investment fell -31.4%, and exports slipped -11.3%. Industrial and services sectors recorded large sequential quarterly declines of -16.9% and -20% respectively. Government subsidies for employers that retain workers on the payroll, which supports 9M workers, will expire in October and is not expected to be extended.

ASIA

- The Chinese economy expanded amid improved manufacturing (+4.4% YoY) and services sector output (+3.5% YoY). Retail activity fell -1.1% YoY, the best reading YTD, and manufacturing PMI increased to 52.8 (expansion), its highest level since 2011; China's services PMI fell to 54.1 (expansion). Fixed asset investment in the first seven months of 2020 was down -1.6% compared to a year earlier, while private sector investment fell -5.7%, public sector investment grew +3.8%, and infrastructure investment slipped -1%.
- Japan's 2Q real GDP contracted at an annualized rate of -27.8%, the nation's biggest decline since records began in 1955, and -9.9% on a YoY basis - more than the United States' -9.5% contraction, but less than the Eurozone's -15.0% contraction. More than half of the decline in GDP was attributed to a decline in consumer spending.
- Japan's retail sales rose +13.1% MoM, industrial output rose (+8%) for the first time since January, and employment fell -1%, better than the United States' -8.6% drop. Manufacturing and services PMI held in contraction territory with mid-40s readings and the job-to-applicant ratio fell for the sixth consecutive month, signaling increased competition amongst workers in a weakening labor market.

The Past & The Future

MONTHLY RETURNS & VOLATILITY

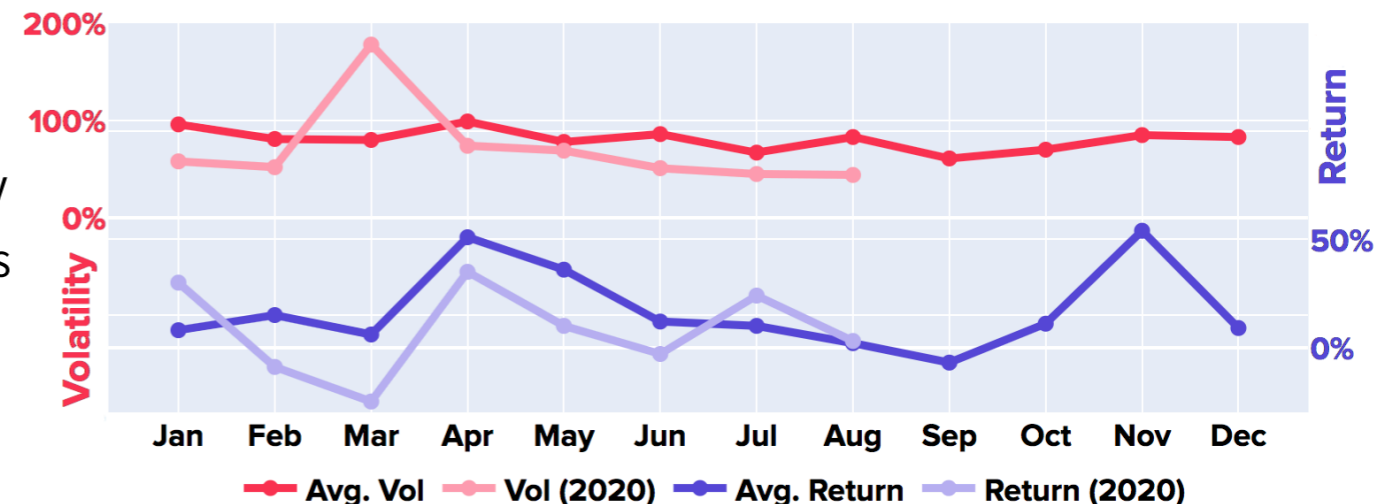
- Despite August being the second worst performing month on average, bitcoin broke trend and posted a +3% gain. Although uninspiring, the return came in below with the month's median -7% return, but nearly perfectly inline with the month's 10-year average of 2%.
- Not only did bitcoin break trend by closing out August higher, but also by slumping to an annualized volatility of 44% - the second lowest reading for August in what was previously the third most volatile month on record.
- Given bitcoin's underperformance this year relative to monthly averages, one could expect bitcoin to fair worse than September's average return of -7% in what is bitcoin's worst month on record.
- If history is any indicator of the future, bitcoin's volatility is likely to trend lower in the month ahead. September's 9-year average and median volatility of 61% and 45%, respectively, is the lowest among all other months.

BTCUSD Monthly Returns

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2011	75%	22%	-15%	352%	182%	68%	-13%	-37%	-38%	-35%	-6%	53%
2012	5%	-20%	-1%	3%	4%	27%	41%	6%	24%	-10%	19%	8%
2013	54%	63%	171%	34%	10%	-31%	18%	33%	-3%	59%	451%	-24%
2014	7%	-32%	-20%	-6%	36%	1%	-9%	-20%	-18%	-12%	17%	-15%
2015	-31%	12%	-6%	-4%	-1%	18%	10%	-18%	4%	32%	14%	19%
2016	-16%	18%	-4%	8%	17%	25%	-8%	-6%	6%	14%	2%	29%
2017	-3%	20%	-12%	27%	60%	2%	19%	74%	-12%	47%	49%	29%
2018	-25%	14%	-37%	36%	-18%	-15%	21%	-8%	-8%	-4%	-37%	-11%
2019	-10%	63%	7%	27%	61%	27%	-5%	-8%	-15%	10%	-18%	-5%
2020	30%	-9%	-25%	35%	10%	-3%	24%	3%				
Average	8%	15%	6%	51%	36%	12%	10%	2%	-7%	11%	54%	9%
Median	1%	16%	-9%	27%	13%	10%	14%	-7%	-8%	10%	14%	8%

BTCUSD Monthly Annualized Volatility

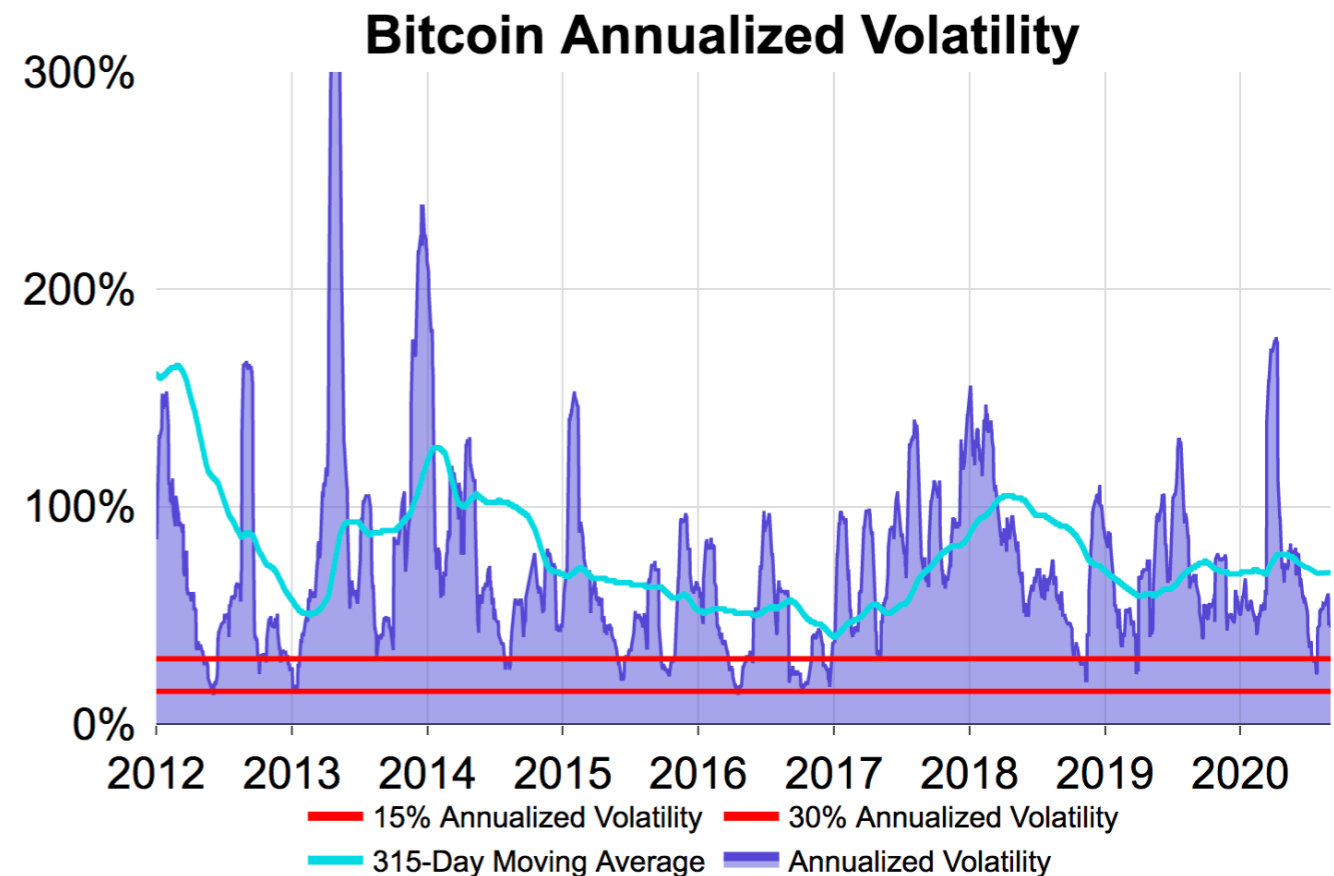
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2011	146%	171%	60%	184%	232%	278%	69%	212%	161%	179%	124%	84%
2012	142%	95%	59%	35%	14%	46%	58%	164%	30%	47%	34%	25%
2013	40%	59%	109%	321%	90%	58%	99%	40%	33%	106%	168%	210%
2014	79%	85%	103%	115%	62%	52%	27%	54%	62%	61%	73%	46%
2015	149%	74%	61%	44%	27%	34%	47%	72%	26%	37%	93%	61%
2016	80%	40%	25%	25%	50%	90%	44%	57%	23%	27%	38%	37%
2017	92%	43%	97%	31%	88%	86%	129%	69%	109%	66%	88%	149%
2018	121%	137%	83%	86%	54%	69%	64%	55%	45%	27%	97%	85%
2019	50%	53%	24%	74%	92%	100%	93%	64%	57%	76%	51%	51%
2020	58%	52%	178%	74%	69%	51%	45%	44%				
Average	96%	81%	80%	99%	78%	86%	67%	83%	61%	70%	85%	83%
Median	86%	67%	72%	74%	65%	63%	61%	61%	45%	61%	88%	61%



What to Watch

THE SUPPRESSED POCKET

- Looking back to January 2012, one can observe 12 separate occasions whereby bitcoin's volatility slumped into a "suppressed pocket" of 15% - 30% before surging higher.
- In every instance, bitcoin's volatility climbed, on average, to 140% and returned +196% over 94 days. Additionally, on every occasion, volatility mean reverted up to its 315-day moving average, a line of best fit when comparing mean squared errors (MSE) amongst 3-month, 6-month, 9-month, and 1- year moving averages.
- Considering that bitcoin has only returned +25%, has yet to approach its 315-day moving average of 78%, and only 38 days have passed since volatility troughed at 23%, history indicates that incremental market volatility should be expected.



Bitcoin Volatility Cycles					
Start Date	End Date	Duration (Days)	Volatility Trough (%)	Volatility Peak (%)	BTC Return
6/3/2012	8/31/2012	89	14%	167%	71%
1/6/2013	5/4/2013	118	16%	336%	733%
8/17/2013	12/16/2013	121	30%	240%	580%
8/12/2014	2/1/2015	173	27%	153%	-60%
6/7/2015	9/6/2015	91	20%	74%	8%
10/13/2015	11/26/2015	44	22%	97%	42%
4/17/2016	6/26/2016	70	14%	98%	47%
10/10/2016	11/20/2016	41	15%	44%	18%
12/20/2016	1/19/2017	30	17%	98%	13%
5/6/2017	1/2/2018	241	30%	155%	838%
11/11/2018	12/17/2018	36	20%	108%	-45%
3/26/2019	6/7/2019	73	23%	106%	105%
7/24/2020	-	-	23%	-	-
Average:		94	21%	140%	196%
Median:		81	20%	107%	45%

What to Watch? Pt. 2

ALTCOINS STEALING DOMINANCE

- Since the start of 2020, altcoins have been stealing market share from bitcoin. Following the emergence of DeFi in 2Q, bitcoin's dominance has fallen further.
- Although bitcoin could continue to lose market share and underperform, richening altcoins will translate to an eventual rotation back into bitcoin amid a reclamation of dominance.

HISTORIC STOCK MARKET VALUATIONS

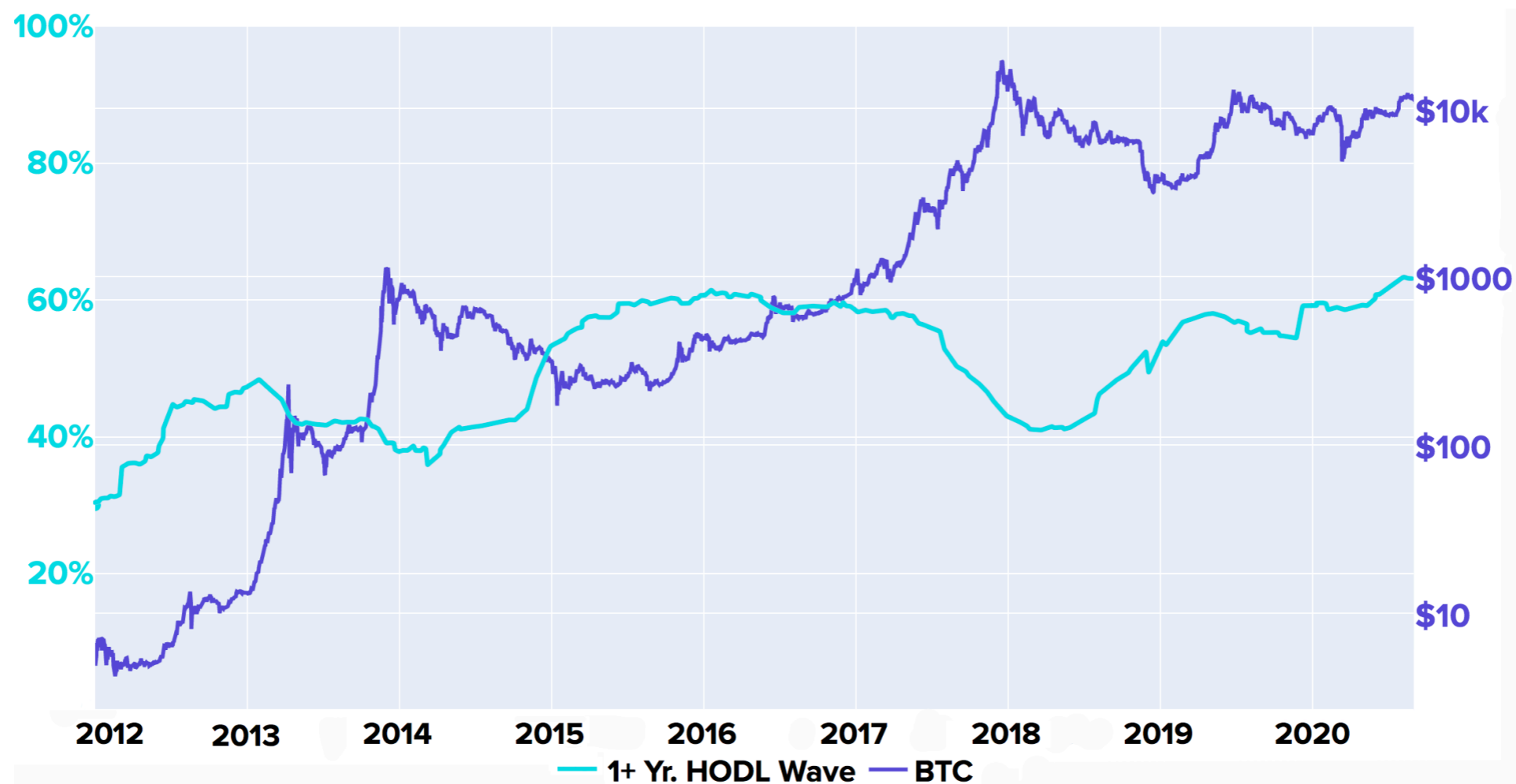
- Not only did the S&P 500 hit an all-time high in August, but its forward P/E multiple, a ratio of price to estimated future earnings, rose to an all-time high of 27.8x - surpassing the dot com of 2000.
- The jump suggests that stocks are relatively expensive and could cheapen in the months ahead. Such a correction could have an impact on bitcoin & the broader crypto market, for better or for worse.



What to Watch? Pt. 3

THE 1+ YR. HODL WAVE

- As of August 31, a record 63% of Unspent Transaction Outputs (UTXOs) on the Bitcoin blockchain have not moved in +1 year, indicating that an unprecedented 63% of mined bitcoins are in the hands of long-term holders.
- Said dynamic has not only foreshadowed a new bull market, but incremental market volatility as participants move their richened bitcoin.
- By keeping a close eye on how the 1+ Yr. HODL wave trends going forward, one can better predict incremental market volatility and potential price appreciation in what is presumably a new bull market cycle.



What's Ahead?

DATE	UPCOMING NOTABLE CATALYSTS
Sept-10-2020	ECB monetary policy meeting
Sept-28-2020	CME BTC Futures BTCU20 Settlement Date
Oct-2020	FATF meets to discuss int'l cooperation on Travel Rule
Nov-15-2020	Bitcoin ABC team conducts controversial BCH upgrade
3Q2020	Whinstone US & Northern Bitcoin AG launch 300MW mining facility
3Q2020	Central banks HKMA & PBoC pilot blockchain-based trade finance platform

Data

BTCUSD - August							
Date	Price	24hr Return	Annualized Vol.	Tx Volume	Exchange Volume*	Market Cap	Velocity**
1-Aug-20	\$11,810	4.0%	45.4%	\$5,452,489,028	\$1,908,661,255	\$217,650,107,986	10.44x
2-Aug-20	\$11,067	-6.3%	51.7%	\$4,667,125,234	\$2,693,315,659	\$204,680,087,352	10.36x
3-Aug-20	\$11,237	1.5%	51.8%	\$7,670,819,307	\$1,483,620,550	\$207,312,688,746	10.58x
4-Aug-20	\$11,198	-0.4%	51.7%	\$6,354,748,790	\$1,342,104,095	\$206,705,783,554	10.74x
5-Aug-20	\$11,746	4.9%	53.2%	\$6,013,768,626	\$1,231,175,910	\$216,287,626,624	10.71x
6-Aug-20	\$11,772	0.2%	52.9%	\$8,366,950,492	\$1,803,356,921	\$217,182,425,567	10.83x
7-Aug-20	\$11,604	-1.4%	53.3%	\$7,512,023,368	\$1,503,454,344	\$214,050,110,955	10.85x
8-Aug-20	\$11,768	1.4%	52.4%	\$4,738,459,586	\$1,579,204,113	\$216,718,673,196	10.74x
9-Aug-20	\$11,688	-0.7%	52.6%	\$4,534,981,032	\$870,566,812	\$215,576,777,624	10.62x
10-Aug-20	\$11,899	1.8%	52.5%	\$7,324,100,036	\$1,335,214,422	\$219,090,872,113	10.80x
11-Aug-20	\$11,392	-4.3%	55.5%	\$7,211,559,831	\$1,575,210,920	\$210,284,480,461	10.82x
12-Aug-20	\$11,577	1.6%	55.3%	\$7,697,182,184	\$2,065,992,865	\$213,671,208,433	10.86x
13-Aug-20	\$11,795	1.9%	55.4%	\$7,393,306,442	\$1,381,639,934	\$217,335,699,187	10.92x
14-Aug-20	\$11,773	-0.2%	55.3%	\$8,472,406,892	\$1,637,822,361	\$217,365,712,667	11.03x
15-Aug-20	\$11,858	0.7%	55.0%	\$5,679,091,294	\$1,372,001,578	\$219,084,951,477	10.97x
16-Aug-20	\$11,917	0.5%	55.0%	\$5,645,427,368	\$1,079,185,357	\$219,700,556,192	10.93x
17-Aug-20	\$12,302	3.2%	55.5%	\$8,747,155,455	\$891,502,909	\$227,392,906,120	11.15x
18-Aug-20	\$11,957	-2.8%	57.0%	\$8,429,493,312	\$2,291,335,007	\$221,438,441,189	11.36x
19-Aug-20	\$11,757	-1.7%	57.5%	\$7,492,295,421	\$1,998,277,479	\$216,724,493,357	11.44x
20-Aug-20	\$11,865	0.9%	57.2%	\$6,697,437,903	\$1,465,271,596	\$219,148,207,450	11.43x
21-Aug-20	\$11,523	-2.9%	58.6%	\$6,006,616,835	\$1,063,456,887	\$212,828,757,689	11.37x
22-Aug-20	\$11,673	1.3%	58.6%	\$4,336,330,276	\$1,510,586,067	\$215,748,935,173	11.23x
23-Aug-20	\$11,653	-0.2%	58.5%	\$3,445,579,157	\$755,520,285	\$215,452,337,488	11.07x
24-Aug-20	\$11,765	1.0%	58.5%	\$6,103,529,985	\$731,222,199	\$217,417,299,095	11.13x
25-Aug-20	\$11,330	-3.7%	60.1%	\$6,579,436,999	\$936,621,809	\$209,799,151,719	11.23x
26-Aug-20	\$11,470	1.2%	46.3%	\$6,523,907,252	\$1,582,167,468	\$211,907,514,134	11.10x
27-Aug-20	\$11,328	-1.2%	46.4%	\$6,676,959,476	\$1,082,028,581	\$209,009,655,885	11.02x
28-Aug-20	\$11,533	1.8%	46.5%	\$6,869,496,589	\$1,399,211,386	\$212,959,896,208	11.01x
29-Aug-20	\$11,481	-0.4%	46.5%	\$4,430,516,346	\$983,064,206	\$212,284,634,016	10.84x
30-Aug-20	\$11,713	2.0%	46.5%	\$4,614,326,297	\$750,638,297	\$216,140,533,747	10.70x
31-Aug-20	\$11,657	-0.5%	44.4%	\$7,909,705,224	\$752,639,063	\$215,770,383,728	10.84x
Mean	\$11,648	0.1%	53.1%	\$6,438,620,195	\$1,388,905,495	\$215,055,513,198	10.94x
Median	\$11,688	0.5%	53.3%	\$6,579,436,999	\$1,381,639,934	\$215,770,383,728	10.92x
Total Volume				\$199,597,226,037	\$43,056,070,335		

sources: Kraken Intelligence, CoinMarketCap, CoinMetrics.io
annualized velocity = (monthly transaction volume (USD) ÷ average market capitalization) x 12
notes: trading volumes summed across Kraken, Bittrex, Binance, Binance Jersey, Binance US, Bitfinex, Bitstamp, Coinbase, EOSfinex, Gemini, Poloniex



How to Reach Us & Where to Trade

FEEDBACK

We appreciate your attention. For comments, suggestions, or questions related to this report, [click here](https://surveys.kraken.com/jfe/form/SV_ah2vxWLbtVntpOZ) (https://surveys.kraken.com/jfe/form/SV_ah2vxWLbtVntpOZ). For comments, suggestions, or questions related to this report, including topics you would like for us to consider including, please send us an e-mail at intel@kraken.com.

SPOT & FUTURES EXCHANGE

Kraken provides access to 41 cryptocurrencies spanning over 190 markets with advanced trading features, industry-leading security, and on-demand client service. Additionally, Kraken offers seamless access to regulated derivatives on the Kraken Futures platform for eligible clients. Sign up for a free account in minutes at <https://kraken.com/sign-up>. We look forward to welcoming you.

CRYPTOWATCH

For multi-exchange charting, trading, portfolio tracking, and high resolution historical data, visit <https://cryptowat.ch> and create an account at <https://cryptowat.ch/account/create>.

OTC

For OTC-related execution services or questions, please direct your communication to otc@kraken.com.

Disclaimer

The information in this report is provided by, and is the sole opinion of, Kraken's research desk. The information is provided as general market commentary and should not be the basis for making investment decisions or be construed as investment advice with respect to any digital asset or the issuers thereof. Trading digital assets involves significant risk. Any person considering trading digital assets should seek independent advice on the suitability of any particular digital asset. Kraken does not guarantee the accuracy or completeness of the information provided in this report, does not control, endorse or adopt any third party content, and accepts no liability of any kind arising from the use of any information contained in the report, including without limitation, any loss of profit. Kraken expressly disclaims all warranties of accuracy, completeness, merchantability or fitness for a particular purpose with respect to the information in this report. Kraken shall not be responsible for any risks associated with accessing third party websites, including the use of hyperlinks. All market prices, data and other information are based upon selected public market data, reflect prevailing conditions, and research's views as of this date, all of which are subject to change without notice. This report has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research. Kraken and its affiliates hold positions in digital assets and may now or in the future hold a position in the subject of this research. This report is not directed or intended for distribution to, or use by, any person or entity who is a citizen or resident of, or located in a jurisdiction where such distribution or use would be contrary to applicable law or that would subject Kraken and/or its affiliates to any registration or licensing requirement. The digital assets described herein may or may not be eligible for sale in all jurisdictions.