



One Step Closer

February 2020 Volatility Report

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February 2020 Takeaways

- Last month, bitcoin soared to a **1-month high of \$10,516** and hit levels last seen in late-Oct. of last year. Despite rallying as much as +12% in Feb. and +46.5% YTD, a correction in the second half of Feb. sent **bitcoin slumping -19% from its high**.
- Even with price falling into month-end, bitcoin's network usage **grew and closed the month down -9%**, driving bitcoin's **annualized velocity up +10% to 13.3x**.
- Contrary to last month and what we've observed in the past, bitcoin was notably **more strongly positively correlated with traditional risk assets** and **more negatively correlated with traditional safe-haven assets**; bitcoin's 1-month correlation with the S&P500 went from 0.28 to 0.83 and from 0.70 to -0.37 with respect to gold.
- While Mar. tends to underperform Feb. and is usually less volatile, Mar. **has historically outperformed** Feb. in instances where Feb. closed out the month in the red.
- Bitcoin is approaching the final innings of a multi-month and multi-year long pennant pattern formation, which **suggests that a surge in volatility and trading volume** could follow in the month(s) ahead as bitcoin enters into a new multi-month/multi-year trend.

Volatility Trends

- On Feb. 9th, the price of bitcoin climbed **back above \$10,000** for the first time since late-Oct. 2019 before setting **a 15-week high of \$10,516** on Feb.13th.
- The month saw trading volume touch a 1-month high of \$1.42B on the 28th and an average daily volume of \$845M, which was down -11% MoM but **up +174% YoY**.
- Volatility fell to 41.9% on Feb. 13th, **the lowest level since Sept. 23rd, 2019**, before rallying and finishing the month at 51.8%.



The Month-Over-Month Report

- After a lively start to the year, a less eventful Feb. sent annualized volatility falling six percentage points to 51.8%. However, **volatility only fell 1 percentage point YoY.**
- Monthly trading volumes fell -17% in Feb. to \$24.5B and came in below the **1-year average of \$25.8B.**
- After jumping to a **monthly and YTD high of \$10,516 on the 13th** and **returning to levels last seen on Oct. 26th, 2019**, a market-wide sell-off sent bitcoin tumbling. The month finished at a low of \$8,529, down **-9% MoM** and **-19% from its YTD high.**
- Annualized velocity rebounded **nearly +10% to 13.3x** and resumed trending higher after setting a **1-year low** in Oct. of last year. The increase in velocity indicates that Bitcoin's **network usage grew** despite the steep correction in the second half of the month.

	02/19	03/19	04/19	05/19	06/19	07/19	08/19	09/19	10/19	11/19	12/19	01/20	02/20
Annualized Volatility	53.0%	24.4%	74.1%	92.4%	100.3%	93.4%	64.2%	56.6%	75.8%	51.2%	50.6%	58.2%	51.8%
(% Change)	5.5%	-53.9%	203.4%	24.6%	8.5%	-6.8%	-31.3%	-11.8%	34.0%	-32.5%	-1.2%	15.0%	-11.0%
Volume (USD Millions)	\$8,613M	\$7,512M	\$15,359M	\$34,252M	\$42,360M	\$50,761M	\$31,346M	\$23,350M	\$26,837M	\$23,323M	\$18,949M	\$29,555M	\$24,499M
(% Change)	-13.7%	-12.8%	104.5%	123.0%	23.7%	19.8%	-38.2%	-25.5%	14.9%	-13.1%	-18.8%	56.0%	-17.1%
Closing Price	\$3,794	\$4,095	\$5,272	\$8,552	\$10,752	\$10,090	\$9,765	\$8,310	\$9,236	\$7,559	\$7,168	\$9,339	\$8,529
(% Change)	11.3%	7.9%	28.7%	62.2%	25.7%	-6.2%	-3.2%	-14.9%	11.1%	-18.2%	-5.2%	30.3%	-8.7%
Annualized Velocity	13.08x	15.17x	17.97x	18.02x	21.73x	17.88x	10.89x	11.15x	10.4x	11.13x	12.24x	12.09x	13.26x
(% Change)	-6.4%	16.0%	18.5%	0.3%	20.6%	-17.7%	-39.1%	2.3%	-6.7%	7.0%	10.0%	-1.2%	9.7%

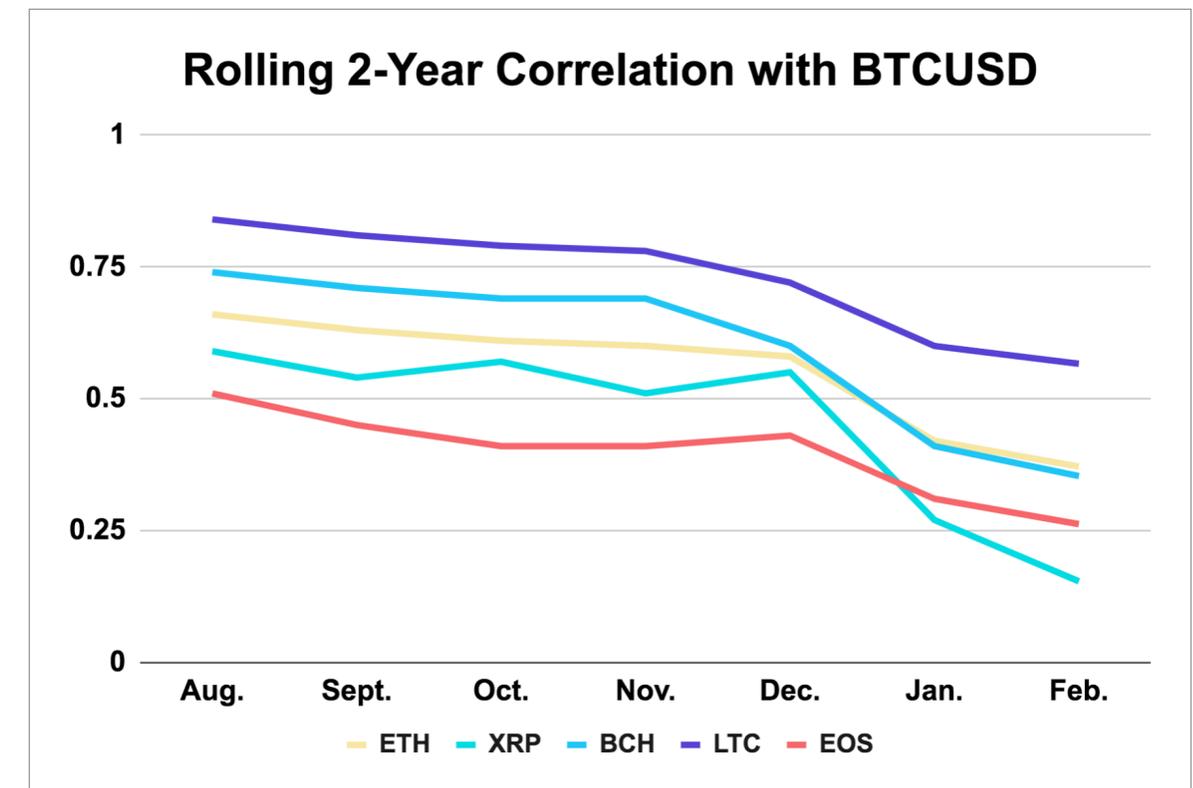
sources: Kraken Intelligence, CoinMarketCap, CoinMetrics.io

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

Correlations

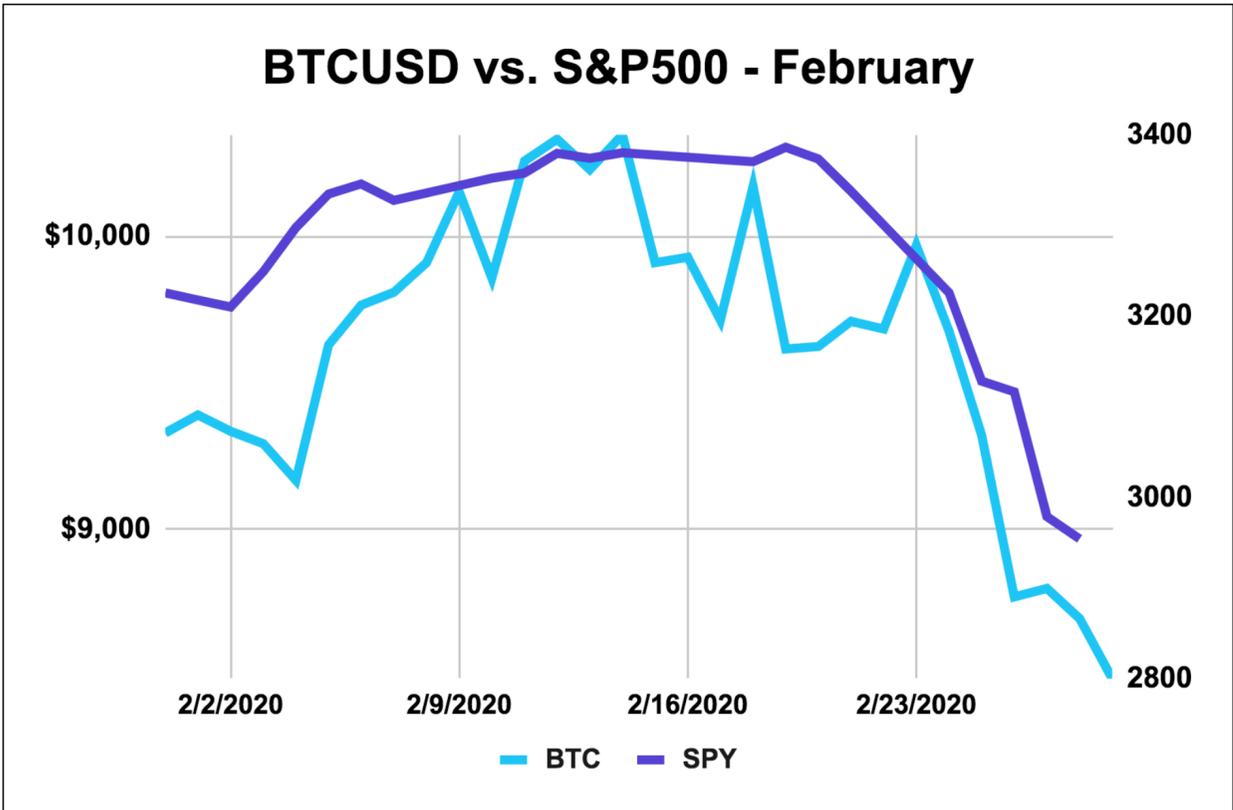
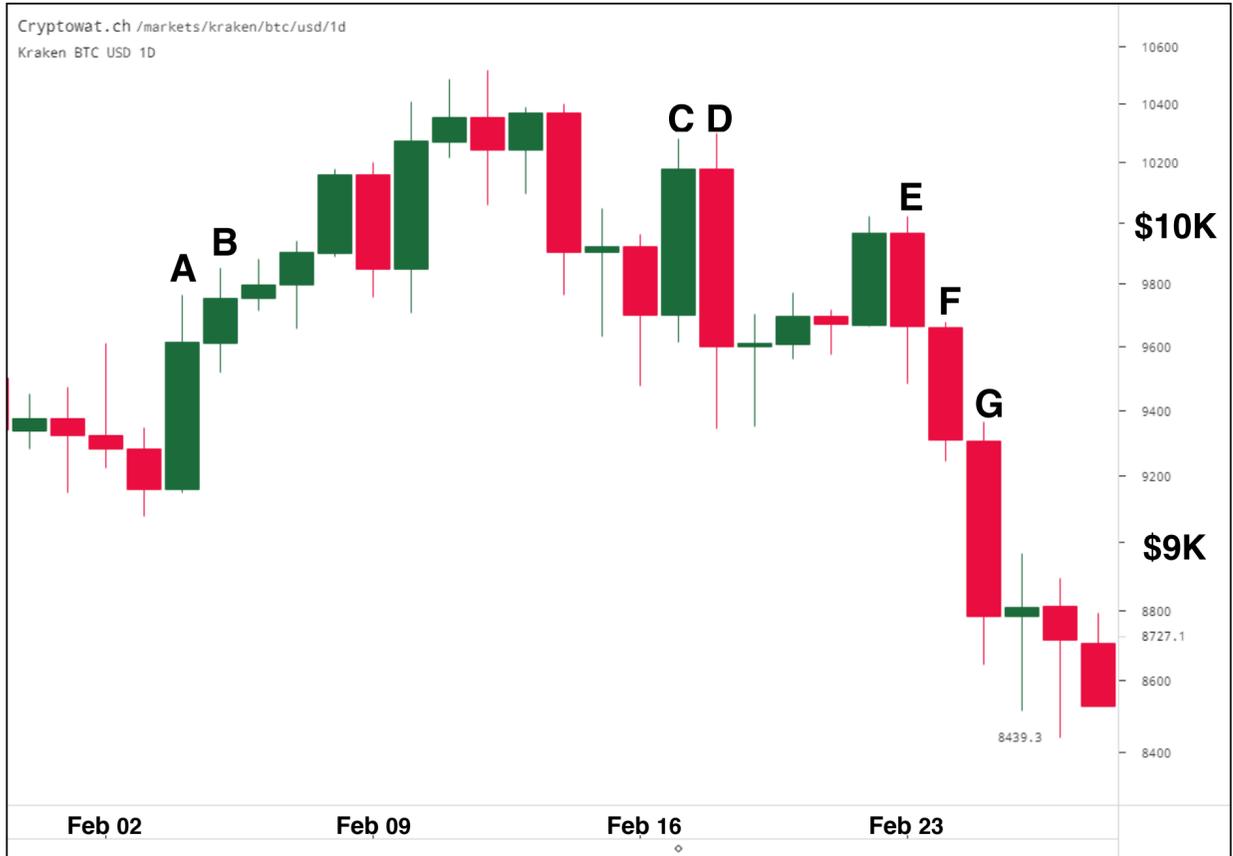
- Last month we witnessed bitcoin undergo a notable shift in its correlation with gold (strongly positively correlated) & oil (strongly negatively correlated) on a 1-month and 3-month time horizon. The shift was likely due to the market's reaction to the Iran-US conflict and the coronavirus outbreak.
- Unlike Jan., this month we instead saw bitcoin turn strongly positively correlated with risk assets and strongly negatively correlated with safe-haven assets, particularly on a 1-month time horizon:
 - **S&P500: 0.28 → 0.83**
 - **Oil: -0.80 → 0.66**
 - **US High Yield Bonds: -0.42 → 0.84**
 - **US Treasury: 0.72 → -0.75**
 - **Gold: 0.70 → -0.37**
- Correlations with fiat currencies remain, on average, strongly correlated. When looking across 1-mo., 3-mo., and 6-mo. time horizons, bitcoin's correlation is strongest with EURUSD. With respect to 1-year and 2-year time horizons, bitcoin clearly has a strong negative correlation with JPYUSD.
- Feb. marked another month of weakening positive correlations across the 6-mo., 1-year, and 2-year time horizon for the largest altcoins. When looking back to Aug., a decoupling is apparent.

BTCUSD Correlation - February					
	1-Mo.	3-Mo.	6-Mo.	1-Year	2-Year
S&P500	0.83	0.58	-0.02	0.29	0.47
Gold	-0.37	0.72	0.45	0.59	0.59
Oil	0.66	-0.79	-0.47	-0.48	-0.01
U.S. HY Corp. Bond	0.84	0.24	0.09	0.34	0.60
U.S. IG Corp. Bond	-0.28	0.87	0.17	0.62	0.61
U.S. 10 Yr. T-Bond	-0.75	0.70	0.46	0.71	N/A
EURUSD	-0.52	-0.79	-0.50	-0.35	-0.08
USDJPY	0.23	0.51	-0.11	-0.75	-0.61
GBPUSD	0.48	-0.51	-0.45	-0.68	-0.15
CADUSD	0.64	-0.48	-0.31	0.44	0.29
VESUSD	N/A	-0.80	0.17	-0.57	0.16
ETH	0.54	0.89	0.75	0.67	0.37
XRP	0.90	0.91	0.69	0.11	0.15
BCH	0.91	0.98	0.78	0.65	0.35
LTC	0.96	0.98	0.94	0.41	0.57
EOS	0.90	0.98	0.84	0.13	0.26



Key Events

- A. Feb. 5: Bitcoin surpasses 500M transactions since the network's launch.
- B. Feb. 6: SEC commissioner Hester Peirce proposes giving crypto startups a 3-year grace period from their first token sale to allow for networks and communities to develop before passing through the agency's evaluations.
- C. Feb 18. Bitcoin's 50-day moving average crosses its 200-day moving average to form a highly anticipated "golden cross," thereby signaling a "bull market."
- D. Feb. 19: Bitcoin pares the prior day's gains and market participants speculate that an attempt was made to invalidate the "golden cross," similar to the rally that followed bitcoin's formation of a "death cross" on Oct. 26th, 2019.
- E. Feb. 24: Global stocks plunge on news out of China that more than 2,500 people have died from the coronavirus and 77,000 are infected. Safe-haven assets rally as investors seek shelter. Economic data shows that the US services sector contracted in Feb. for the first time in four years.
- F. Feb. 25: China reports an additional 200 deaths and 1,000 infected. The death toll in South Korea crosses 250 and Italy alarms its citizens after four Italians die from the virus. The IMF cuts global economic growth rate forecast by -0.1% and China's economic growth forecast by -0.4%. Gold jumps to \$1,676/oz and surpasses levels last seen in Feb. 2013. The Dow sheds -3.6%, the S&P 500 tumbles -3.4%, and the Nasdaq Composite falls -3.7%.
- G. Feb. 26: Equities fall for the fourth day in a row as the virus spreads across 36 countries. Brazil confirms Latin America's first infection, while Sweden, Denmark, Norway, Greece, and others report their first cases. Microsoft joins Apple and HP in saying they'll miss guidance for the quarter due to the virus. The CBOE's Volatility Index (VIX) hits a 52-week high of 30.25.



The Macro Trend

United States: 4Q GDP was inline with 3Q, putting 2019 real GDP at 2.3%, down from 2.9% in 2018. The YoY decline was largely driven by a downturn in business investment. Industrial production fell for the fifth consecutive month, goods exports declined in 4Q while services exports rose; imports of goods fell sharply, which drove GDP growth higher. New orders for US manufactured goods saw their biggest gain since August of 2018 and the ISM's producers manufacturing index climbed above 50 for the first time in six months, signaling a manufacturing expansion; on the other hand, IHS's PMI declined due to a weakening of export orders. This bifurcation suggests that there is not sufficient information to draw a robust conclusion about export activity. Quarterly consumer spending grew at a modest +1.8%, down substantially from 3.2% in 3Q, while retail sales rose +0.3% MoM and +4.4% YoY and overall business fixed investment declined for the 3rd straight quarter. The labor market added 225,000 new jobs, up notably from 147,000 in the month prior, and the University of Michigan reported that consumer sentiment hit a one-year high and is currently in a range that has not been exceeded since the early part of the century.

Earlier in the month, the Fed announced that they would leave its benchmark interest rate unchanged for 2020 and noted that "recent indicators provide tentative signs of stabilization," but also that the coronavirus outbreak "could lead to disruptions in China that spill over to the rest of the global economy." In Feb., Fed Chairman Jerome Powell expressed concerns about the current size of the annual US budget deficit and suggested engaging in fiscal tightening. Powell noted that Federal government debt has risen by \$3T since the current administration came to office and that the latest budget proposal will boost debt by \$5T over the next decade. During Powell's testimony, President Trump criticized Powell's interest rate policy and noted that Germany has negative interest rates. Powell notes that negative interest rates are "not a tool we are looking at."

Fears over the economic impact of the coronavirus drove the 10-year Treasury's yield to the lowest level since September and the yield on the 30-year bond to a record low. Not to mention, later in the month the yield curve inverted once again and the S&P500 closed down -9%, the worst monthly performance in a year.

The Macro Trend (cont.)

Europe: Earlier in the month, the UK formally left the EU and will continue to negotiate its future relationship with the EU while also following EU laws until EoY. Eurozone 4Q GDP finished up +0.1% QoQ and up +0.9% YoY, both representing the slowest growth since 2013. Of the four largest economies in the Eurozone, Spain was the only one to see positive quarterly growth. As for Germany, quarterly growth was flat QoQ and up +0.5% YoY. Additionally, household spending, business investment in equipment, and exports fell. Some economists believe that Germany is at risk of the spillover from the coronavirus - as German exports of capital goods to China could slow. Manufacturing climbed to a 12-month high, but remained in contraction territory. The improvements were led by Germany, where the PMI for manufacturing jumped to a 13-month high, but also remained below 50 and in contraction territory. Despite concerns over the coronavirus spreading, the latest flash PMIs, which are based on about 85% - 90% of the total monthly PMI survey responses, showed that the Eurozone PMI for manufacturing and services both rose.

Asia: The Chinese government announced that it will give local governments larger quotas for issuing bonds to enable greater funding for local projects in response to the coronavirus and slowing economic growth. The PBoC also decided to inject \$174B into money markets via reverse repo agreements and to cut rates on the funds by 10 basis points. Chinese PMI manufacturing activity plunged in Feb. to a reading of 35.7, an all-time low and down from 50 in Jan. Japanese manufacturing PMI declined to the lowest level since 2014, while services PMI also declined sharply. The Japanese government reported that real GDP fell at an annualized rate of -6.3% in 4Q from the previous quarter - the steepest decline since 2014. A government spokesperson said that the government is prepared to spend from its reserve funds in order to offset the negative impact of the virus on supply chains and inbound tourist expenditures. Foot and vehicle traffic at key consumer spending locations in Japan were reported to be down significantly due to fears about the coronavirus. The South Korean government stated that they would provide \$356M in emergency loans to companies facing liquidity constraints from the coronavirus. Singapore's government downwardly revised its economic growth expectations for 2020 and acknowledged that the economy could dip into recession this year due in part to the coronavirus. Indonesia's central bank cut its benchmark rate by 25 basis points, the first move in four months. The Shanghai Composite Index rose +6.1% while the Nikkei 225 fell -7.6% and the Korea Composite Stock Price Index retraced roughly -4.8%.

The Past & The Future

Monthly Returns & Volatility

- Last month's -9% return marked the 3rd worst Feb. on record and broke a 6-year trend of positive returns. Furthermore, bitcoin's monthly performance was well below the month's average and median return of +15% and +16%, respectively.
- Feb.'s annualized volatility of 52% slumped 6 percentage points from Jan. and was significantly below the average (81%) and median (67%) monthly annualized volatility of the past nine years. However, Feb.'s annualized volatility is on average 15 percentage points lower than Jan.
- Excluding 2012 - 2014, Mar. tends to underperform relative to Feb. and is typically 11 percentage points less volatile. However, in the prior two instances when Feb. posted negative returns, Mar. went on to outperform.
- Assuming the trend persists, we can expect a continuation of up-trending price action and slightly less volatility in Mar.

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%										
Average	8%	15%	9%	53%	39%	14%	8%	2%	-7%	11%	54%	9%
Median	1%	16%	-6%	27%	17%	18%	10%	-8%	-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%										
Average	96%	81%	69%	102%	79%	90%	70%	88%	61%	70%	85%	83%
Median	86%	67%	61%	74%	62%	69%	64%	64%	45%	61%	88%	61%

Where to Next?

The Tipping Point

- Bitcoin is reaching the end of a multi-month and multi-year long “pennant,” or a period of consolidation prior to a breakout.
- The formation suggests that bitcoin must soon decide which direction to break and where to trend next. A break up or down will likely be accompanied by heightened levels of volatility and trading as bitcoin signals to the market the broader macro trend.
- Should bitcoin break up and out of pennant #1, eyes will shift to pennant #2 as the deciding factor for whether bitcoin is headed towards a bull market or a bear market.
- Although bitcoin could break through either pennant at any time, a final decision (the apex) must be reached for pennant #1 by the **first week of June** and by the **last week of Aug.** for pennant #2. Both apexes proceed bitcoin’s block reward halving on May 11th.

Figure 1: BTCUSD 1-Week (CryptoWatch)



What's Ahead?

Date	Upcoming Notable Catalysts
Mar-12	ECB Monetary Policy Meeting
Mar-24	U.S. FSC Holds Hearing on Domestic & Int'l Approaches to Digital Currencies
Mar-30	CME BTC Futures BTCH20 settlement date
April	Japan To Tighten Rules on Crypto Margin Trading
Apr-27	CME BTC Futures BTCJ20 Settlement Date
May-12	Bitcoin Halving @ Block #630,000
Jun-1	CME BTC Futures BTCK20 Settlement Date
Jun-29	CME BTC Futures BTCM20 Settlement Date
Jul-30	ETH 2.0 Phase Zero launch

BTCUSD - February							
Date	Price	24hr Return	Annualized Vol.	Tx Volume	Exchange Volume*	Market Cap	Velocity**
1-Feb-20	\$9,377	0.4%	56%	\$ 6,162,931,396	\$ 659,140,104	\$ 170,699,826,043	12.32x
2-Feb-20	\$9,322	-0.6%	54%	\$ 4,723,491,859	\$ 469,305,429	\$ 169,943,267,783	12.31x
3-Feb-20	\$9,281	-0.4%	54%	\$ 8,920,005,192	\$ 679,728,910	\$ 168,876,392,942	12.46x
4-Feb-20	\$9,159	-1.3%	55%	\$ 5,377,234,881	\$ 666,619,504	\$ 166,740,743,006	12.53x
5-Feb-20	\$9,616	5.0%	54%	\$ 5,104,908,858	\$ 327,490,263	\$ 175,250,308,848	12.62x
6-Feb-20	\$9,755	1.4%	52%	\$ 10,387,504,600	\$ 1,055,514,874	\$ 177,289,768,826	13.01x
7-Feb-20	\$9,800	0.5%	51%	\$ 6,443,895,837	\$ 945,266,658	\$ 178,417,196,310	13.08x
8-Feb-20	\$9,904	1.1%	50%	\$ 5,562,553,493	\$ 609,860,493	\$ 180,455,462,436	13.07x
9-Feb-20	\$10,160	2.6%	48%	\$ 4,319,597,417	\$ 737,488,283	\$ 184,840,742,313	12.73x
10-Feb-20	\$9,850	-3.1%	49%	\$ 6,073,597,350	\$ 667,599,004	\$ 179,780,570,082	12.70x
11-Feb-20	\$10,273	4.3%	50%	\$ 6,936,198,259	\$ 963,092,641	\$ 187,081,233,587	12.87x
12-Feb-20	\$10,355	0.8%	50%	\$ 6,918,495,810	\$ 1,013,509,930	\$ 188,700,718,414	13.07x
13-Feb-20	\$10,242	-1.1%	42%	\$ 6,616,958,226	\$ 961,731,873	\$ 186,448,589,139	13.15x
14-Feb-20	\$10,371	1.3%	42%	\$ 6,816,092,495	\$ 1,267,394,773	\$ 188,763,431,392	13.01x
15-Feb-20	\$9,905	-4.5%	45%	\$ 5,229,204,907	\$ 827,418,697	\$ 180,585,098,507	12.49x
16-Feb-20	\$9,924	0.2%	45%	\$ 6,268,088,663	\$ 872,062,496	\$ 181,337,408,896	12.55x
17-Feb-20	\$9,702	-2.2%	46%	\$ 9,180,342,923	\$ 972,452,544	\$ 176,455,532,971	12.68x
18-Feb-20	\$10,180	4.9%	47%	\$ 5,835,669,950	\$ 935,955,414	\$ 185,808,950,970	12.80x
19-Feb-20	\$9,602	-5.7%	52%	\$ 7,730,143,637	\$ 989,157,780	\$ 175,632,690,004	13.07x
20-Feb-20	\$9,611	0.1%	52%	\$ 6,126,025,325	\$ 1,258,836,532	\$ 175,247,351,457	13.06x
21-Feb-20	\$9,698	0.9%	52%	\$ 5,492,138,306	\$ 782,760,359	\$ 176,865,876,880	13.11x
22-Feb-20	\$9,672	-0.3%	50%	\$ 3,696,586,513	\$ 664,811,852	\$ 176,399,792,167	12.98x
23-Feb-20	\$9,966	3.0%	51%	\$ 5,182,170,343	\$ 435,542,478	\$ 181,843,236,237	12.86x
24-Feb-20	\$9,665	-3.0%	52%	\$ 5,325,706,753	\$ 637,217,007	\$ 175,937,259,068	12.88x
25-Feb-20	\$9,310	-3.7%	53%	\$ 6,335,718,111	\$ 824,545,975	\$ 170,415,547,339	13.07x
26-Feb-20	\$8,784	-5.7%	56%	\$ 5,282,245,477	\$ 1,006,151,899	\$ 160,483,857,843	13.20x
27-Feb-20	\$8,810	0.3%	52%	\$ 6,553,800,742	\$ 1,426,399,680	\$ 160,137,770,415	13.32x
28-Feb-20	\$8,716	-1.1%	52%	\$ 6,285,040,549	\$ 915,720,622	\$ 159,636,352,747	13.38x
29-Feb-20	\$8,529	-2.1%	52%	\$ 3,497,787,255	\$ 926,436,362	\$ 156,577,275,161	13.26x
Mean	\$ 9,639	-0.3%	50%	\$ 6,151,177,073	\$ 844,800,429	\$ 175,746,629,372	12.88x
Median	\$ 9,698	0.1%	52%	\$ 6,126,025,325	\$ 872,062,496	\$ 176,455,532,971	12.98x
Total Volume				\$ 178,384,135,126	\$ 24,499,212,433		

sources: Kraken Intelligence, CoinMarketCap, CoinMetrics.io

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

How To Reach Us & Where To Trade

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