

# DELPHI DIGITAL

## Monthly Bitcoin Outlook April 2019



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# Key Updates

## Short-Term Outlook

### **Bottom is In**

We continue to believe the bottom is in. The 1 year+ holder rate during the potential December bottom is within 1% of the 1 year+ holder rate during the previous cycle's bottom in January of 2015.

### **Long-Term Holders Stay Strong**

Minimal selling coming from long-term holders throughout the consolidation period over the past few months. In fact, we've actually began to see a very slight up tick among long term holders, which is consistent with the trend after the previous cycle bottomed.

### **Accumulation Continues**

Accumulation continues as the percent of 1 year+ UTXO is currently in line with the peaks of the previous cycle. It has slowed down, however, implying we're out of the fast growth period. This coincides with the post-bottom environment from the previous cycle.

### **Introducing a New and Improved NVTs variation**

We use UTXO data to adjust the existing NVTs metric to improve both regular and risk adjusted returns when looking for an appropriate entry point.

## Macro Backdrop

### **Favorable Macro Backdrop for Bitcoin**

Bitcoin is back in favor as it finds itself atop the list of best performing assets year-to-date. This comes amid a significant recovery in risk assets, notably in riskier markets like Chinese equities, to start the year following one of the worst quarters for stocks in a decade. The risk-on move has given bitcoin support after it fell victim to the sell-off in riskier asset classes at the end of last year.

Slowing global growth expectations but modest economic output provides a favorable backdrop for bitcoin as investors seek out above-average growth opportunities. Over the last six months, BTC and physical gold have traded inversely with one another. While this is a small observation period, we believe it is worth noting given the recent run up for bitcoin.

***We will delve into each section individually while providing the necessary data analysis to support our opinions. It is important to note that investing in Bitcoin is risky and any decision made should be evaluated in the context of an individual investor's capability and appetite to take risk.***

# Prelude to UTXO Analysis

This section of the report serves as the most recent update of the [UTXO Analysis](#) from the short term outlook we provided within "[The State of Bitcoin](#)". We utilize this analysis to identify when selling pressures will likely wane to forecast the timing of upcoming market cycles. Below you can find the key takeaways we provide rationale and support for throughout this packet.

## Function of UTXOs In Our Analysis

UTXO stands for the unspent transaction output from bitcoin transactions. Every transaction creates a new UTXO, and the age of the UTXO indicates the block that it was first included in. In other words, the UTXO age indicates the last time bitcoin was moved. Analyzing Bitcoin's aggregate UTXO age distribution over time provides insight into the buying and selling patterns of previous market cycles. This allows us to forecast where we are in relation to prior cycles and what we can likely expect going forward.

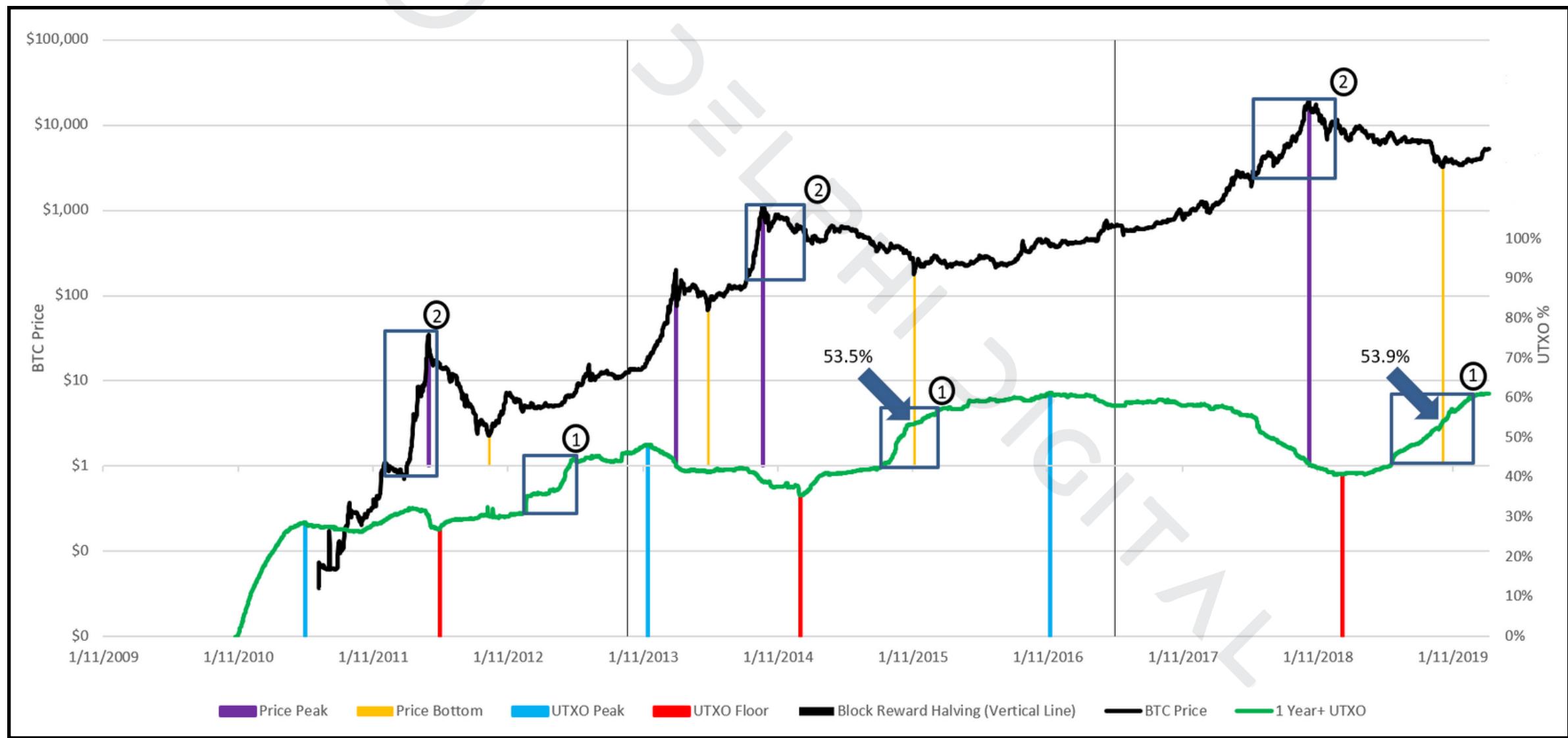
## Adjustment Overview

In our first refresh of the UTXO analysis we had to adjust for a hiccup caused by Coinbase, through no fault of their own, which we further expand on below. Our analysis will permanently incorporate this adjustment to ensure the consistency over time. In early December 2018 there were several concerns surrounding the intentions of a large holder that was moving 856,000 bitcoin, a valid concern given this was ~5% of the total circulating supply. It turns out this large holder was likely Coinbase, based on a handful of factors, one of which being a scheduled maintenance announcement they issued on November 29th. Coinbase indicated the maintenance may cause movement on all Coinbase-supported blockchains over the next seven days. The issue is that a large portion of this movement came from UTXOs that haven't been moved in at least 1 year, with a concentration in UTXOs that haven't moved in 3-5 years, which would distort our aggregate analysis if left unadjusted. However, we were able to adjust for most of the shift, allowing the analysis to continue to function in its intended form. Another silver lining of the maintenance driven UTXO shift is that lost coins will make up a larger percent of the 5 year+ band, making the analysis more accurate in the long run.

# UTXO Analysis & Market Cycles

In our State of Bitcoin report that we released in early December, we made a call that Bitcoin will bottom by the end of Q1 2019. We continue to stand by that call, **we believe bitcoin has bottomed**. An important contributing factor to that forecast was our analysis of UTXO age trends, and how they've progressed relative to previous cycles. Assuming the current cycle's price did in fact bottom in December, **the 1 Year + holder rate was 53.9% at the time, which falls right in line with the 1 year+ holder rate of 53.5% during the price bottom of the previous cycle in January 2015**.

As of April 23rd, 61.1% of bitcoin has not moved in over a year. This 1 year+ holder rate was 52% at the end of November, 57% at the end of January, and 60.3% a week into March. There's a clear slowdown in this trend with the 1 year holder rate growing less than 1% in six weeks. The slowdown is especially clear as that metric increased by an average of 3% over each of the two prior six week windows. This slowdown likely marks the end of the high growth period in the 1 year+ UTXO rate<sup>1</sup>, which makes sense considering the pricing environment and the waning level of new interest we were seeing at this point last year<sup>2</sup>. We also show how this scenario played out during the previous two cycles.



Data as of April 23rd, 2019

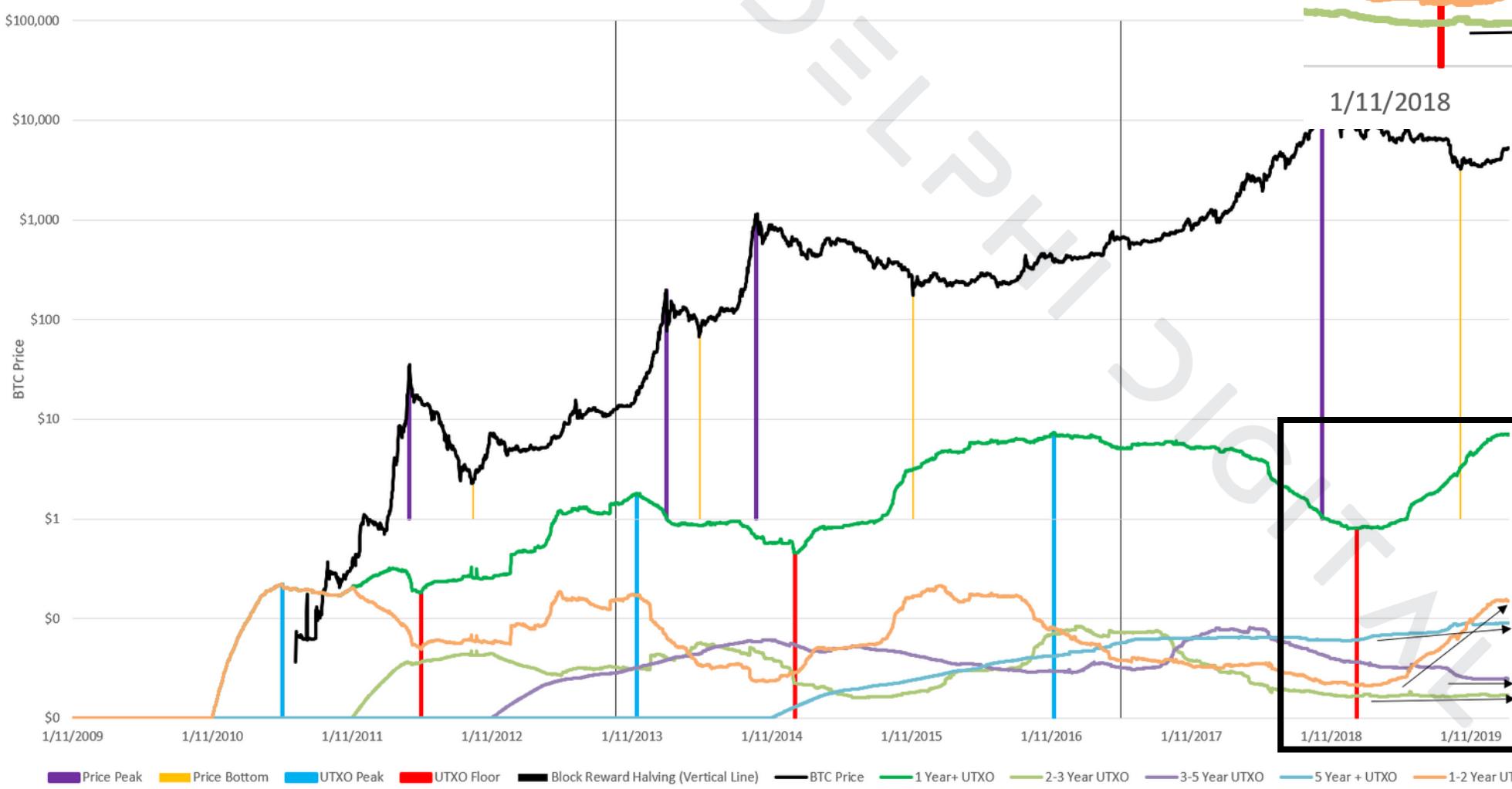
Sources: [Unchained Capital](#)

# UTXO Analysis & Market Cycles



A sign of strength is that long term holders remain unfazed during the recent rally. Following the prolonged leveling off period in older bands, where we saw the few residual long term holders finally act on their intention to sell, we're starting to see very gradual accumulation in both the 3-5 year band and the 5 year+ band. This is supplementing the consistent growth in the 1-2 year band as those that purchased bitcoin in late 2017 and early 2018 continue to hold. This pattern of very gradual hoarding among older bands was also visible in previous cycles after the bottom was decidedly in.

Although the 2-3 year and 3-5 year bands appear relatively flat over the past two months, the 5 year + band has been steadily increasing. This implies you're having coins from prior bands shift into the 5 year + band, and those same bands are remaining flat because coins from younger bands are shifting into them. We expect to see the 2-3 year band start to change its trajectory upwards in late June to confirm holder patterns from the flood of money that entered the market in 2017.



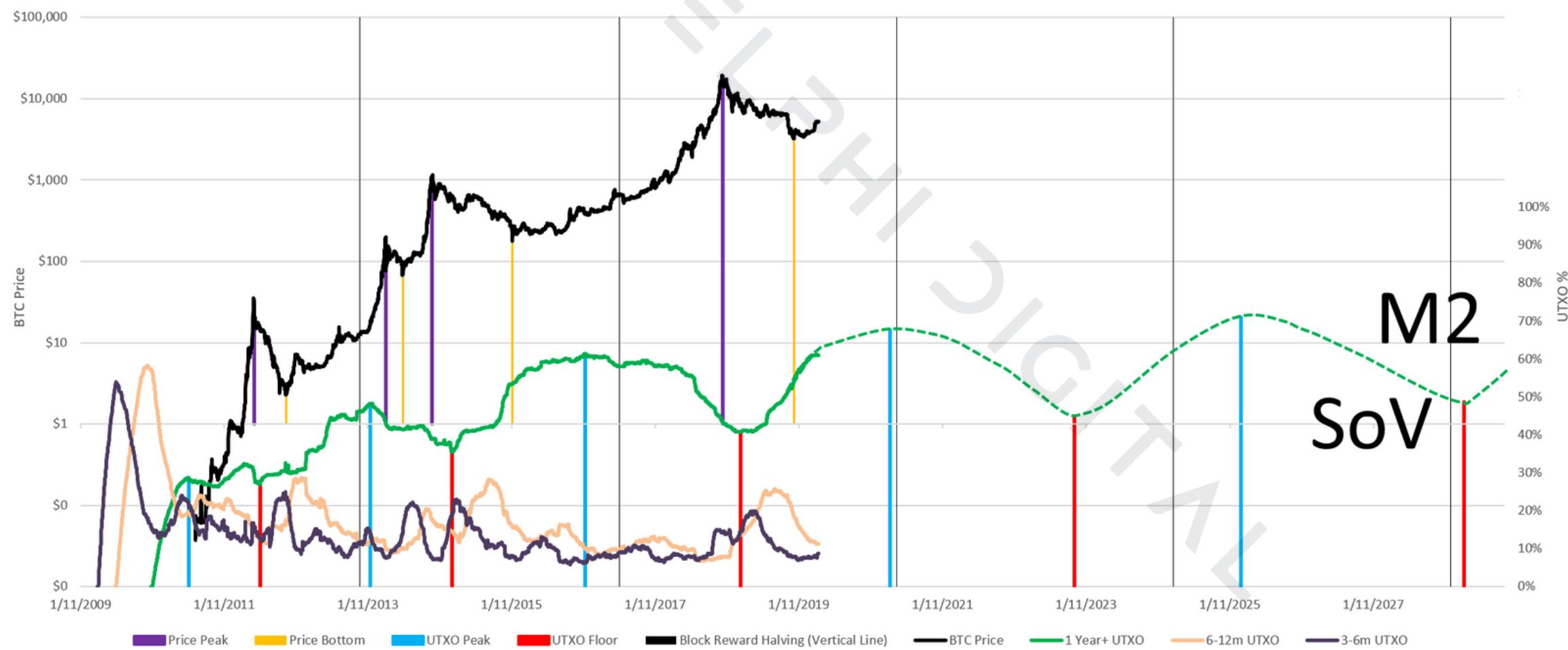
Data as of April 23rd, 2019

Sources: [Unchained Capital](#)

# UTXO Analysis & Market Cycles

As the bottom becomes more apparent, it gets easier for individuals to comfortably hold their bitcoin for a longer time horizon because they understand it will exhibit a generally upward trajectory. It also becomes riskier to sell it in an effort to buy back lower, particularly for inexperienced traders. These factors combine to create an environment of **reflexive scarcity**, which will only be compounded by the halving in 13 months. This occurred during the last cycle leading into the 2016 halving, albeit to a smaller degree, since bitcoin wasn't as popular or accessible, and it also didn't experience a full price cycle on such a public stage. The points we've discussed combined with our ability to reasonably forecast the timing of the bottom support the idea that there's consistency in the supply side economics relative to the previous cycle.

We believe the demand side is the major variable. Although very few individuals invested in Bitcoin, the price volatility gave it attention on a global scale. This attention also brought claims that it's scam or a Ponzi scheme, but that overly vocal minority doesn't represent the general consensus. By no means are we implying that even a small amount of people understand the value proposition, but many saw what happened with price. It only requires an extremely small subset of that population jump start Bitcoin's reflexivity engine. In a vacuum, you'd assume that cycles continue to lengthen from the reduced impact of each halving and gradual maturity of the asset. However, it's nearly impossible to accurately predict the impact a global stage and growing access will have on demand, and how that'll affect the dynamics of each cycle. It's certainly something that we'll continue to monitor closely.

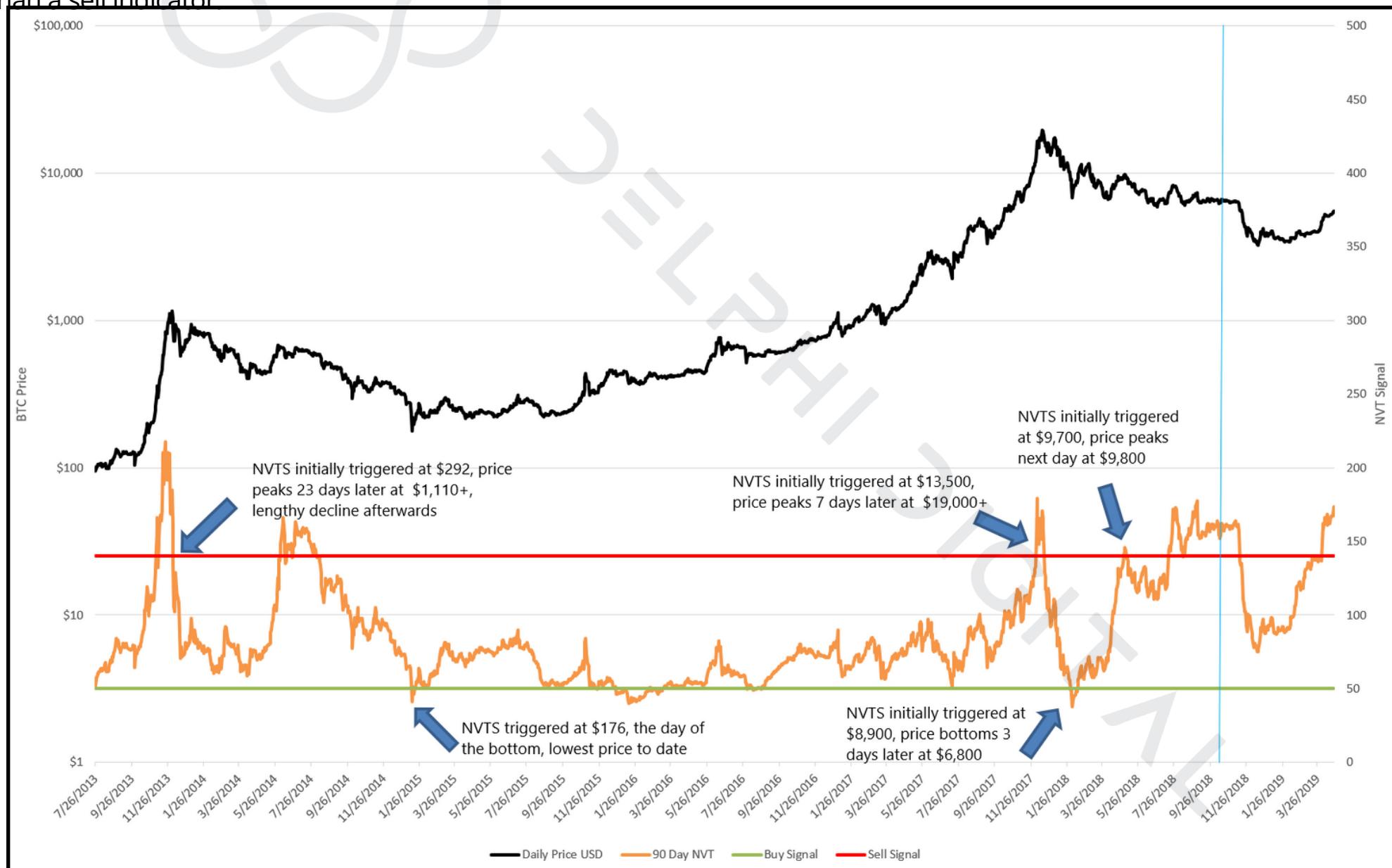


Data as of April 23rd, 2019

Sources: [Unchained Capital](#)

# Network Value/Transactions Signal (NVTS)

Another metric we track closely is the NVT Signal. The NVT Signal (NVTS) is a modified version of the original NVT ratio. NVTS uses the 90 Day Moving Average of the Daily Transaction Volume rather than regular Daily Transaction Volume. This moving average allows the ratio to better function as a leading indicator. Not only has it been a successful leading indicator for previous price tops and bottoms, but it's also provided leading buy/sell signals during periods outside of significant price rallies and declines. It differentiated "quiet periods" that were a true bottom (the accumulation period through most of 2015 that eventually lead up to the most recently rally) from those that weren't (the second half of 2018 in the \$6,000 range before the bottom fell out in November). We have noticed, however, that this signal is generally more accurate as a buy rather than a sell indicator.



Data as of April 23rd, 2019

Source: [Blockchain.info](#), [Coinmetrics](#)

# Results of NVTS Analysis

The NVT Signal thresholds we chose were based on empirical evidence, with one of the criteria being a sufficient sample size. The results are aggregated under the assumption that Bitcoin was purchased **within the first 5 days** of triggering the signal. We limit this to the first 5 days because there are situations where price can spend a prolonged period of time in a "trigger zone", which will then overweight and skew the returns based on how price moved after that specific period.

Results From Buying Below 50 NVTS					
90 Day NVT	30 Day	60 Day	90 Day	180 Day	1 Year
Median Return	6%	10%	22%	43%	158%
Mean Return	10%	9%	20%	44%	232%
Success Rate	72%	89%	92%	86%	86%
Instances	36	36	36	36	36

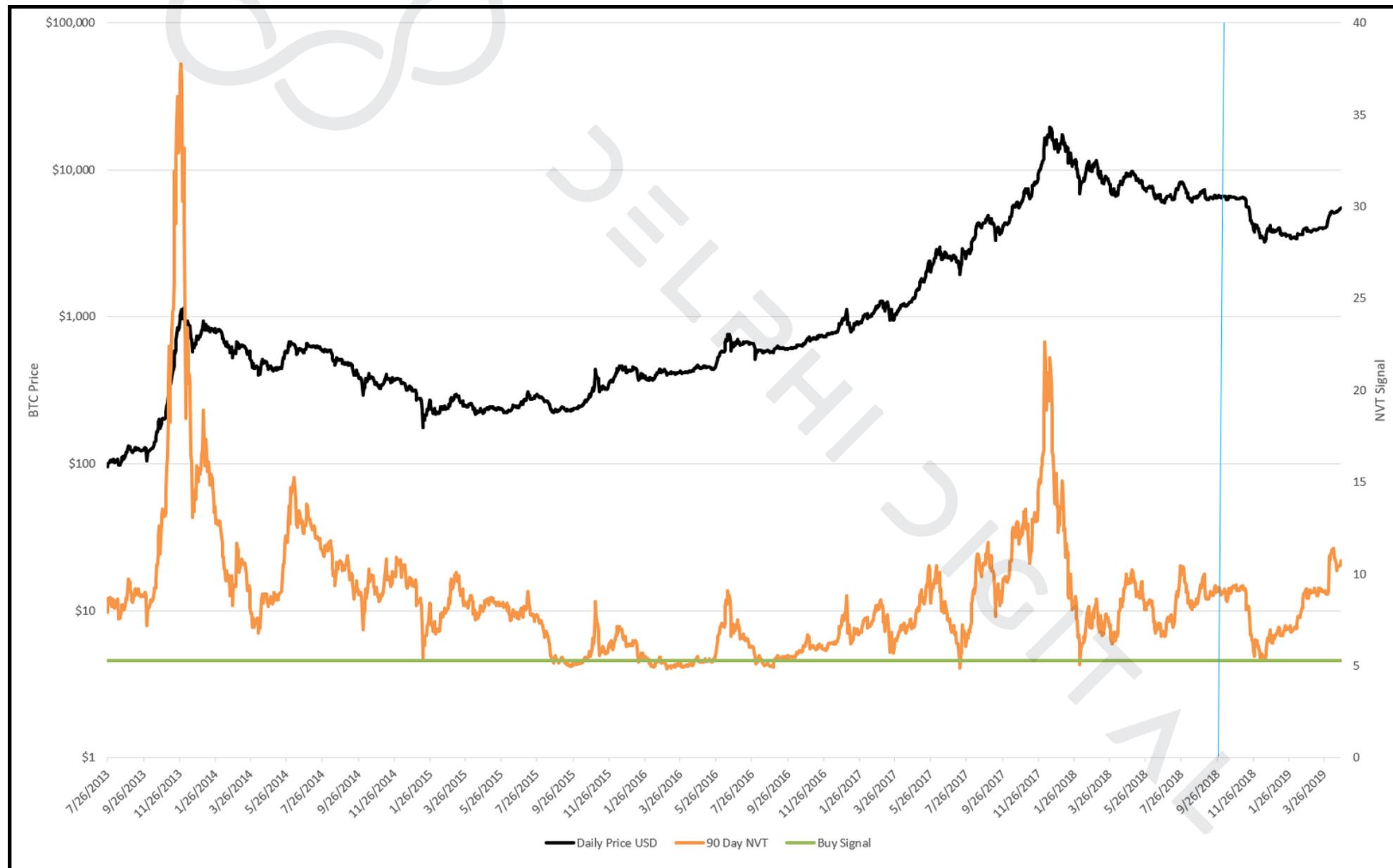
The success rate indicates how often the metric lead to the expected outcome (buying below 50 was proceeded by an increase in price and selling above 140 was followed by a drop in price.) Based on transaction volume from blockchain.com, the NVTS is 158 as of April 27th. This is clearly on the higher end of the spectrum and would imply that either price has to come down or on chain volume needs to increase to bring NVTS down to a more "sustainable" level. It's difficult to properly factor in the impact of the growth in off-chain transaction volume, which certainly skews NVTS upward. Like most metrics, NVTS should not be viewed in isolation, but rather used as a supplement to an overall analysis. This leads us to believe it's highly unlikely that we'll see a 57% decline in the price of Bitcoin over the course of the next year, as buying above an NVTS of 140 would historically indicate.

## Results From Buying Above 140 NVTS

90 Day NVT	30 Day	60 Day	90 Day	180 Day	1 Year
Median Return	1%	-13%	-26%	-45%	-57%
Mean Return	21%	10%	-3%	-33%	-42%
Success Rate	49%	74%	81%	81%	82%
Instances	43	43	43	43	28

# UTXO Adjusted NVTS

While the NVT signal certainly has merit in its current state, there are a handful of factors that diminish its efficacy. One of them is the gradual shift in Bitcoin's short to medium term investment narrative from a peer-to-peer currency to an option on digital gold. To account for this, we've developed a **UTXO adjusted NVTS** metric to properly optimize the numerator for the portion of Bitcoin's supply that's been active during the last 3 months. Like the original NVTS, our UTXO adjusted version also uses a 90 day moving average for the on-chain transaction volume. Below you can see how this UTXO adjusted NVTS has been a great indicator of favorable entry points. We compare risk and return performance metrics in the following page to truly illustrate how much more effective this adjusted version can be.



Data as of April 23rd, 2019

Source: [Blockchain.info](https://Blockchain.info), [Coinmetrics.com](https://Coinmetrics.com)

# UTXO Adjusted NVTS vs NVTS

This adjusted version outperforms standard NVTS in both mean and median returns, with a higher success rate while also working off a larger sample size. Its function as a selling indicator is still a work in progress, but there's consistent difficulty among variations when it comes to selling accuracy. We incorporate the Sortino and Sharpe ratios to identify and quantify the risk adjusted value our NVTS buy signal provides as compared to the standard version.

The difference in the two is that Sortino divides by downside deviation to undo the detrimental effects of upside volatility on the ratio. Our adjusted version results in N/A for the 60 and 90 day periods because there were no instances of a price decline. It also out performs its standard equivalent in every category except for the Sharpe ratio over the 90 and 180 day periods following an entry. This occurs because of upside return volatility, which is evident, and adjusted for, with the Sortino ratio, showing how effective our adjusted NVTS ratio is for establishing an entry point.

## Results From Buying Below 5.3 UTXO Adjusted NVTS

	30 Day	60 Day	90 Day	180 Day	1 Year
<b>Median Return</b>	8%	28%	29%	65%	203%
<b>Mean Return</b>	19%	31%	41%	80%	275%
<b>Success Rate</b>	91%	100%	100%	98%	98%
<b>Instances</b>	57	57	57	55	55

## Results From Buying Below 50 NVTS

	30 Day	60 Day	90 Day	180 Day	1 Year
<b>Median Return</b>	6%	10%	22%	43%	158%
<b>Mean Return</b>	10%	9%	20%	44%	232%
<b>Success Rate</b>	72%	89%	92%	86%	86%
<b>Instances</b>	36	36	36	36	36

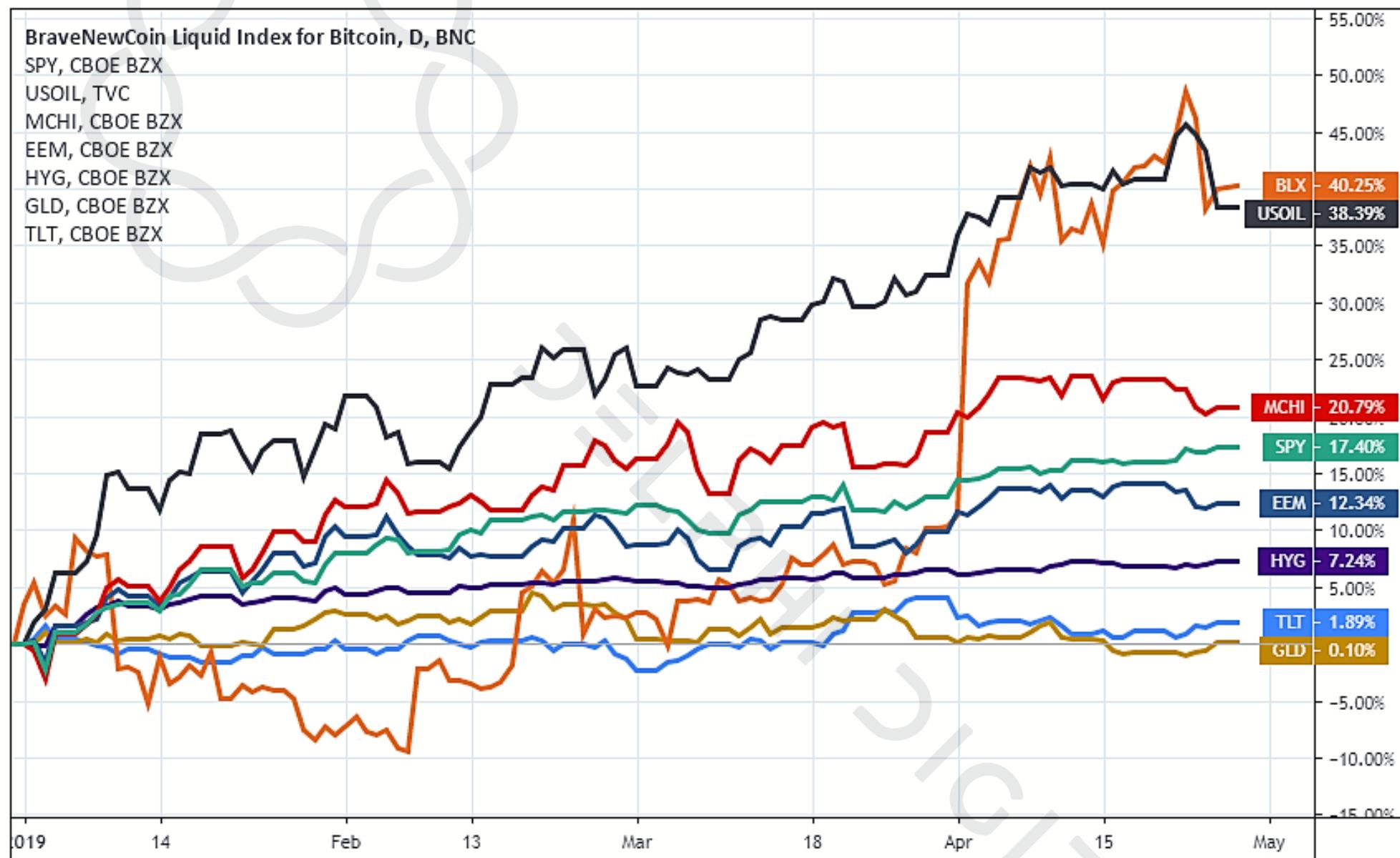
## UTXO Adjusted NVTS vs Standard NVTS vs Arbitrary Entry

	30 Day	60 Day	90 Day	180 Day	1 Year
<b>Sortino (UTXO Adj.)</b>	147.0	N/A	N/A	626.4	264.3
<b>Sortino (Standard)</b>	20.7	10.3	162.0	49.1	81.5
<b>Sortino (Arbitrary Entry)</b>	0.3	0.5	0.5	1.6	3.5
<b>Sharpe (UTXO Adj.)</b>	0.73	1.30	1.18	0.89	1.84
<b>Sharpe (Standard)</b>	0.65	0.60	1.50	1.43	1.00
<b>Sharpe (Arbitrary Entry)</b>	0.25	0.29	0.36	0.50	0.58
<b>Decline Frequency (UTXO Adj.)</b>	9%	0%	0%	2%	2%
<b>Decline Frequency (Standard)</b>	28%	11%	8%	14%	14%
<b>Decline Frequency (Arbitrary Entry)</b>	44%	42%	43%	41%	30%
<b>Mean Decline (UTXO Adj.)</b>	-2%	N/A	N/A	-6%	-44%
<b>Mean Decline (Standard)</b>	-5%	-20%	-3%	-17%	-54%
<b>Mean Decline (Arbitrary Entry)</b>	-14%	-20%	-24%	-33%	-53%

\*The results are aggregated under the assumption that Bitcoin was purchased within the first 5 days of triggering the signal. Data as of April 23rd, 2019\*

# Bitcoin Atop Best Performers YTD

Year-to-Date Performance - BTC vs. Other Assets



Bitcoin is back in favor as it finds itself atop the list of best performing assets year-to-date. This comes amid a significant recovery in risk assets to start the year following the worst quarter for equities in a decade. The risk-on move has given bitcoin support after it fell victim to the sell-off in riskier asset classes at the end of last year. The start to 2019 has had a very different ring to it compared to last year's pain, which has sparked a renewed interest in bitcoin and other crypto assets while alleviating some of the stresses weighing on many crypto market participants.

Data as of April 29th, 2019

Source: Brave New Coin, BlackRock, SPDR State Street Global Advisors, TradingView, BlackRock

# Recovery in Risk Assets

Risk assets across the board have staged a substantial recovery since the perils of Q4, but the rebound has been driven in large part by central bank commentary rather than an improvement in underlying fundamentals. Almost all of the year-to-date gains we've seen in the U.S. equity market, for example, have been driven by valuation multiple expansion rather than improved earnings expectations for the next 12 months. As history reminds us, stocks can get increasingly expensive in the medium-term, but eventually the fundamental backdrop must also improve to support higher stock prices as multiples can't grow to the sky.

This is important because it highlights the market's demand for growth as investors are willing to pay higher multiples for assets that are expected to deliver above-average revenue expansion.

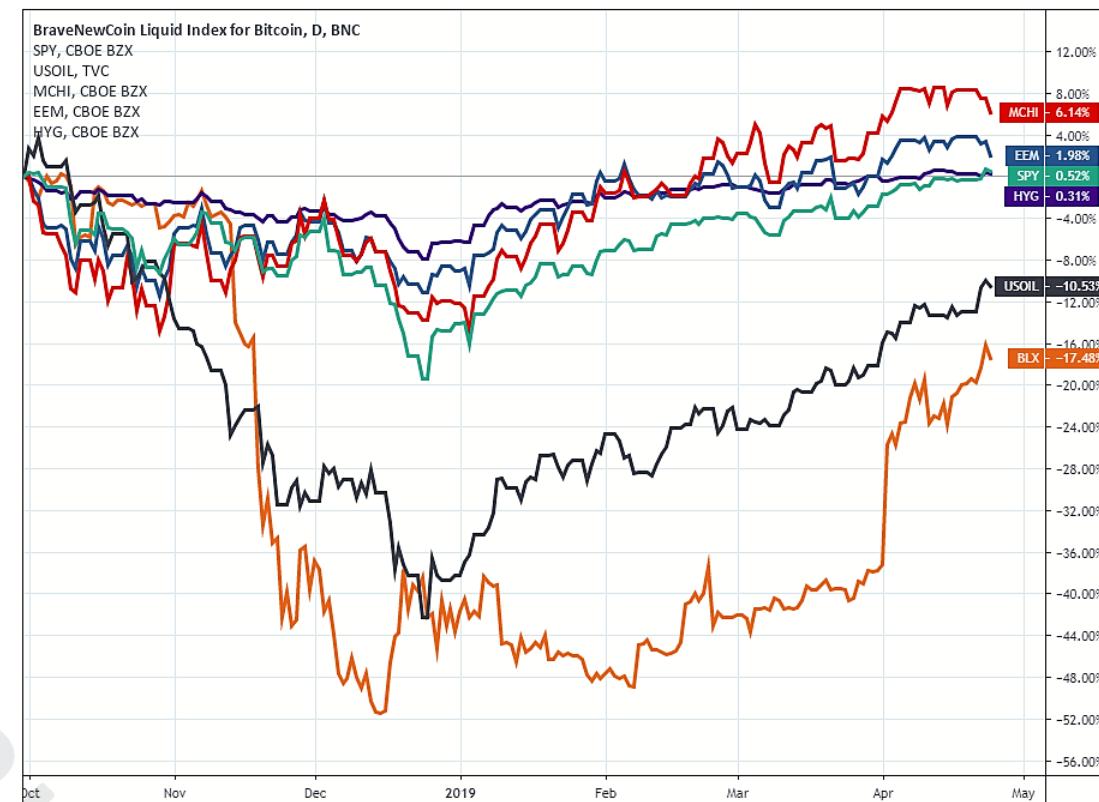
## BTC Price vs. iShares MSCI China ETF



Data as of April 27th, 2019

Source: SPDR State Street Global Advisors, MSCI, BlackRock, Binance, Brave New Coin

## BTC vs. Other Risk Assets (Normalized from Q4 '18)



Chinese equities drastically underperformed U.S. peers throughout 2018, but have jumped back into the limelight this year with their +20% jump. Notably, the Chinese equity market is much more retail driven than other large global counterparts.

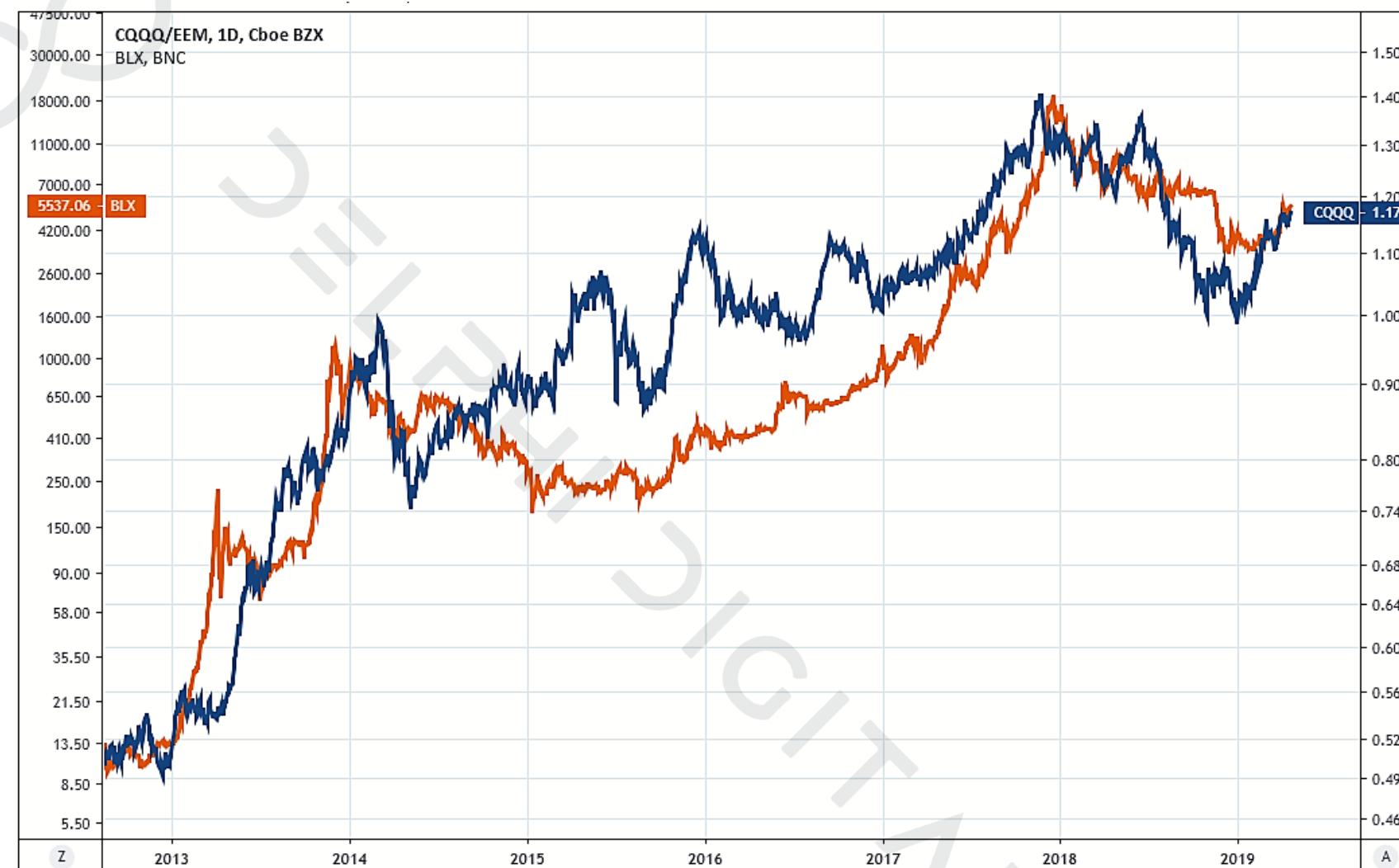
Although the correlation is not 1-to-1, the wealth effect of further strength in Chinese equities could spill over into the crypto market given the size and influence of market participants in Asia. The recent resurgence in Chinese tech stocks more specifically adds further support to this notion.

# Demand for Growth Supports BTC

As we highlighted in our Quarterly Macro Outlook, expectations for global growth have been in steady decline recently. The IMF projects world economic output to grow 3.3% in 2019, down from 3.5% in January and its 3.9% forecast just last summer. The outlook in the U.S. has remained relatively stable, though tepid growth has been the mainstay for much of the current cycle. This backdrop supports bitcoin and crypto assets as investors seek out above-average growth opportunities. Historically low sovereign bond yields across many parts of the developed world are also pushing investors further out the risk curve as real rates leave much to be desired.

A decent proxy for the growth trade can be measured by looking at the relative return of Chinese tech stocks over the rest of emerging market peers. Following a steep run up in late 2017, Chinese tech stocks plummeted in the second half of 2018, underperforming broader EM equities that also struggled to find their footing. The market appears more optimistic a trade deal will be reached between the U.S. and China, but the reversal in global central bank policy, notably the ramp up in stimulus from the PBoC, has been a key driver of the rebound in Chinese equities in the first few months of 2019. As previously mentioned, we could see a bit of a spill over from the wealth effect in China into crypto if this trend continues.

China Tech Stocks / Emerging Markets vs. BTC Price



Data as of April 27th, 2019

Source: Invesco, SPDR State Street Global Advisors, BlackRock, Brave New Coin

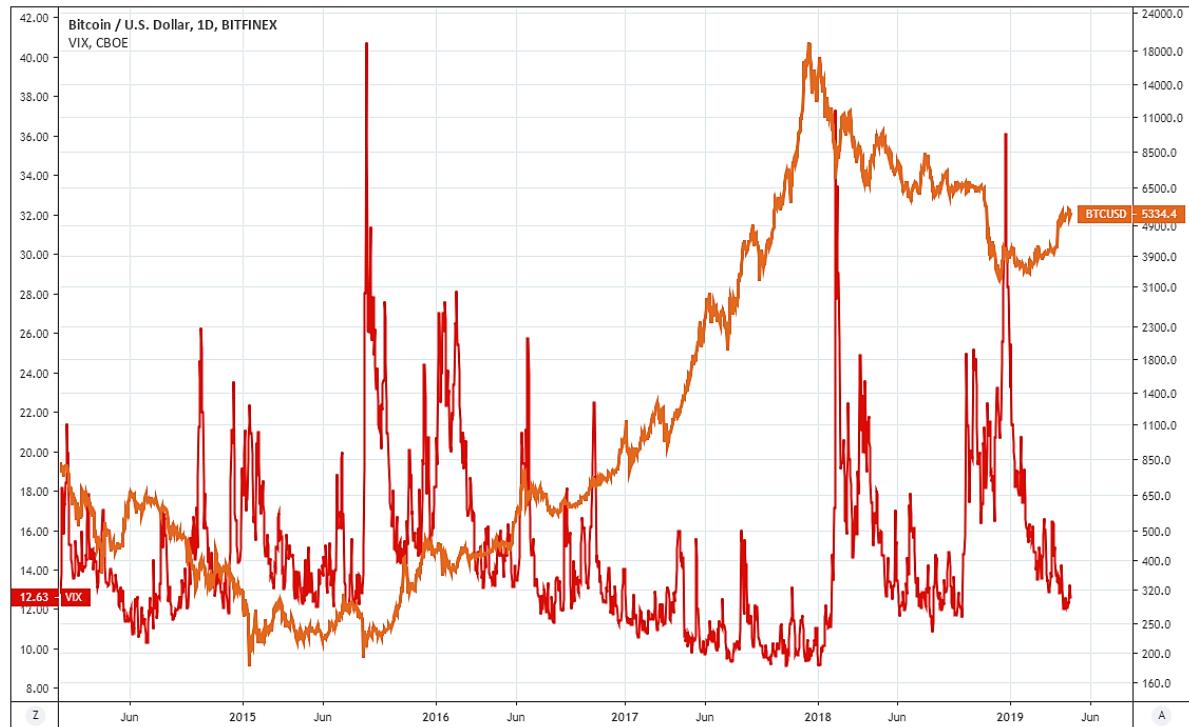
# Risk-On Asset

One of the big themes we've been harping on is the notion that bitcoin is viewed as a riskier asset rather than "digital gold" in its current state. When volatility strikes risk assets like equities, we typically see a sizable sell-off in BTC as well. The run-up in 2017, for example, was accompanied by historically low levels of volatility in the stock market. While the crypto market lacks a large institutional presence, the below-average volatility of this time period had some part to play in BTC's parabolic move higher as speculators sought out higher beta opportunities. As expectations for volatility came roaring back in early 2018, the decline in BTC was accompanied by a large drawdown in global equities. Less than 12 months later we saw a similar scenario take place where risk assets took a substantial hit in the fourth quarter, which coincided with BTC's most recent drop from \$6,500 to just above \$3,000.

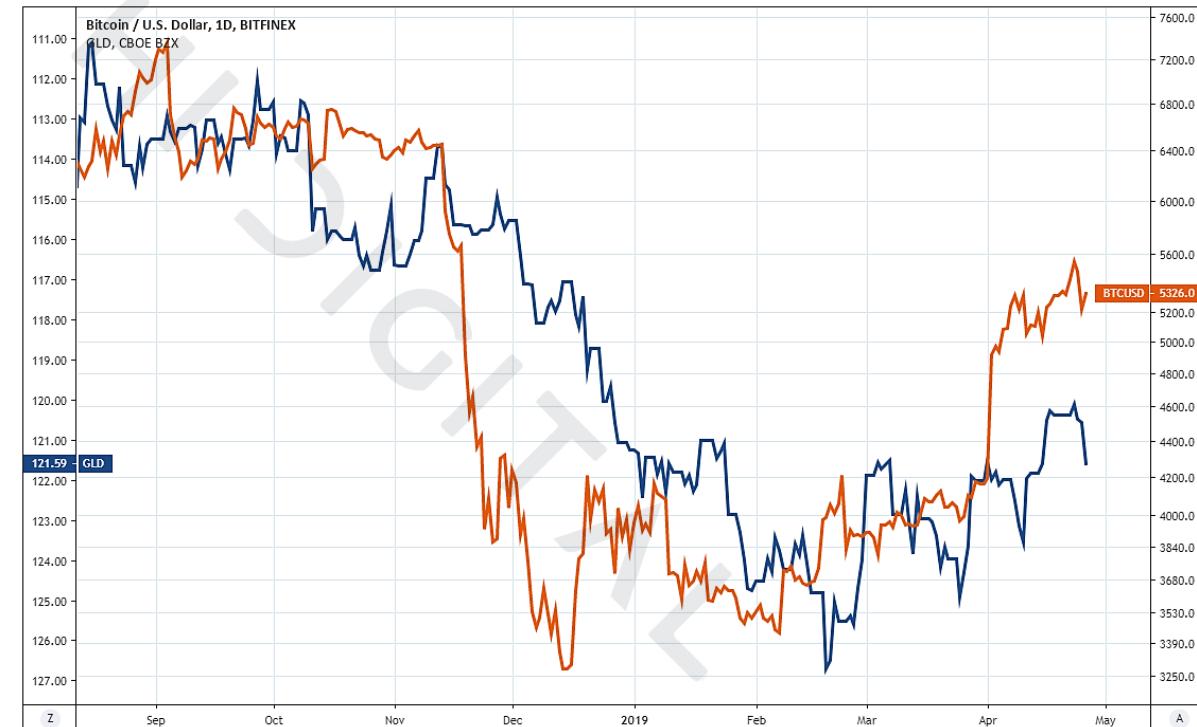
Bitcoin's drastic price fluctuations are often cited as one of the reasons why institutions have remained largely on the sidelines, but that same profile turns on loads of other sophisticated investors looking for volatility they can't find elsewhere. We noted in our last update that periods when stocks and gold both trend higher typically don't last very long.

Sure enough, gold prices have dropped considerably since late March while stocks and other risk assets have continued to add to their year-to-date gains. Over the last six months, bitcoin and physical gold have traded inversely with one another. While this is a small observation period, we believe it is worth noting given the recent jump in BTC's price.

BTC Price vs. VIX Index



BTC Price vs. GLD (Inverted)



Data as of April 26th, 2019

Source: Brave New Coin, Cboe, SPDR State Street Global Advisors

# Momentum Strengthening

Momentum continues to strengthen for BTC, a trend we've been paying close attention to over the last couple months. In our weekly market commentary, for example, we've discussed the implications of bitcoin's quick run up, noting overbought conditions were not to be feared since they serve more as a confirmation the move higher may have room to run, barring any drastic reversal in price.

We also pay close attention to the 30-day RSI for BTC, which recently broke above 70 for the first time since December 2017. Following the 2013 price peak, the 30-day RSI didn't signal overbought conditions until July 2015, which also happened to coincide with BTC's price break above its 200-day moving average.

## BTC 30-Day RSI vs. 200-Day Moving Average



Data as of April 25th, 2019

Source: Brave New Coin, TradingView

## BTC Price vs. 14-Week RSI & 50-Week MA



Interestingly, longer-term momentum indicators like the 14-week RSI have risen to similar levels when bitcoin tested its 50-week MA in July 2015 as well. However, further strength is likely needed as a break into overbought territory would give additional confirmation of this recent price run up.

Momentum is a powerful force in the crypto market, but as we've seen in the last few days volatility and steep declines can strike at any moment. If the abrupt recovery in price from last week's sharp move lower holds, we could see this longer-term momentum trend continue on its current course.

# Bitcoin's 'Golden Cross'

Bitcoin broke above \$5,600 on multiple exchanges for the first time since mid-November this past week. Its strength this year has turned its 50 and 100-day moving averages around, with the former crossing above its 200-day equivalent for the first time this cycle. This technical pattern, referred to as a 'golden cross', is considered a bullish indicator for BTC.

In the prior cycle, BTC's 50-day MA initially crossed above its 200-day MA back in July 2014, about seven months after its late 2013 peak. The price of BTC was already trending lower with weakening price momentum, however, when this occurred. Bitcoin fell over 40% in the subsequent three months.

## BTC Golden Cross - July & October 2015



Data as of April 26th, 2019

Source: Brave New Coin, TradingView

## BTC Price vs. 50, 100, 200-Day Moving Averages



There's only been four instances of a golden cross for BTC since 2012 so our sample size is obviously very limited. Three of these instances resulted in sizable declines in BTC over the following 30, 60, and 90-day periods. The most recent occurrence in October 2015 is the exception, marking the early stages of bitcoin's famous run up through late 2017.

While a golden cross is renowned as a bullish pattern for any asset, it's important to remember just how quick downside volatility can strike.

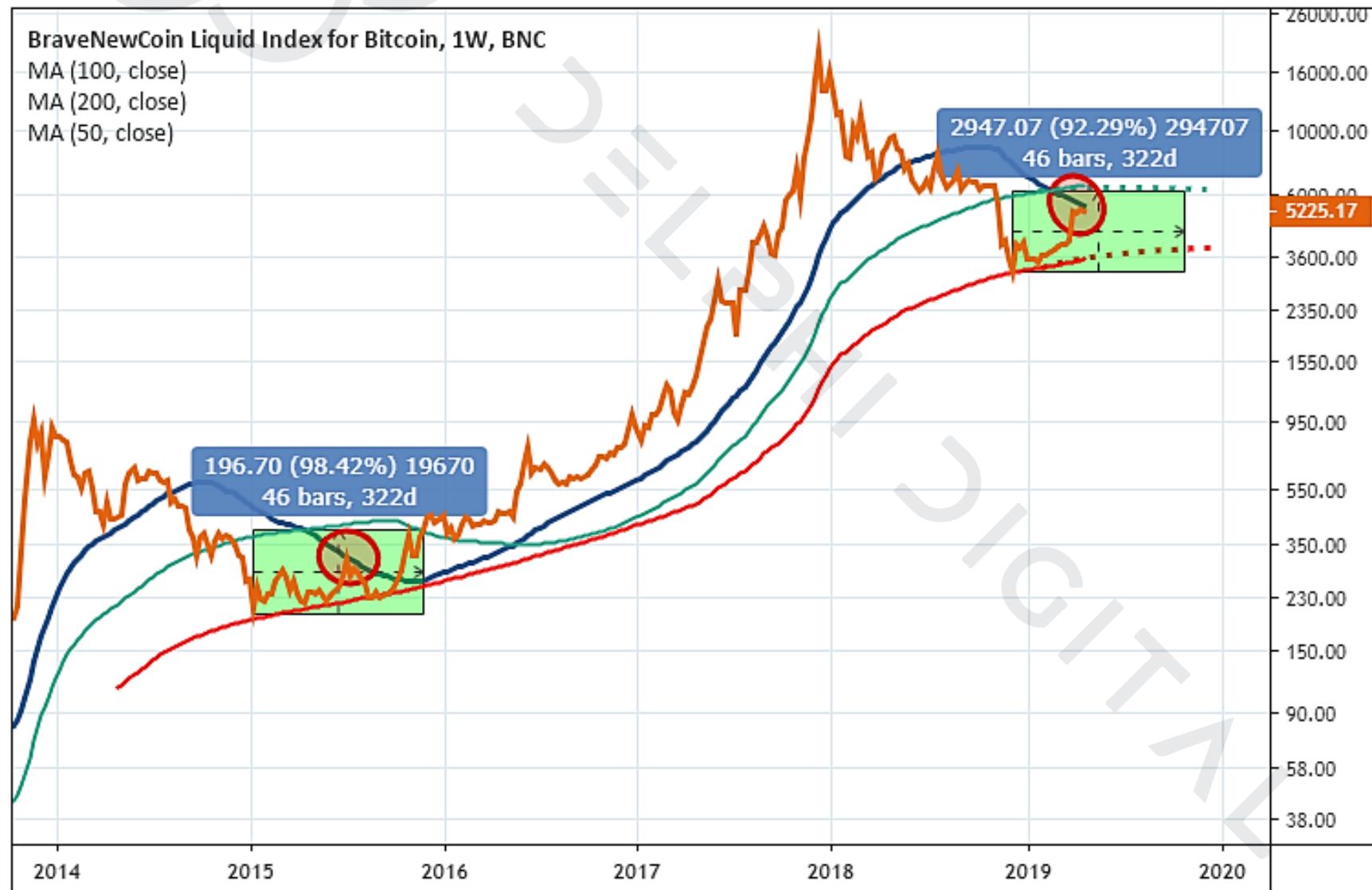
# Key Technicals

Another trend we've been keeping a close eye on is the recent retest of BTC's 50-week moving average. Before last week's price drop, BTC had broken above this key level, reaching \$5,600 for the first time since November. While the NYAG legal action against Bitfinex-Tether was the main driver behind the swift decline, the move lower also coincided with a test of key technical levels. The 50-week MA served as a key resistance level during the mid-2015 rally as well. BTC fell over 25% in the 6 weeks following the test of its 50-week MA in July 2015.

Bitcoin is still trading comfortably above its 200-week MA, offering some reassurance the cycle bottom for BTC was put in back in December.

**BTC would have to drop 32% from its current level (\$5,225) to retest its 200-week MA and nearly 40% to retest its December low.**

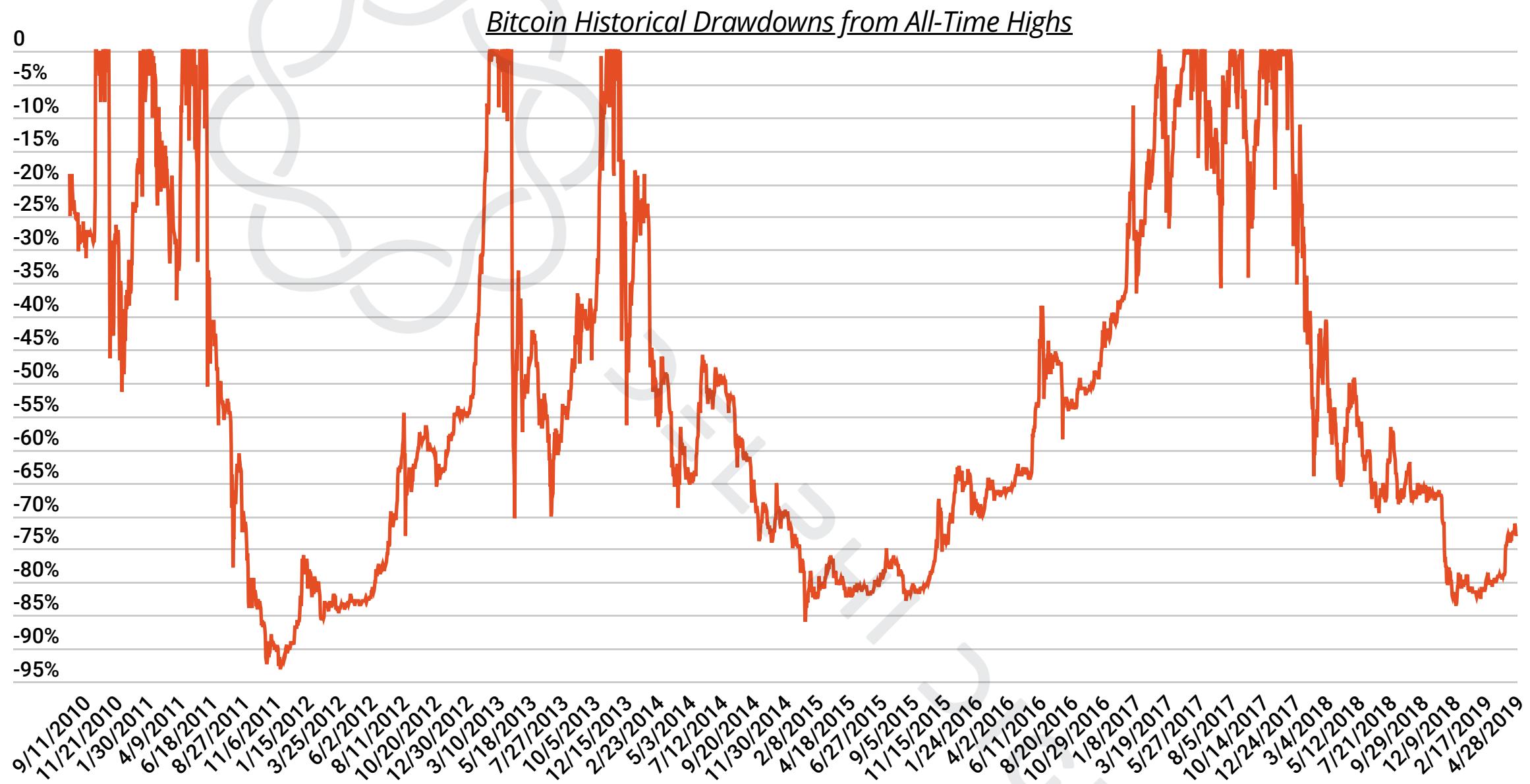
BTC Price vs. 50, 100, 200-Week Moving Averages



Data as of April 29th, 2019

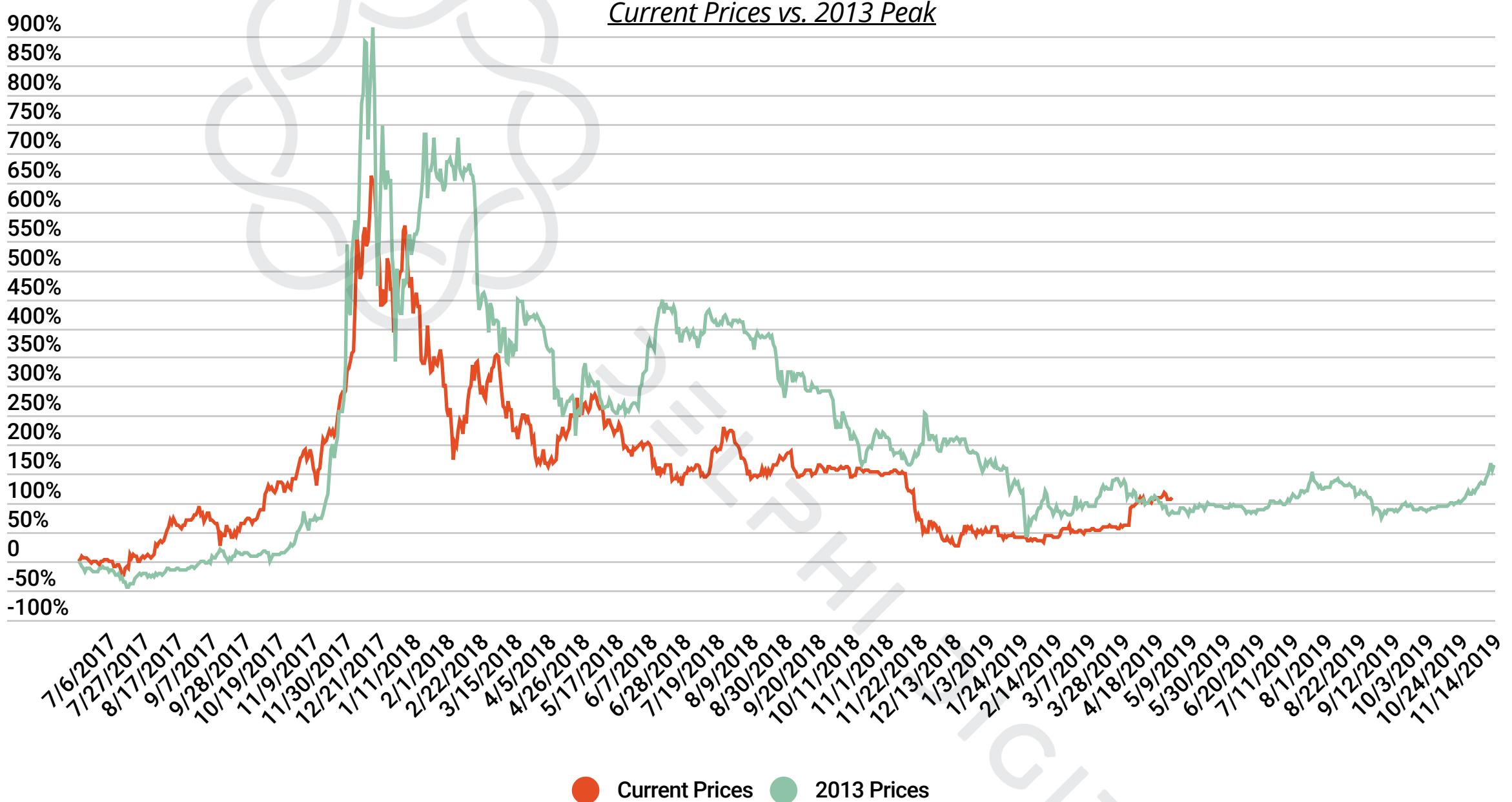
Source: Brave New Coin, TradingView

# BTC Historical Drawdowns



Bitcoin is up 65% from its December 2018 low just above \$3,100, an impressive run in just over five months. However, putting things in perspective, BTC is still more than 70% off its late 2017 all-time high as we approach the 17th month since fresh highs. As we've noted, BTC fell over 85% from its late-2013 all-time high over the subsequent ~14 months before a price bottom began to form. While the sample size of previous cycles is small, we take comfort in the fact that bitcoin has been here before. Bitcoin did not break to new highs for a little over three years following its 2013 peak. While more risk to the downside certainly exists, we are growing more confident by the day we are approaching the point where the worst days are behind us.

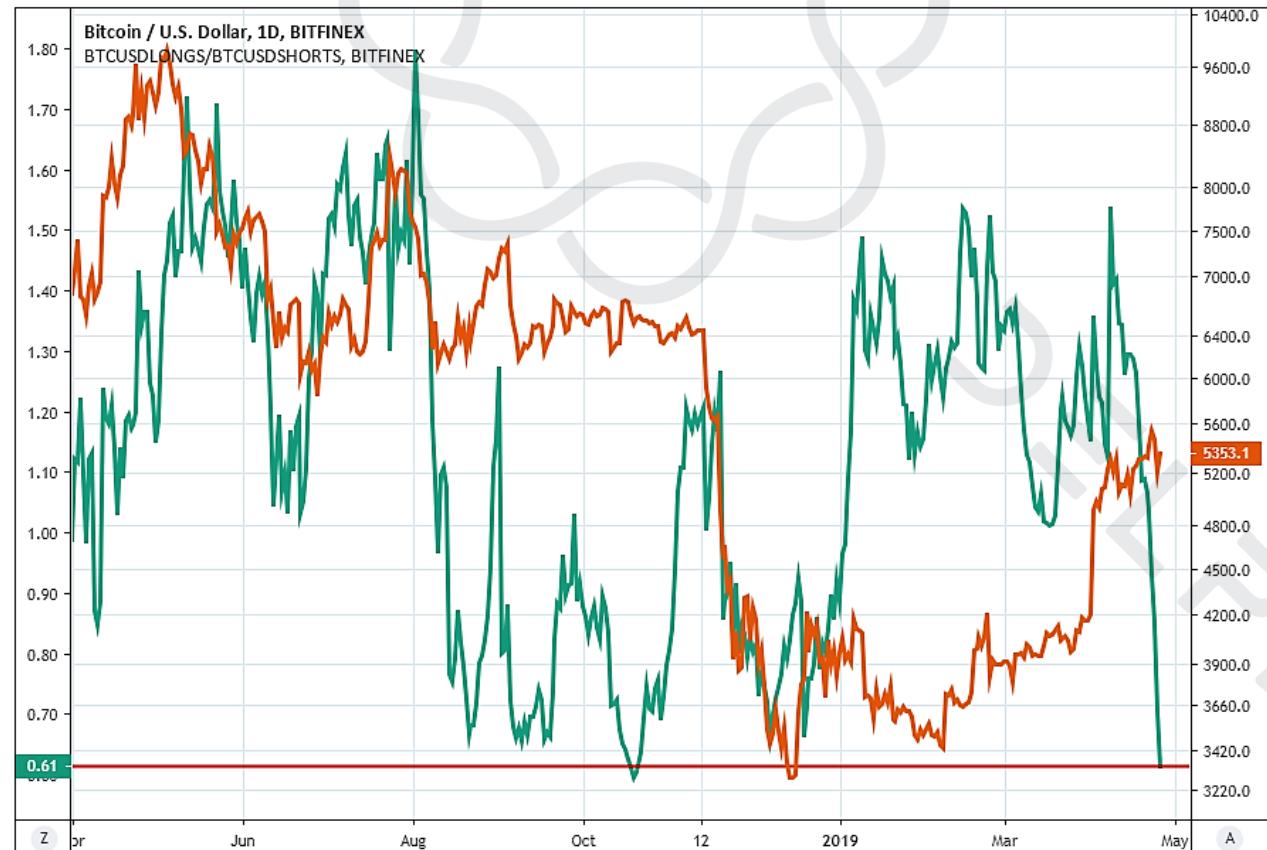
# History Rhymes



Bitcoin continues to trade relative in line with its prior boom-bust cycle of 2013-2015. This period was also characterized by an extended bear market with multiple relief rallies on the way to lower lows. If the December 2018 low holds, bitcoin's bottom will have come almost a year to the day after its late 2017 peak. BTC's January 2015 price bottom was ~405 days following its December 2013 peak. This rough timeline aligns with our UTXO analysis.

# Trader Positioning

The margin long/short ratio on Bitfinex has dropped to its lowest level since mid-October as short positioning has increased drastically in April, accelerating after last week's NYAG news. Historically, when this ratio has reached these levels it has usually been followed by a short-term rally in BTC (October 2018 being an obvious exception). The build in short positioning may add further upward pressure on BTC's price as shorts get squeezed if bitcoin takes another leg higher.



BTC Price vs. Margin Long/Short Ratio



BTC Price vs. Margin Shorts

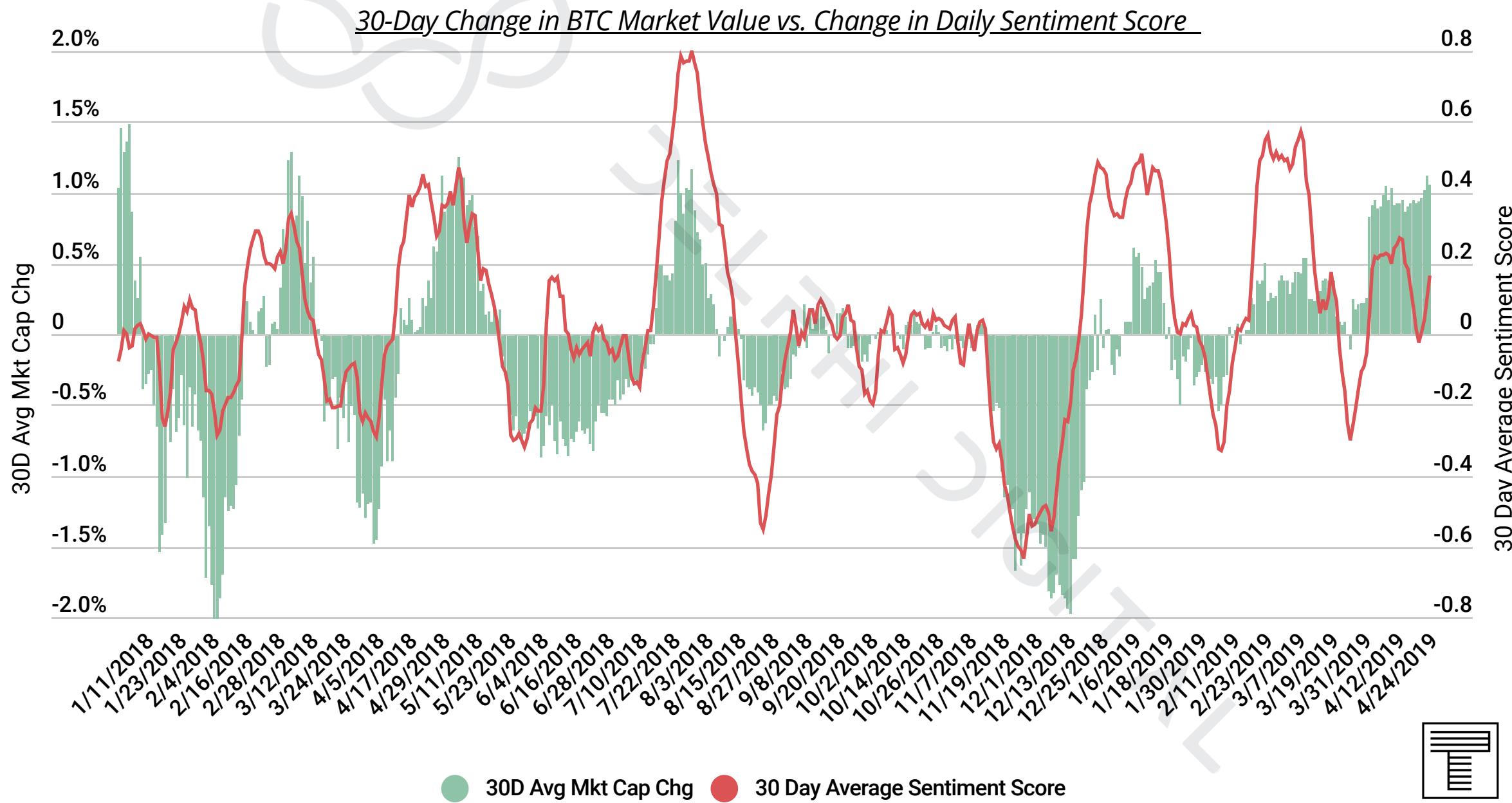
Data as of April 27th, 2019

Source: Bitfinex, TradingView

# Bitcoin Sentiment Positive

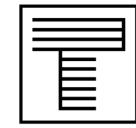
Interestingly, sentiment has led price in almost all of BTC's moves since December 2017. Recently, average sentiment score has been trending higher for Bitcoin, jumping amid BTC's surge earlier this month, according to data and analysis conducted by TheTie.io.

Further price appreciation is likely to continue if average daily sentiment score remains at current levels. However, if sentiment score starts to roll over, we anticipate price to revert a bit. Overall, it appears traders are still more positive about Bitcoin than the end of 2018, confirmed in recent conversations we've had with analysts at TheTie.io.



Data as of April 25th, 2019

Source: [TheTie.io](https://www.thetie.io)



# Disclosures

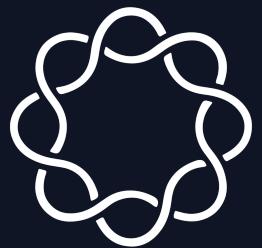
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