

# DELPHI DIGITAL

## Monthly Bitcoin Outlook March 2019



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## Short-Term Outlook

### **Trend is Our Friend**

Since both the original write up (data as of the end of November) and the update (data as of the end of January), UTXO holder dynamics have continued to trend mostly as expected.

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

Minimal selling coming from long-term holders throughout the consolidation period over the past few months. Even under conservative assumptions for lost coins, there isn't much potential selling that can come from long-term holders.

### **Accumulation Continues**

Accumulation continues as the percent of 1 year+ UTXO holders is set to pass the peaks of the previous cycle within the coming weeks.

### **Network Value to Transaction Signal (NVTs)**

Using an improved variation of the Network Value to Transaction Ratio, we examine how this historically accurate Bitcoin trading multiple is trending and how useful we believe it will be going forward.

## Macro Backdrop

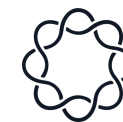
### **"Risk-On" Environment Supports Bitcoin**

Despite its long-term value proposition as digital gold, bitcoin continues to be viewed further out on the risk curve than traditional safe haven assets (physical gold, Treasuries, etc.). The short-term correlation between BTC and U.S. stocks, for example, has tended to rise when volatility strikes as bitcoin sells-off with equity markets.

Interestingly, the short-term correlation between BTC and physical gold has been on the rise as well, but that trend is not one we expect to continue as equities and gold tend to move inversely with one another. Institutional capital wading into this market will eventually suppress crypto asset volatility, boosting bitcoin's appeal as investors flock to safety, but we see this as a longer-term trend unlikely to materialize in the foreseeable future.

***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.***

# Overview



This write-up 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**

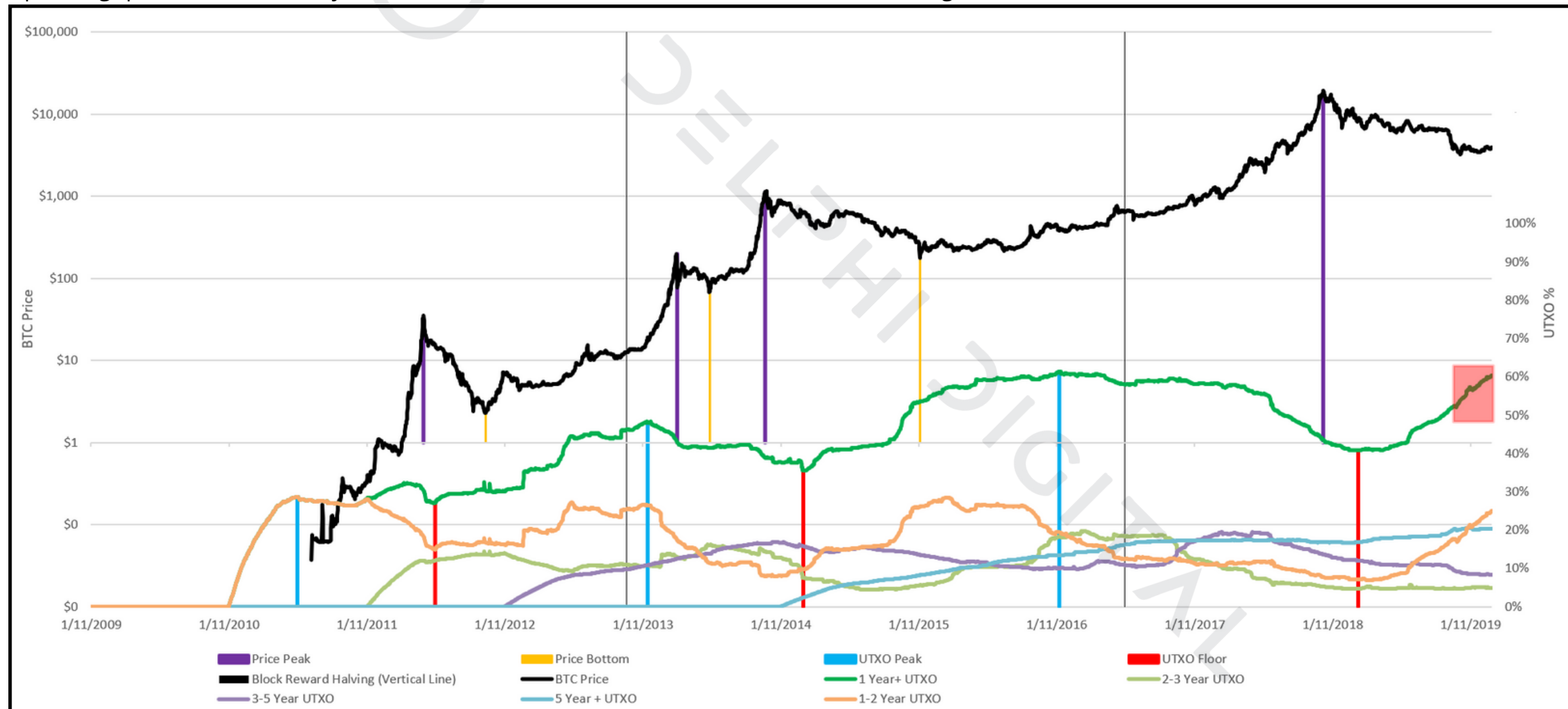
UTXO stands for the unspent output from bitcoin transactions. Every transaction creates a new UTXO, and the age of the UTXO indicates the block that it was first included in. In other words, the UTXO age indicates the last time bitcoin was moved. Analyzing Bitcoin's aggregate UTXO age distribution over 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

The 1 year+ UTXO holding rate has climbed from 52% as of the end of November to 57% as of the end of January, and it now sits at 60.3% (shown by the **red box**). This indicates that the accumulation process is in full effect. Over that same time period, we've noticed a decrease in 3-5 year holders from 9% to 8%, where it's held flat. Aside from this slight decline, there hasn't been much selling from long-term holders as BTC price remained in a consolidation period for much of the last three months. The proportion of 2-3 year holders remains flat and low, implying these individuals have mostly sold or are likely to continue to hold. We'll be able to extract more information from that band in June as the 1-2 year owners begin to shift over to become 2-3 year holders. It's difficult to accurately pinpoint a bottom for the 3-5 year holders, but there are several reasons why we don't believe the 3-5 year band has a large amount of selling capacity remaining. The first reason is lost coins. Combining the fact that less than 29% of coins haven't moved in at least 3 years with a 2017 study indicating that 2.78 million to 3.79 million coins are lost, 16-22% of current supply, shows how few of those coins are actually able to be sold. Given that the band itself has remained flat for a prolonged period at these prices, it's likely that the appetite for selling from those holders is tapped. On top of that, there isn't much upcoming spillover from the 2-3 year band, so that means there aren't additional sellers coming.



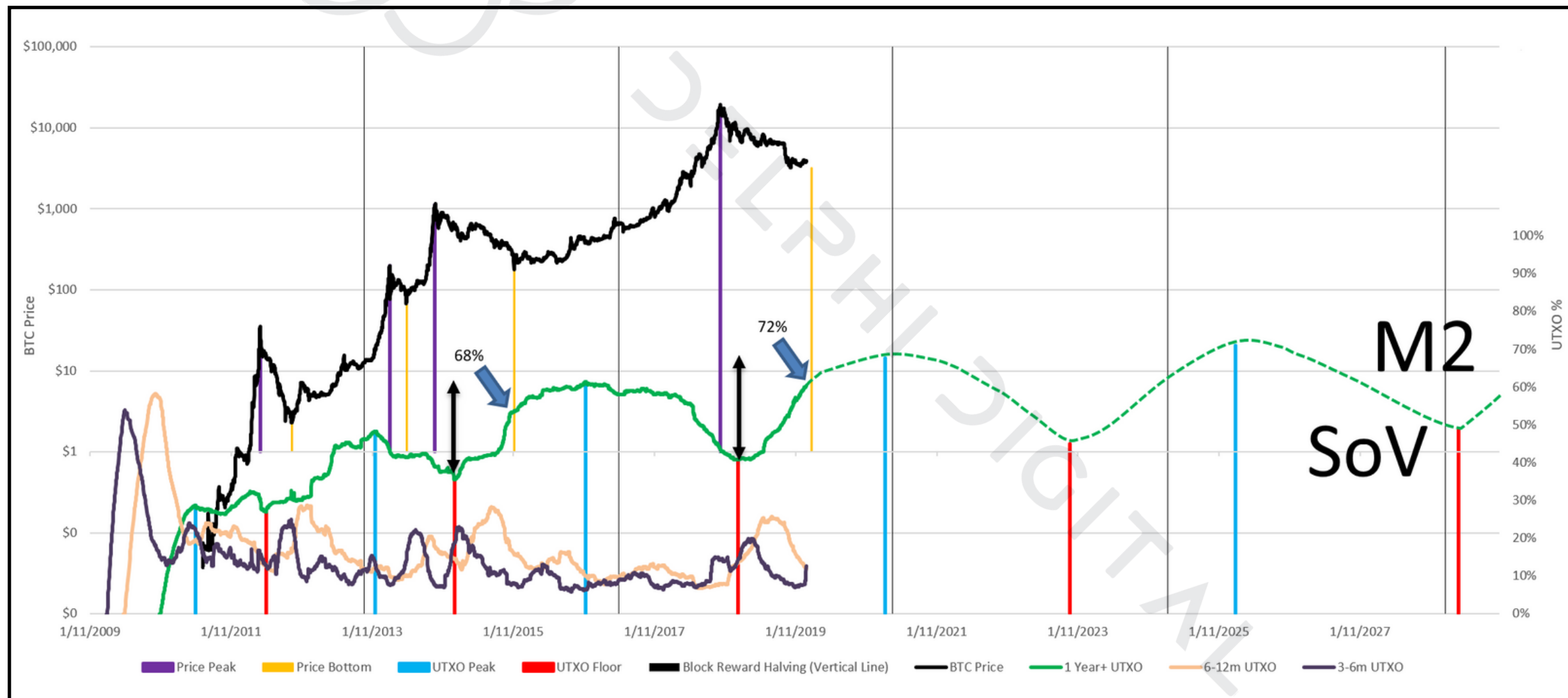
Data as of March 8th, 2019

Sources: [Unchained Capital](#)

# UTXO Analysis & Market Cycles

Looking forward, we still believe the bottom will occur by the end of Q1, if it already isn't in already. For some additional context, the price bottom from the previous cycle occurred 68% of the way up from the 1-year holder bottom to the holder top (range indicated by the vertical arrow). We're currently 73% of the way to our forecasted holder top. A continued rise in this metric represents the growing shift in overall bitcoin ownership mentality as individuals are set to hold bitcoin for the long term. As this metric grows, it's clear that there's an increasingly smaller amount of coins that are being actively traded and sold, implying the incremental demand necessary for price to bottom also decreases. The portion of UTXO's that are at least 1 years old, currently 60.3%, is approaching the high of 61.4% from the previous accumulation pattern. While this doesn't have significant predictive value, it's certainly an interesting.

In addition, the upcoming halvening in May 2020 also functions as an intermediate catalyst for a reduction in selling pressure. For reference, prices bottomed 542 days before the halvening in 2016. As of March 15th, we're ~435 days away from the next expected halvening.



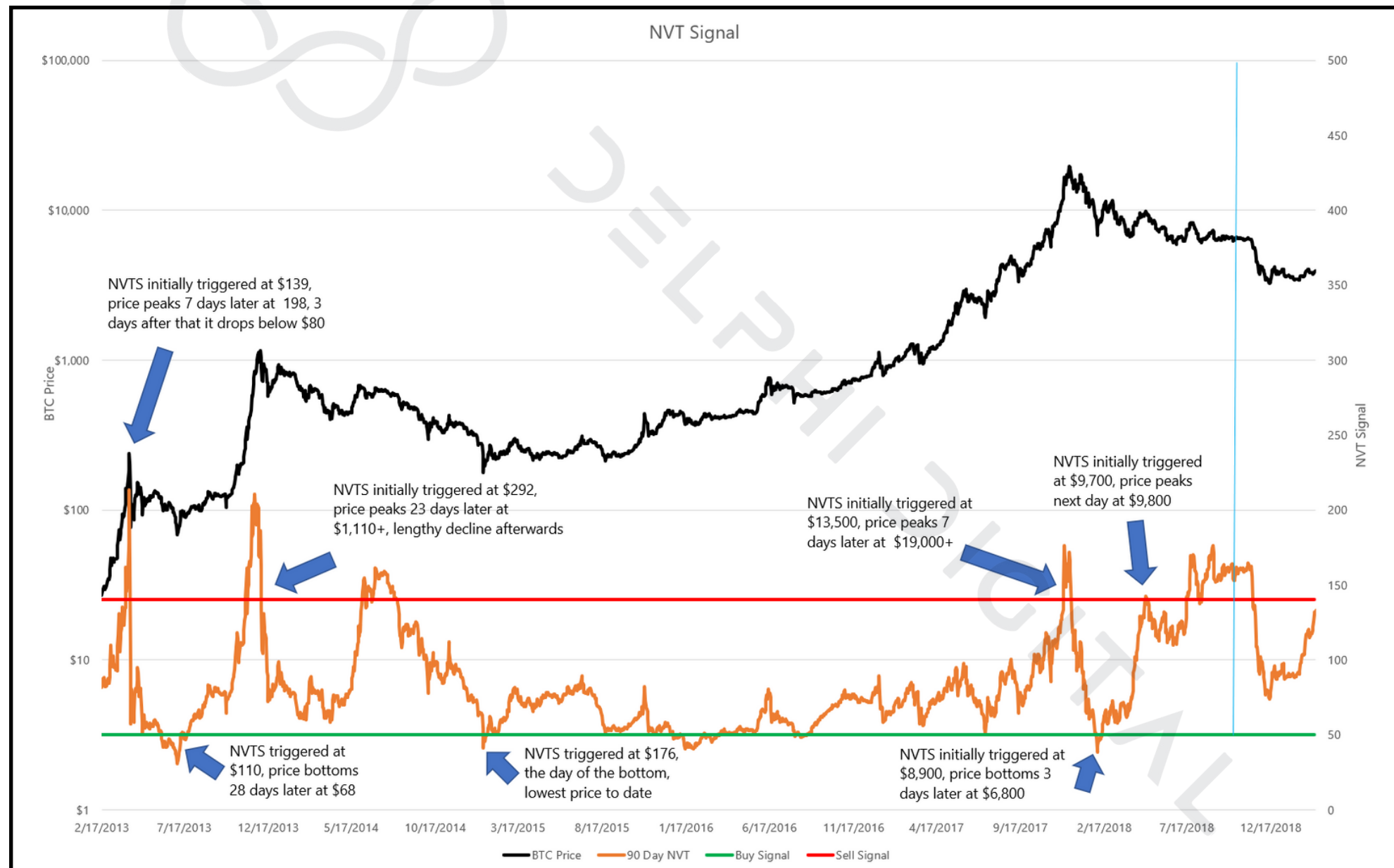
Data as of March 8th, 2019

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 past several months of 2018 in the \$6,000 range before the bottom fell out in November).



Data as of March 14th, 2019

Source: [Blockchain.info](https://blockchain.info) Cryptolab Capital

# 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 below are aggregated under the assumption that Bitcoin was purchased every day that it spent above or below each respective threshold. The success rate metric 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.)

NVTs currently sits at 132, which is up significantly from the beginning of February when it was 90. Although price is only up slightly, the reason it's ticked up so much is because we saw the high on chain volume during the sell-off in late November and early December roll off and no longer be included in that 90 day moving average in the denominator. An entry below the current NVTs of 131 actually outperforms an entry below 50 on a return basis in the short term (30/60/90 days), albeit with a slightly lower success rate.

## Results From Buying Below 50 NVTs

90 Day NVT	30 Day	60 Day	90 Day	180 Day	1 Year
Median Return	4%	8%	19%	63%	175%
Mean Return	4%	11%	22%	233%	290%
Success Rate	66%	76%	88%	94%	93%
Instances	157	157	157	157	157

## Results From Buying Above 140 NVTs

90 Day NVT	30 Day	60 Day	90 Day	180 Day	1 Year
Median Return	-8%	-23%	-40%	-51%	-56%
Mean Return	-7%	-17%	-30%	-44%	-37%
Success Rate	77%	86%	92%	93%	88%
Instances	231	231	223	135	110

## Results From Buying Below 131 NVTs

90 Day NVT	30 Day	60 Day	90 Day	180 Day	1 Year
Median Return	5%	11%	17%	47%	143%
Mean Return	15%	32%	51%	110%	268%
Success Rate	60%	62%	64%	68%	77%
Instances	1924	1894	1864	1838	1726



# Results of NVTs Analysis

This outperformance occurs because of a combination of Bitcoin's price cycle and the underlying function of this ratio. After finding a bottom, bitcoin price typically levels off for a while, slowly appreciates, and then rapidly increases. We use the NVTs ratio to help mitigate risk by signaling for an entry as close to the bottom as possible. Since the starting point is typically near a bottom, the calculations for short terms returns are often based on prices during this leveling off period that follows a bottom. We use several metrics below to identify and quantify the risk adjusted value our NVTs buy signal provides.

Sortino and Sharpe both measure risk adjusted return by dividing returns by their standard deviation. The difference being that Sortino divides by downside deviation to undo the detrimental effects of upside volatility on the ratio. In our modified versions of these ratios, we remove the risk free rate component in both, and use the standard deviation of negative asset returns. Decline Frequency establishes how often these entries result in losing investments and Mean Decline defines the average size of the loss. Normalizing these returns by risk clearly shows the benefits of a lower NVTs based entry.

## Risk Adjusted Comparison at 50 vs 131 vs Any Entry

90 Day MA NVT	30 Day	60 Day	90 Day	180 Day	1 Year
<b>Sortino (50)</b>	2.0	9.2	61.5	162.1	145.4
<b>Sortino (131)</b>	1.5	2.7	3.8	6.4	11.2
<b>Sortino (All)</b>	1.1	1.7	2.3	4.4	8.9
<b>Sharpe (50)</b>	0.27	0.58	1.11	0.73	1.26
<b>Sharpe (131)</b>	0.30	0.35	0.43	0.59	0.67
<b>Sharpe (All)</b>	0.26	0.30	0.36	0.52	0.63
<b>Decline Frequency (50)</b>	34%	24%	12%	6%	7%
<b>Decline Frequency (131)</b>	40%	38%	36%	32%	23%
<b>Decline Frequency (All)</b>	44%	44%	43%	38%	28%
<b>Mean Decline (50)</b>	-10%	-7%	-3%	-19%	-60%
<b>Mean Decline (131)</b>	-13%	-17%	-19%	-29%	-51%
<b>Mean Decline (All)</b>	-14%	-19%	-23%	-33%	-52%

# Risks of Using NVTs

## Reliable Information

The Coinmetrics team put together an extensive piece addressing the difficulties of estimating on-chain transaction volume. The main takeaway is that reported volume is likely overstating real on-chain transaction volume. We sourced our values from Blockchain.info as, even Coinmetrics admits, their values are more conservative. Blockchain.info's proprietary method is attributable to the fact that they run a wallet service, so they're likely able to use individual user trends and apply that information to the entire universe of users.

## Off-Chain Scaling Solutions

As the use of off-chain scaling solutions like the Liquid and Lightning Networks grow, the denominator of the NVT Signal fails to capture that volume, and the consistency of the NVT Signal declines.

## Velocity

The NVT ratio is an inverse function of velocity based on the equation of exchange,  $MV=PQ$ .  $PQ$  for Bitcoin is the annual total of all its transactions (annualized  $T$ ), and  $M$  can be thought of as the total market cap, or  $NV$  in this case. By plugging in the equivalent  $NV/T$  variables into the question of exchange, you get  $1/V=NVT$  annual. This implies that velocity needs to be kept constant for NVT to be consistent over time, something we know hasn't held true. The NVT Signal's use of moving averages helps reduce the relationship, as seen in the correlation matrix between different moving average NVT values and different annualized velocity figures, but it doesn't address it entirely.

### Correlation (NVTs vs. Velocity)

		NVTs		
		30	60	90
Velocity	Days			
	30	-0.85	-0.67	-0.48
	90	-0.81	-0.74	-0.60
	365	-0.58	-0.53	-0.44

## Shift In Narrative

Another factor that we believe reduces the efficacy of the NVT Signal is Bitcoin's shifting narrative from a peer-to-peer currency to digital gold. We believe on chain volume was a more relevant price normalizing metric when Bitcoin's function was primarily thought of a peer to peer currency. We are currently exploring ways to help potentially optimize the metric to account for the shift.

# BTC Historical Drawdowns

## Bitcoin Historical Drawdowns from All-Time Highs



Roughly 15 months after its December 2017 all-time high, bitcoin is currently down almost 80% from these levels. BTC fell over 85% from its late-2013 all-time high over the subsequent ~14 months before a price bottom began to form. This offers some reassurance the parabolic upside price move and subsequent price crash was just as extreme as the one we're experiencing today. 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

## Current Prices vs. 2013 Peak



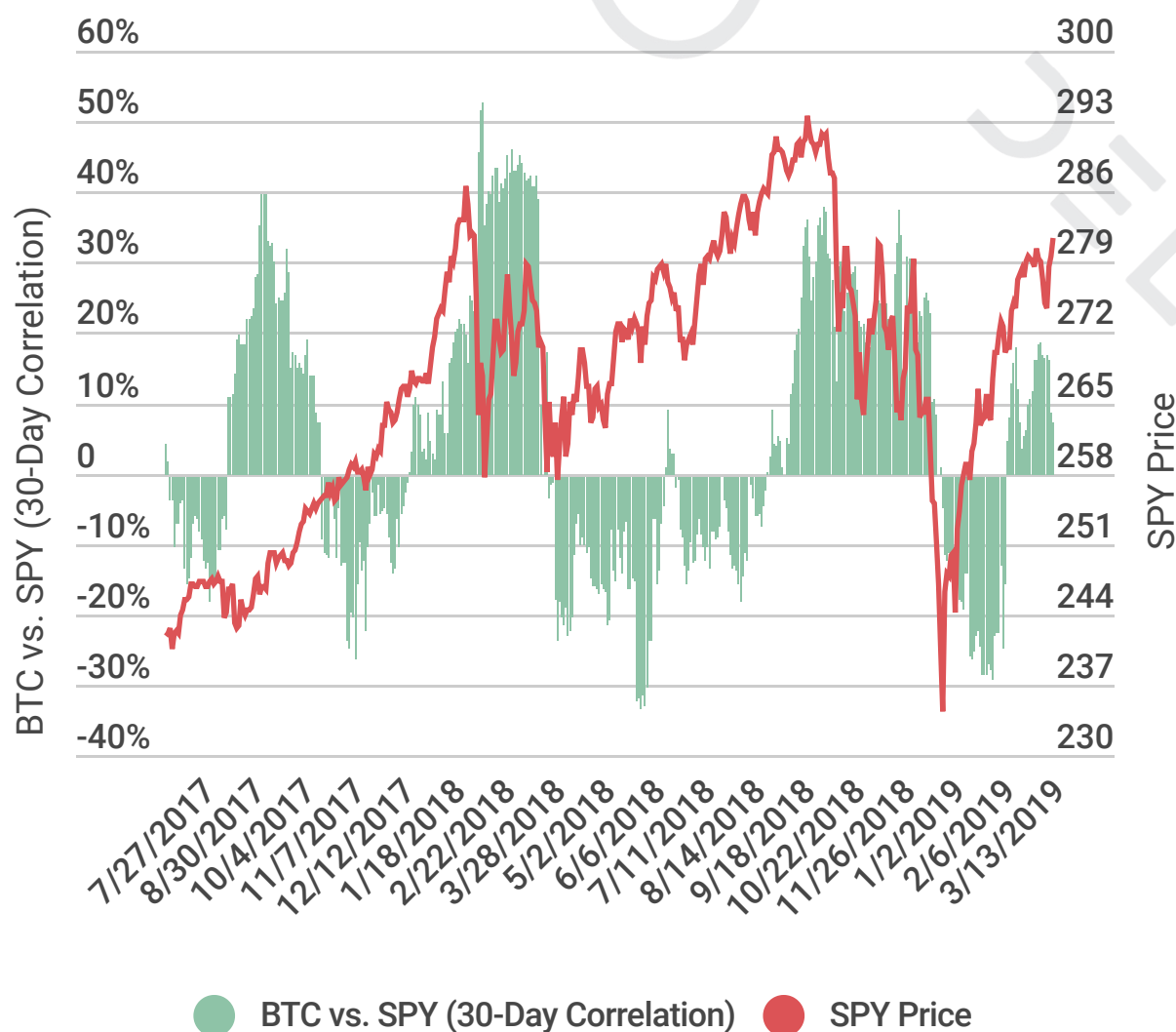
The crash in bitcoin prices from their most recent all-time high has followed a relatively similar trajectory to its 2013-2015 run up. This period was also characterized by an extended bear market with multiple relief rallies on the way to lower lows. If the December 2018 low holds, bitcoin's bottom 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.

# Risk-On Asset

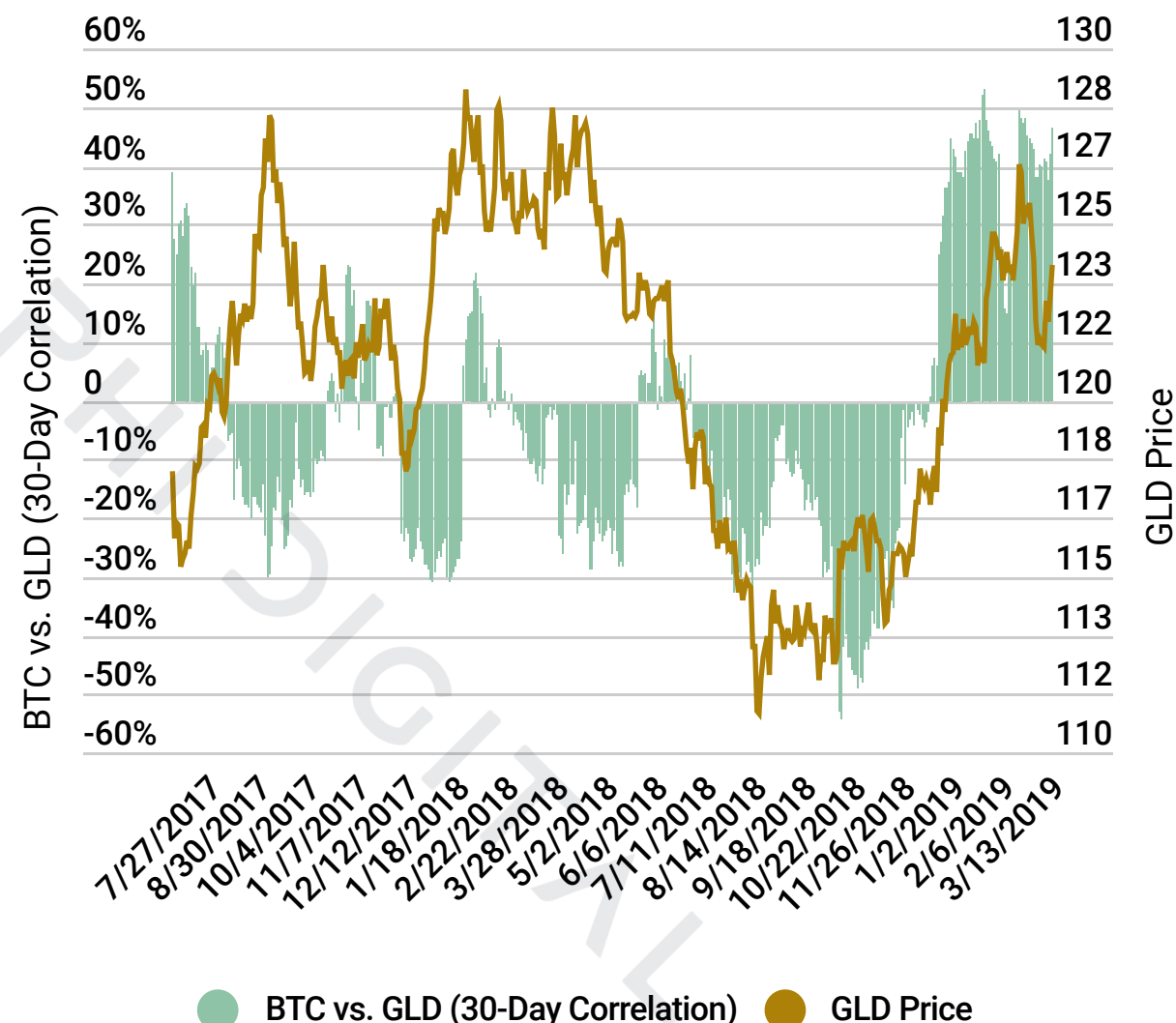
During recent periods of market turmoil, the correlation between bitcoin and stocks has risen as BTC sells-off with traditional risk assets. This trend runs counter to the "digital gold" narrative that continues to build around Bitcoin. We see this disconnect largely stemming from the long-term store-of-value properties Bitcoin boasts versus its short-term trading activity over the last 12 months.

A counter-argument to our "option on digital gold" narrative is the rising positive correlation between BTC and physical gold prices. While the relationship between the two has certainly strengthened the last couple months, it is important to note the correlation between physical gold and equities has as well. Periods when both stocks and gold trend higher does not typically last for very long, so something is likely to give soon.

BTC Correlation w. S&P 500 (30-Day)



BTC Correlation w. Gold (30-Day)

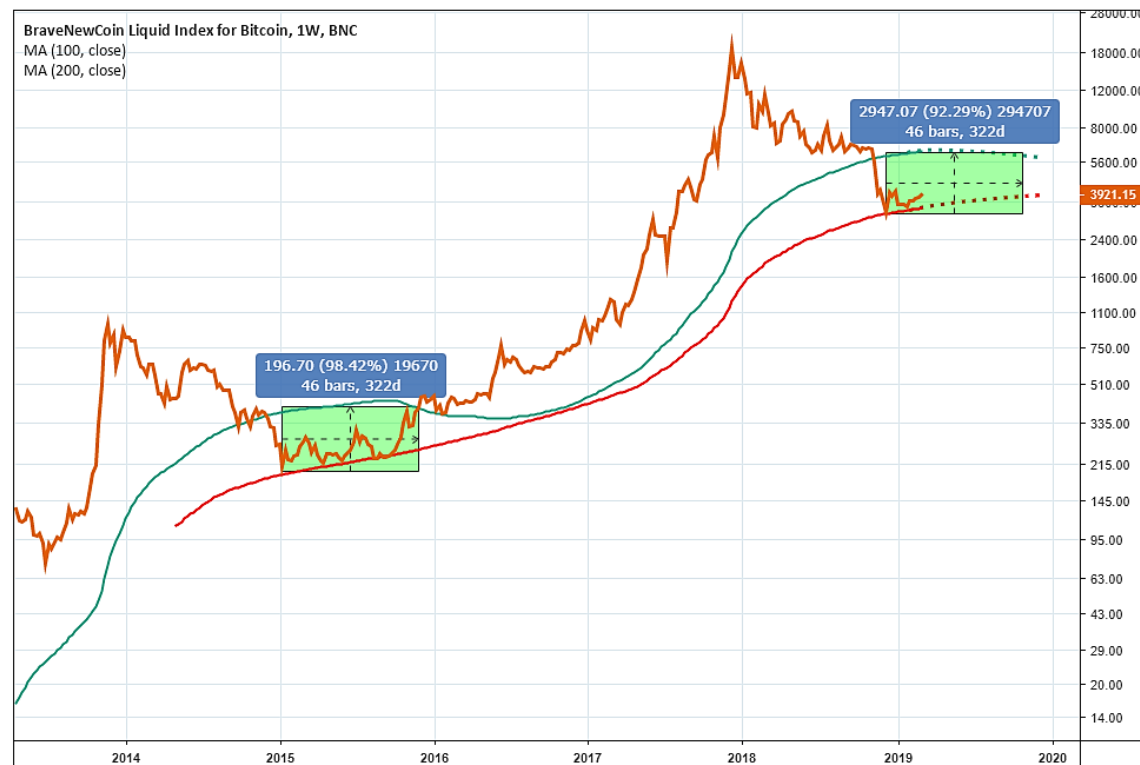




# Key Technicals

Momentum can also be a powerful driver of performance, especially in a market like crypto where sentiment often plays an outsized role in near-term price fluctuations. A longer-term momentum indicator we've been tracking is the 14-week relative strength index (RSI) for BTC, which dipped below 30 for the first time in approximately four years in December. This also coincided with this cycle's current bottom (~\$3,200). BTC's 14-week RSI dipped into oversold territory in late September 2014. After a modest rally, bitcoin dropped another 50% between late November and early January. Its 14-week RSI fell back below 30, marking the bottom of the prior cycle.

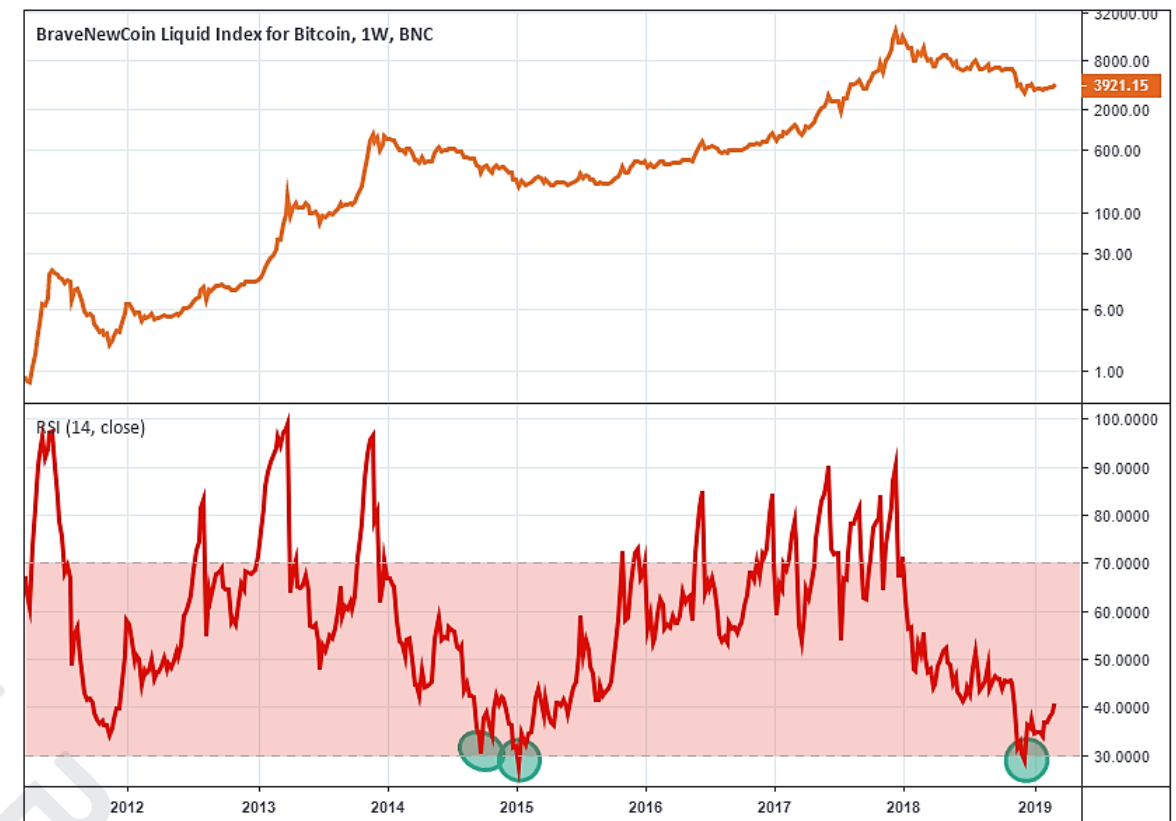
## BTC Price vs. 100, 200-Week Moving Averages



Data as of March 14th, 2019

Source: BraveNewCoin

## BTC Price vs. 14-Week RSI

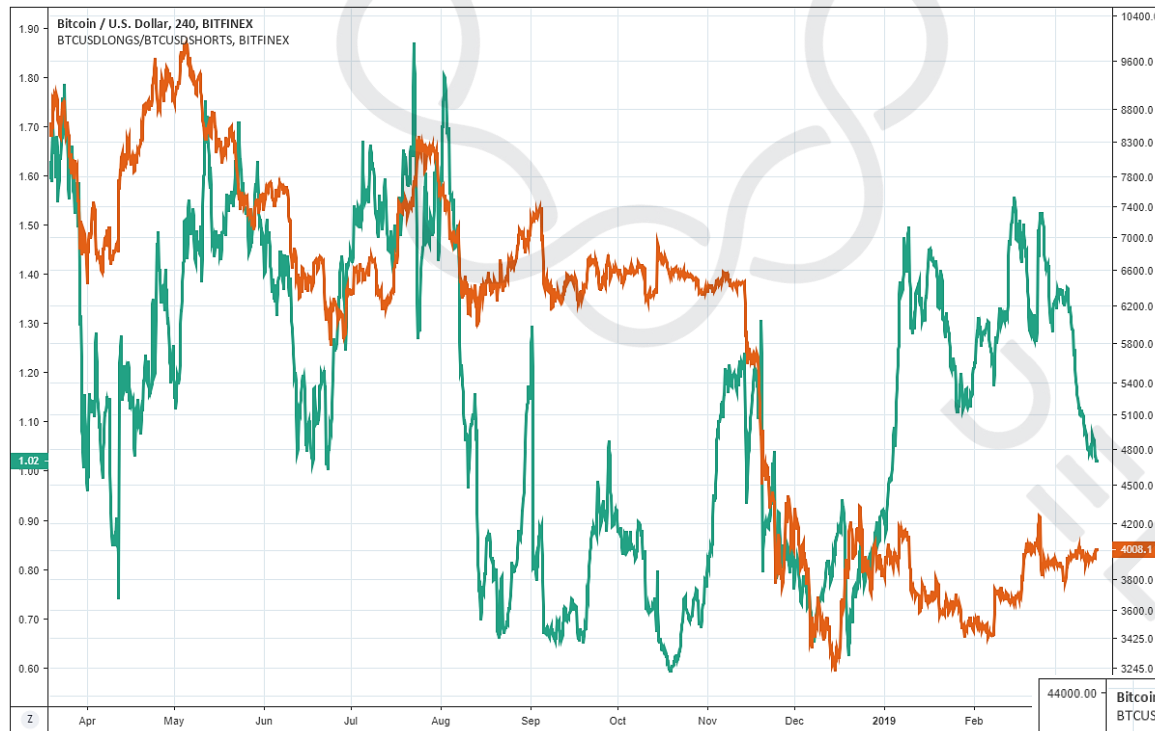


Another longer-term trend we are watching closely is the near-term the potential break below BTC's 200-week moving average (MA), which is currently just above \$3,400. Bitcoin flirted with its 200-week MA in early December before rebounding back above \$4,000. We are monitoring any potential retest of its 200-week moving average as a break to the downside could serve as a near-term catalyst for further selling. Bitcoin bounced off similar levels a few times during the prior cycle, but the 200-week MA proved to be a strong support level. Any break below it was short-lived.

Although technical analysis in this market certainly has its drawbacks, this is a level we know many people are watching.

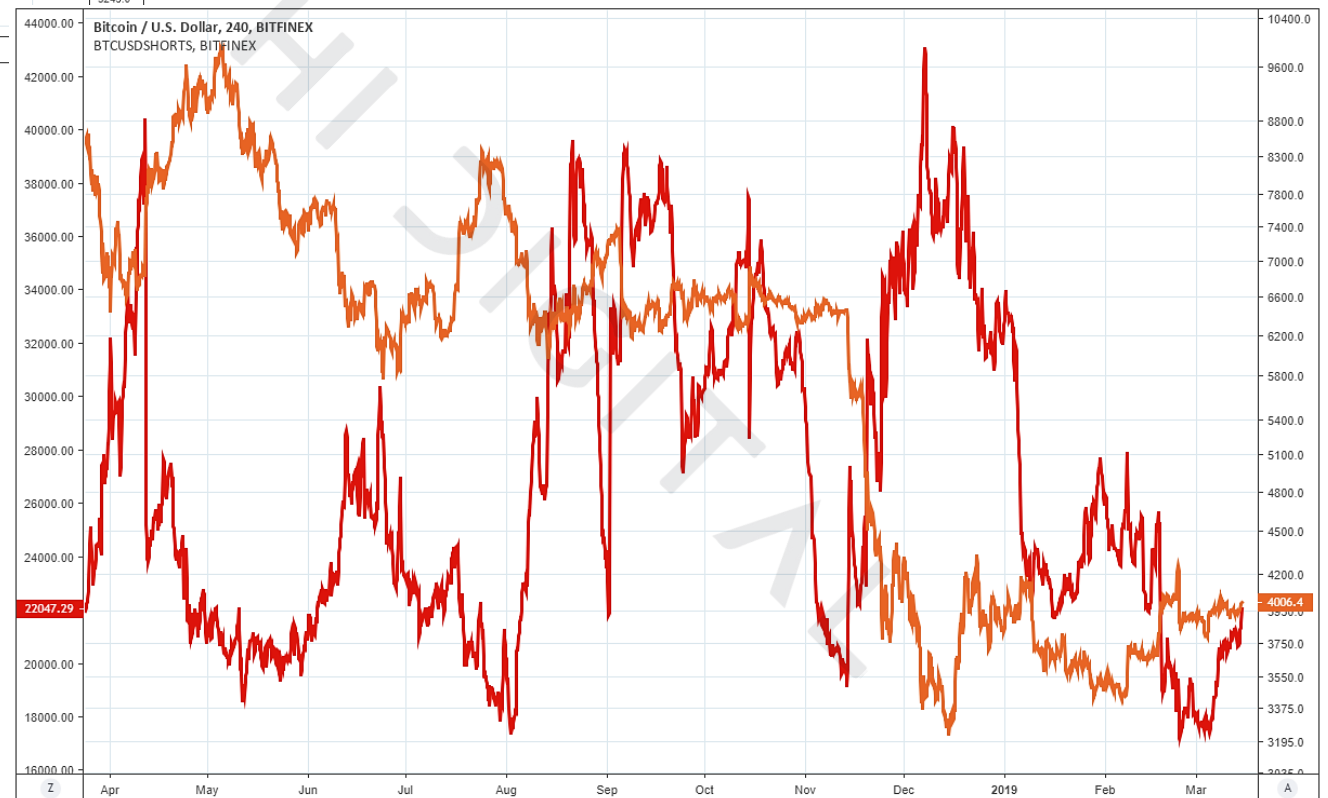
# Trader Positioning

We also monitor margin long and short positioning on Bitfinex to gauge sentiment and potential short-term price moves. Although margin short positions are hovering near their lowest levels in months, the drop in margin long positions recently means both appear to have room to rise. The margin of long to short positions does not give much in terms of near-term guidance at this level.



*BTC Price vs. Margin Long/Short Ratio*

*BTC Price vs. Margin Shorts*



Data as of March 15th, 2019

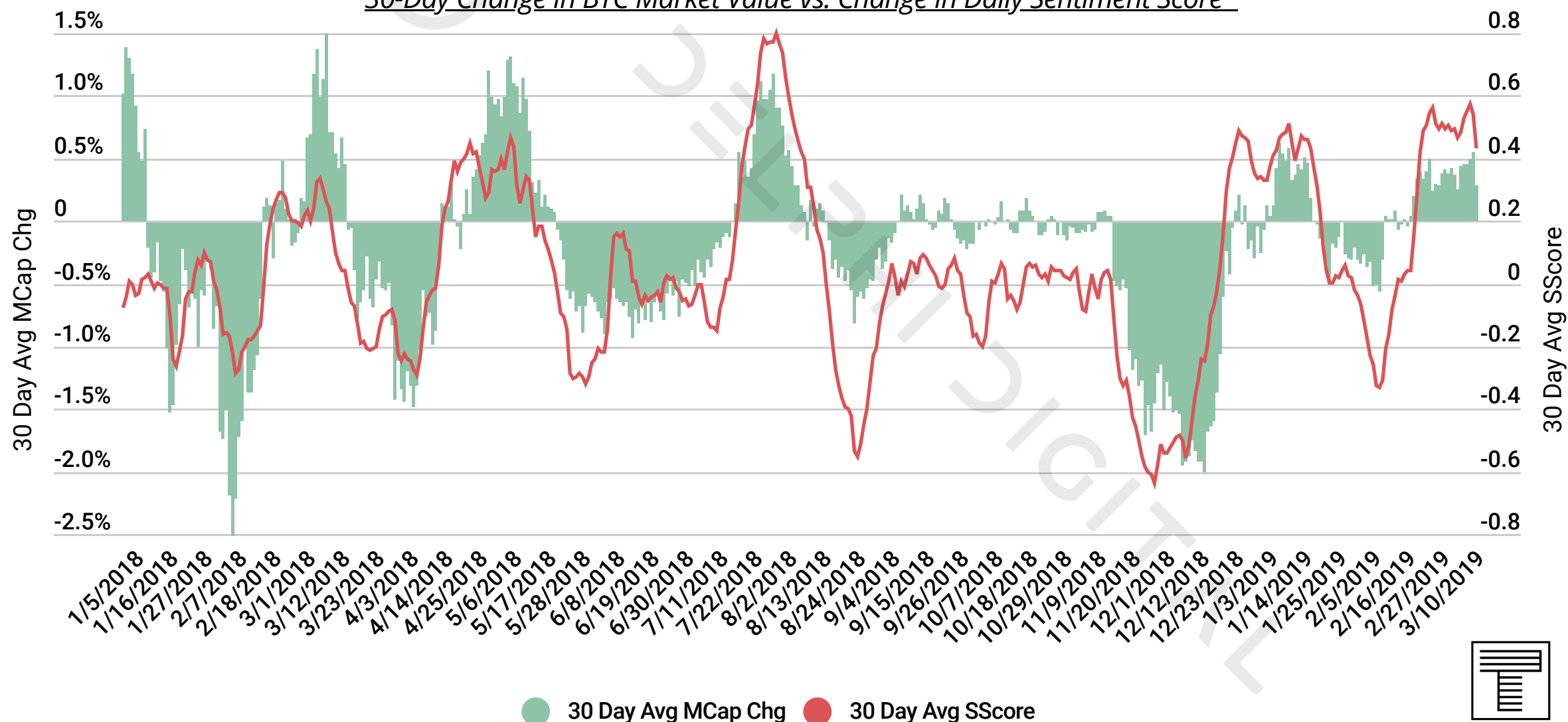
Source: Bitfinex

# Bitcoin Sentiment Positive

Interestingly, sentiment has led price in almost all of BTC's moves since December 2017. Recently, average sentiment score has been dropping for Bitcoin, yet still remains positive. Approximately one month ago, average sentiment score over the prior 30 days was -0.08 standard deviations from the mean, according to data and analysis conducted by TheTie.io. It has since grown to +0.43 standard deviations from the mean over the last 30 days while 30-day average daily market cap change has also grown from -0.05% to +0.29%.

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 reverting a bit. Overall, it appears traders are still growing increasingly positive about Bitcoin, according to recent conversations we've had with analysts at TheTie.io.

30-Day Change in BTC Market Value vs. Change in Daily Sentiment Score



Data as of March 10th, 2019

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



TheTie

# Disclosures

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