

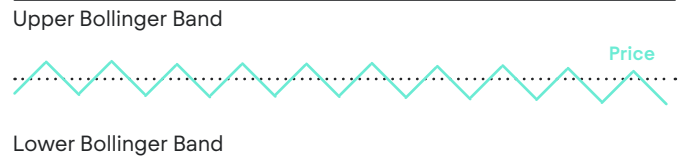


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# Bitcoin: Bollinger Bands



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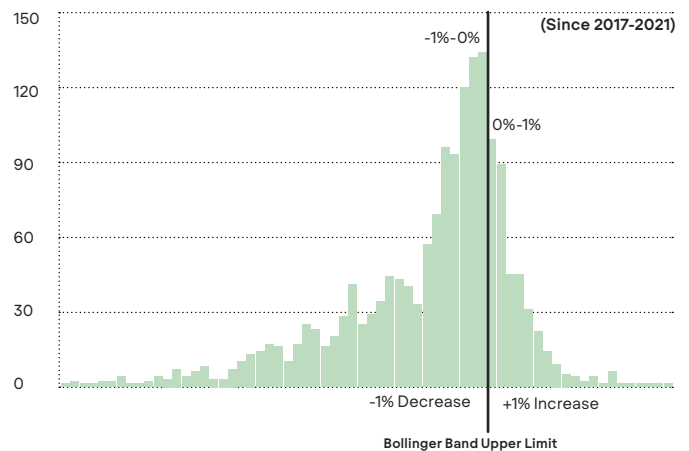
**Bollinger Bands settings for this report: UTC Time. 20 SMA. 2 Std Dev. Close Price.**

Bollinger Bands (BB) remain one of the most common Technical Analysis (TA) indicators used by traders when assessing potential market reversals and the strength of any trend. The effectiveness of Bollinger Bands in Bitcoin is high as this report will demonstrate. This report from the onset looks to establish how successfully the price reverts when Bitcoin hits the upper or lower band level. Although the results are mixed when looking at the long-term, the overall success rate over shorter periods of time makes Bollinger Bands an important tool in any trader's arsenal. While a great deal of data analysis was conducted for this report, there was also consideration for the visual patterns that emerge as part of Bitcoin's character. Copper looks at the common traits that the world's largest cryptocurrency follows in consideration with Bollinger Bands.

**Bollinger Bands Quick Primer**  
 Bollinger Bands is a fairly basic visual metric that looks at price volatility and represents this data by placing upper and lower bands to where the price has travelled on average over a certain period of time. As with most Technical Analysis tools, patterns emerge and are looked for by traders to assess different market conditions and reversals. Most traders look for a 'Bollinger Squeeze' which helps signal a breakout trend after periods of low volatility. Most common however are 'Bollinger Reversals' - when price action hits an upper or lower limit of the bands - as a signal to take the opposite position (upper limit meaning a reversal downwards and vice versa).

Much like the Relative Strength Index (RSI), which Copper covered last month, the Bollinger Bands represent a common data picture seen by all market participants.

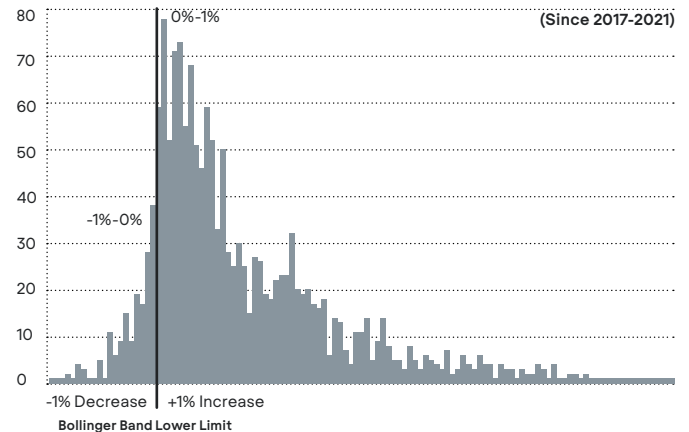
Daily Distribution - % difference from upper Bollinger Band



When such a common picture is seen by traders, there are also more common expectations about potential market price movements globally. Effectively, the power of the crowds understanding of the data weighs in of where things are heading.

It's not mere coincidence that 40% of total traded volumes happen when the price of Bitcoin meets or crosses over an upper or lower Bollinger Band on the daily chart alone.

Daily Distribution - % difference from lower Bollinger Band



And yet that's not really the full story.

The very anticipation of price reaching a Bollinger Band quickly sparks a price reversal the majority of the time. In fact, the majority of the time price begins to revert when its 0-1% shy of meeting the upper or lower limit (see charts).

For traders, anything close to a Bollinger Band between 0-1% is a good enough measure that there will be a reversal within the day. While this creates a daily range within the upper and lower limits of price, what needs more careful consideration is the potential close above or below the Bollinger Bands themselves. The data paints an interesting picture.



## Banded Together

The chances are the price closing above or below a Bollinger Band doesn't happen often (see chart). When it does happen, however, the market's expectation changes course from a reversal to a new upward or downward trend.

Only 5% of the time did Bitcoin close above the upper limit of a Bollinger Band and not do so again the very next day. For the lower limit, this was also low with only 8% of the time.

In essence, two key traits are happening with Bitcoin that can increase the success rate of traders when assessing market conditions and Bollinger Bands on their own.

Firstly, should the upper limit of the band come close or above, the market will have a reversal from that point during that day. Secondly, should the market close the day above the upper (45% chance if the upper limit is crossed over during the day) or lower limit (43% chance), there is a high probability that the market will continue into that trend the next day based on the historical characteristics.

While the daily allows traders to be more confident in the next potential move, the hourly chart increases the frequency of the potential opportunity. The success rate though becomes a great deal less.

Hourly Bollinger Bands is a tricky tool to use in isolation. More common than not, the price of Bitcoin trades along the upper or lower limit line. This makes reversal predictions a lot more complicated.

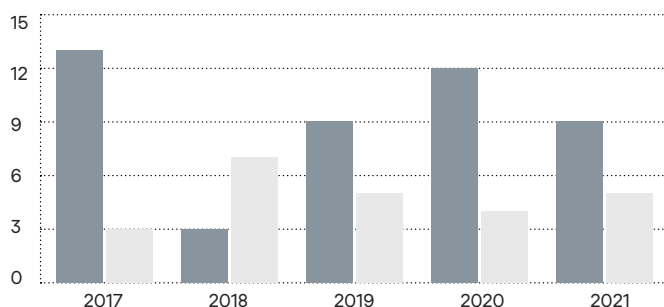
Still, the historical data suggests that should the price of Bitcoin close above or below the Bollinger Band, the trend has a high chance of continuing this trend in the short-term - meaning - there is a strong likelihood of a hike in price should it close above the upper limit despite the overall market facing a bear trend, for example.

## Is It Worth the Squeeze?

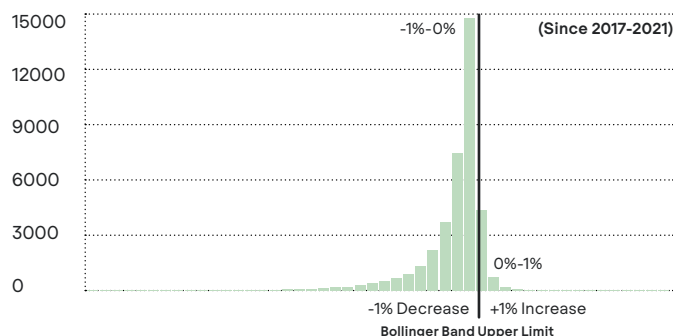
The reality is that while the upper and lower Bollinger Bands are important, traders are more eager in looking for a so called 'Bollinger Squeeze'. The theory goes that following a period of low volatility, markets will revert to periods of high volatility. This doesn't necessarily answer the direction price will be heading, but it does show that markets are about to see big price movements.

The last time Bitcoin saw long periods of low volatility, where the Bollinger Band Width was under 0.1, was in September 2020. This

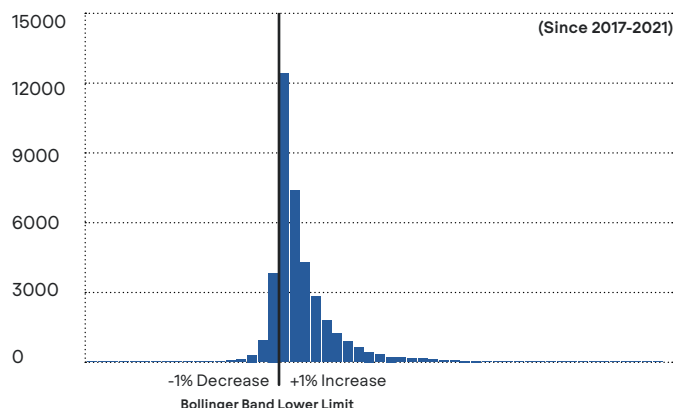
% of days per year Bitcoin's price closed above or below Bollinger Band



Hourly Distribution - % difference from upper Bollinger Band



Hourly Distribution - % difference from lower Bollinger Band



marked the time Bitcoin hit \$10,000 before journeying on a rally that peaked at a new all-time-high of just under \$65,000 in April. It has yet to revert to long periods of volatility.

Since 2017, only 11% of the days saw low volatility on the Bollinger Bandwidth. These days accounted for a total of 14 periods of Bitcoin trading in a low-price range (a period is defined as a number of continuous days of low volatility). A whopping 70% of these Bollinger Squeeze events resulted in an increase in price.

Married with the RSI, Copper's data analysis shows that traders can have a high confidence in a position when the Bollinger Squeeze is taking place with overbought or oversold markets. Our next report will highlight all the historical scenarios and success rates when both metrics are looked at simultaneously.

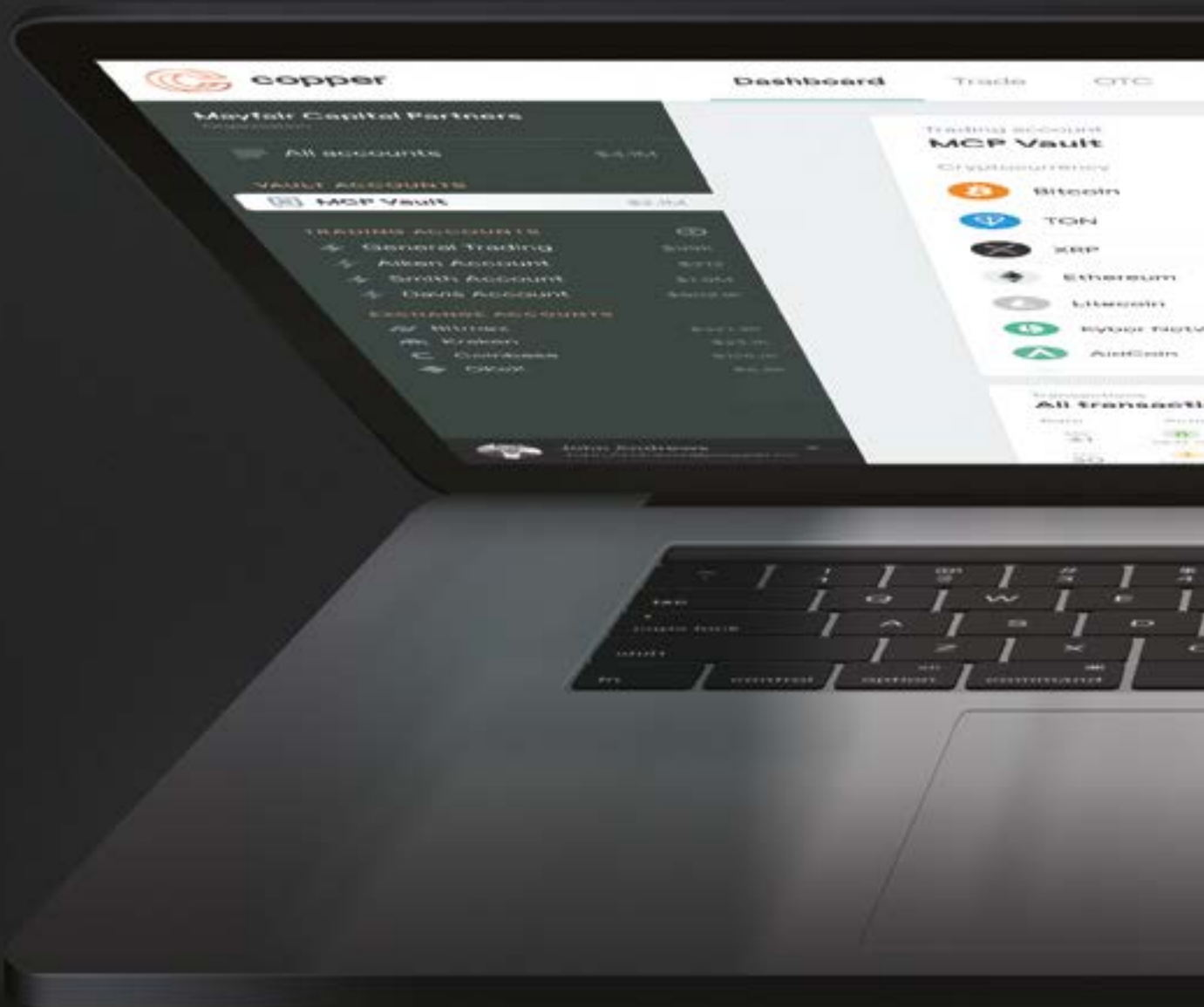


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