panxora

Research Reports

22 January 2021

Many pundits are talking about the volatility of bitcoin and how it is reducing as more institutional traders became involved.

I'm skeptical of this argument, not because I don't believe that bitcoin will ever reduce its volatility profile but simply because of the stage of the market we are currently in.

I thought it might be worth pulling the actual numbers together and see what the data is telling us rather than the talking heads.

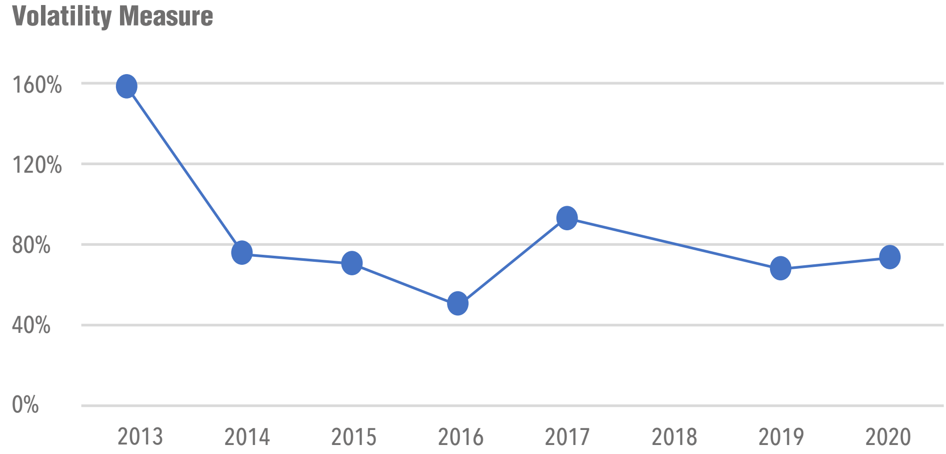
Volatility profile of Bitcoin

For the purpose of this report, I've used bitcoin data from 2013 onward. This captures the time when bitcoin has been considered a tradeable asset (albeit by a minority of early adopters). 2012 and earlier suffers from limited clean data and more importantly was subject to wide swings in price and divergence across various venues.

Annual Volatility

The first item to analyse is simple annual volatility across the 8 years. I've used the standard deviation of daily returns as a measure of volatility converted into an annualized volatility measure. Each year is segmented so 2013 will show the standard deviation of all returns for 2013 etc.

With the caveat that we are dealing with a limited amount of data, at first glance it looks like 2013 marked the transition from the high volatility illiquid "market" of 2009-2012. 2014 onward then seems to mark a lower but stable annualized volatility of approx. 70%, lower than the illiquid period but still remarkably high compared to other asset classes.



Year	Volatility Measure
2013	161%
2014	77%
2015	72%
2016	49%
2017	97%
2018	83%
2019	69%
2020	75%

Volatility Spread

As a secondary check we also ran the numbers on rolling 90 day volatility to see if the spread in volatility ranges had changes over the period in question.
Similar to the yearly values, the rolling 90 day picture shows an initial decline in the volatility range between 2013 and 2014 as the market became a more widely traded asset but since 2014 the volatility range has been quite stable.

Maximum Drawdown

Finally, we looked at the extent of market declines. Not strictly a volatility measure in terms of finance theory but of more interest to regular investors.
We looked, for each year between 2013 and 2020 and determined the largest drop within that year from a high point in the same year.
The first standout from this analysis showed that bitcoin has suffered a decline of at least 25% and averaging 53% for every year between 2013 and 2020,
This was true in both bull phases of bitcoins growth and during the bear market phases.
The second standout... the drawdowns have not declined over time, further strengthening the view that volatility is not currently in substantial decline in the bitcoin market.

"The drawdowns have not declined over time, further strengthening the view that volatility is not currently in substantial decline in the bitcoin market"

Year	Max Decline	High Date	Low Date	Peak to trough (days)
2013	72%	09-Apr-13	06-Jul-13	88
2014	66%	06-Jan-14	30-Dec-14	358
2015	42%	02-Jan-15	14-Jan-15	12
2016	27%	16-Jun-16	15-Aug-16	60
2017	36%	16-Dec-17	31-Dec-17	15
2018	81%	06-Jan-18	14-Dec-18	342
2019	48%	26-Jun-19	17-Dec-19	174
2020	53%	12-Feb-20	12-Mar-20	29

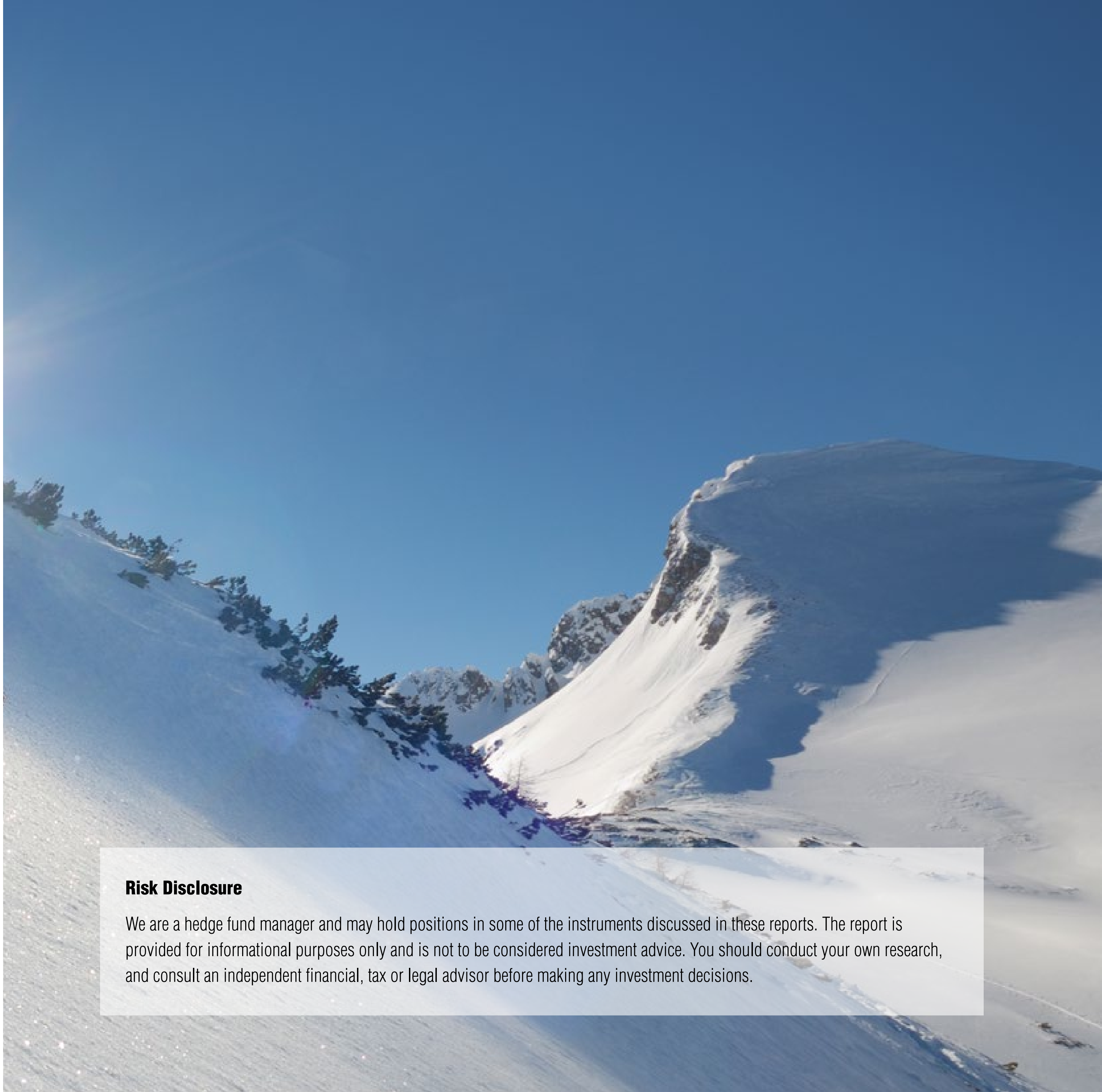
90 Day Volatility

Conclusion

While bitcoin is still subject to significant volatility this needs to be put in perspective. The period of this study has seen bitcoin gain by 31,000% despite the volatility. We expect this growth to continue as more participants recognize the unique characteristics of this asset class.

High volatility is to be expected in an emerging asset class and the persistence of that volatility suggests to us that the market is still in its rapid growth phase.

We expect that investors will be rewarded for the volatility with continuing exceptional growth and investors that approach the market with a well planned hedging and risk control strategy will avoid many of the whipsaws and benefit from the emergence of bitcoin as a significant asset class globally.



Risk Disclosure

We are a hedge fund manager and may hold positions in some of the instruments discussed in these reports. The report is provided for informational purposes only and is not to be considered investment advice. You should conduct your own research, and consult an independent financial, tax or legal advisor before making any investment decisions.