Finance Solution

Arbitrage Gains on Bitcoin Futures

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1. *What caused the arbitrage opportunity from the Bloomberg article?*

In mid-October 2021, rumours emerged that the US-based Securities and Exchange Commission (SEC) would allow Bitcoin Futures to be traded on its stock exchanges. In the aftermath of the news, bitcoin futures contango aggressively increased as traders doubled down on investments. These traders were anticipating new investment flowing into the futures market through the potential of a new, SEC-backed, Bitcoin Futures exchange-traded fund (ETF) that would steeply increase the demand for futures.

2. *How could an investor XYZ with $1 million in capital make profits?*

With $1 000 000 in startup capital, an investor XYZ could operate in the Bitcoin and Bitcoin Futures markets simultaneously and take advantage of the difference in valuations of the two assets. The investor could make gains in both markets using arbitrage strategies by investing a portion of the $1 million capital in Bitcoin — which trades lower than Bitcoin Futures, and then immediately selling at a higher price through the futures market.

To take advantage of the contango in the futures market, XYZ could funnel other portions of their capital into futures and hold out for profits if they expected that futures prices would rise — like they were after the SEC rumours.

3. Real Examples of Potential Gains?

Real examples of the returns XYZ could have made over the last two weeks using these two strategies can be estimated by studying data from CME Group.

Figure 1 - BTCZ2 valuation over the past two weeks. *Source: CME Group*

On 14 October 2021, XYZ could have bought 15 Bitcoin at around $57, 500 each. This would have cost $862 500, and XYZ would have $137 500 left.

XYZ could then sell their BTC on the futures market through three BTCZ2 contracts. At listed prices, the sale would immediately bring in $924 765. XYZ could then use their new total capital of $1 062 065 to purchase Micro Bitcoin futures like MBTZ2, sized at about 1/10th of one BTC each. Since a CME Group futures contract trades 5 BTC:

⇒ Value of MBTZ2 = Value of BTCZ2 / 50

At listed prices one MBTZ2 contract would have cost about $6, 100 each. XYZ could buy 174 units of MBTZ2 and have $665 left in capital. XYZ would then hold 174 units of MBTZ2, along with $665.

On 20 October 2021, as MBTZ2's valuation has risen significantly, XYZ could then sell their 174 units at $7, 250 each, earning back $1, 261, 500 in the process.

In under a week, XYZ could have turned $262, 015 in profit — more than a quarter of their original $1 000 000 starting capital.