## **Crypto Trading Strategies**

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# How Delta-Neutral Trading Works: Mastering Futures Funding Rate Approach



The cryptocurrency market is renowned for its volatility and rapid price movements, presenting both lucrative opportunities and significant risks for traders. In such an environment, managing risk while capitalizing on market inefficiencies becomes crucial. One sophisticated approach that has gained traction among seasoned traders is the delta-neutral strategy. This strategy allows traders to hedge against directional price movements, enabling them to focus on other profit avenues such as arbitrage and funding rates. In this article, we'll delve into the intricacies of delta-neutral strategies, explain the foundational concepts, and explore how combining spot and perpetual futures positions can generate returns in the crypto landscape.

# Table of Contents 1. What is delta? 2. How to calculate the delta? 3. What is a delta-neutral strategy? 4. How delta-neutral strategy works in crypto 5. Using a futures funding rate approach in delta-neutral trading 6. What is the benefit of the futures funding rate strategy?

8. Final thoughts

#### What is delta?

Before exploring delta-neutral strategies, it's essential to grasp the concept of delta. In the realm of options and derivatives trading, delta is one of the key "Greeks" (these are coefficients of sensitivity of the option price to various factors, which are symbolized by such Greek letters as Delta, Vega, Theta, Gamma, Rho) used to measure the sensitivity of an option's price to changes in the price of the underlying asset.

Delta represents the rate of change in an option's price for a \$1 move in the underlying asset. For example, a delta of +0.5 means that for every \$1 increase in the asset's price, the option's price is expected to rise by \$0.50. Conversely, a delta of -0.5 indicates that the option's price would decrease by \$0.50 for every \$1 increase in the asset's price.

Positions can have positive or negative delta. Long positions typically have positive delta, benefiting from price increases. Short positions have negative delta, profiting from price decreases.

Understanding delta is crucial because it forms the foundation of constructing delta-neutral strategies, which aim to balance positive and negative deltas to achieve a net zero delta position.

#### How to calculate the delta?

Delta is typically calculated using the Black-Scholes model. Its numeric value is derived by dividing the change in the option's value by the change in the underlying asset's value.

Let's consider a BTC call option example. If the option's premium increases by \$20 when BTC's price rises by \$40, the delta of that call option is 0.5. This means that for every \$1 increase in BTC's price, we can expect the option's premium to increase by \$0.5.

#### What is a delta-neutral strategy?

A <u>delta-neutral strategy</u> is a hedging technique used to minimize the directional risk associated with price movements of the underlying asset. By balancing positions with opposite deltas, traders can create a portfolio where the overall delta is zero. This means that small movements in the asset's price have little to no impact on the portfolio's value, allowing traders to focus on other factors like volatility, time decay, or funding rate differentials to generate profits.

#### How delta-neutral strategy works in crypto

With the growth of the cryptocurrency sector, delta-neutral strategies are increasingly applied in crypto for trading.

Unlike directional strategies, which rely on market movements for profits, neutral strategies seek to hedge or capitalize on alternative opportunities, such as earning funding rates on exchanges. Understanding and effectively applying this strategy can open up possibilities for speculation, generate additional returns, and protect assets during turbulent times. Let's explore how delta-neutral strategies can be applied in crypto trading.

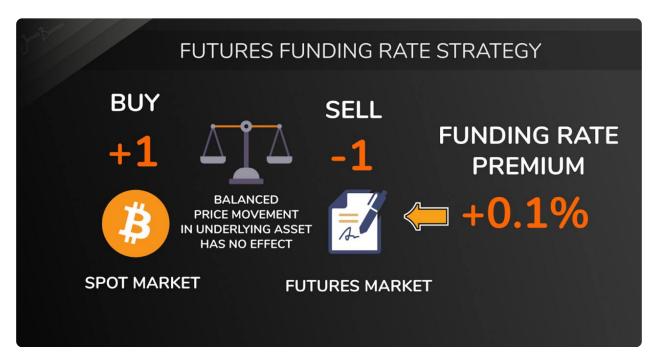
#### Using a futures funding rate approach in delta-neutral trading

One of the key delta-neutral strategies is capitalizing on funding rates, commonly employed in derivative markets like futures and options.

Because the price of a perpetual contract can differ from the actual asset price, a funding mechanism is used to balance the difference. This funding rate is a recurring fee paid to traders who have open positions in perpetual futures, depending on market conditions:

- When the market is bullish and prices are rising, there are typically more long traders than short traders. In this case, the funding rate becomes positive, meaning long traders must pay a fee to short traders. Essentially, short traders are getting paid for betting against the market.
- When the market is bearish and prices are falling and there are more short than long positions on the market, the opposite occurs: the funding rate turns negative, and short traders pay long traders. In this scenario, traders holding long positions receive payments from those holding short positions.

So a delta-neutral strategy, which is also known as the futures funding rate strategy, can be effectively used not only to hedge the position but to earn funding rates as well. For example, a trader might take a short position on a Bitcoin futures contract while simultaneously buying an equivalent amount of Bitcoin on the spot market to hedge their position. If Bitcoin's price fluctuates, the impact on one position will be offset by the other. This way, the trader continues to collect the funding rate fee, regardless of price movements. As shown in the image below, the funding rate is currently at 0.1%.

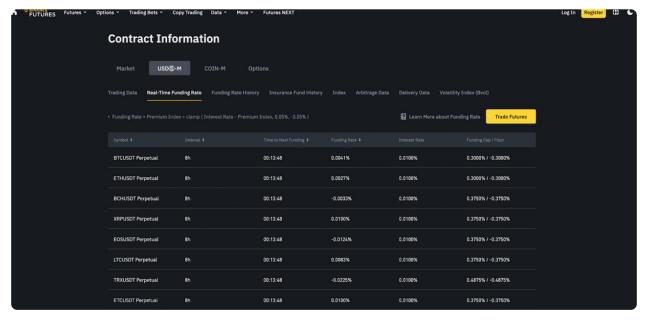


Futures funding rate strategy. Source: jamesbachini.com

Let's explore how to implement a delta-neutral strategy in trading on Binance exchange for example:

- 1. Log into your USD-M Futures account on Binance.
- 2. Buy BTC on the spot market.
- 3. At the same time short-sell the same amount of BTC on futures contracts.

Now you have positions in both the spot market and the futures market, which should hedge each other over time while at the same time making a profit from the funding rate if the market is bullish. Meanwhile, you can check the <u>funding rate</u>, which is updated every eight hours on Binance, to see how much you can earn to hold that position.



Real-time funding rate updates. Source: Binance.com

If BTC's price increases, the spot account will generate a profit while the futures account may incur a loss. However, the overall outcome remains neutral. Additionally, you will earn on the funding rate. Conversely, if BTC's price decreases, the futures account becomes profitable, while the spot account experiences a loss.

#### What is the benefit of the futures funding rate strategy?

While this approach may mean missing out on other potential returns from trend trading, it allows you to take profits from the market and put your funds to work, generating solid returns with smaller risks. This makes it a valuable strategy for managing risk and optimizing your portfolio.

#### What is the risk of a delta-neutral strategy?

While delta-neutral strategies offer promising profit opportunities, they are not without risks. It's essential to be aware of the potential pitfalls to manage them effectively:

#### 1. Funding Rate Fluctuations:

- Risk: Funding rates can change unpredictably based on market sentiment and supply-demand dynamics in the
  futures market.
- Mitigation: Regularly monitor funding rates and adjust positions accordingly to ensure profitability.

#### 2. Basis Risk:

- Risk: The difference between spot and futures prices may not converge as expected, leading to potential losses.
- **Mitigation:** Conduct thorough analysis and use historical data to understand basis behavior before executing the strategy.

#### 3. Leverage Risk:

- **Risk:** Using leverage in perpetual futures can amplify both gains and losses. Sudden market movements can trigger margin calls or liquidations.
- Mitigation: Use conservative leverage levels and implement strict risk management protocols.

#### 4. Liquidity Risk:

- **Risk:** Insufficient liquidity in either the spot or futures market can result in slippage, making it challenging to enter or exit positions at desired prices.
- Mitigation: Trade on reputable exchanges with high liquidity and avoid overexposing to low-volume assets.

#### 5. Execution Risk:

- Risk: Delays or failures in executing trades can disrupt delta neutrality, leading to unintended exposure.
- Mitigation: Use reliable trading platforms and consider automating trades to ensure timely execution.

#### Final thoughts

Delta-neutral strategies offer a powerful tool for cryptocurrency traders seeking to navigate the market's inherent volatility while harnessing opportunities beyond mere price speculation. By strategically balancing positions in the spot and perpetual futures markets, traders can mitigate directional risk and tap into profit avenues like funding rates. However, the complexity of these strategies demands a thorough understanding of the underlying mechanics, diligent monitoring, and robust risk management practices.

As the crypto market continues to evolve, delta-neutral strategies are poised to remain a staple in the arsenal of professional traders aiming for consistent and resilient trading performance. Whether you're a seasoned trader or looking to expand your strategic toolkit, mastering delta-neutral approaches can significantly enhance your ability to thrive in the dynamic world of cryptocurrency trading.

#### FAQ

What is delta-neutral trading?

Delta-neutral trading is a strategy that eliminates directional risk by balancing long and short positions in an underlying asset. This approach allows traders to profit from market volatility without being affected by price movements, making it especially useful in options trading.

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