

Crab Market Leveraged Farming (Retired)

AKA Pseudo Delta Neutral Strategies

What is the Crab Market Leveraged Farming strategy (CMLF)?

Our CMLF strategy is sometimes referred to as a pseudo delta neutral strategy. It refers to variant of delta neutral strategies that involves using leverage to be a liquidity provider (LP). The leverage ratio is around 3X which allows users to earn 3X the amount of swap fees less any cost associated with borrowing the assets and necessary rebalancing.

How do Aperture CMLF's work?

To explain the strategy we'll walk you through an example of how Aperture's smart contract automatically sets up a 3X leveraged AVAX-USDC LP position with 200 USDC.

With 200 USDC initial deposit Aperture would borrow 100 USDC & 300 AVAX. Unlike other lending protocols, Alpha Homora (the underlying leveraged lending protocol) supports borrowing 2 different assets from a 1 asset deposit.

Setup: Deposit 200 USDC in 3X AVAX/USDC

- Start with 200 USDC
- Borrow 100 USDC
- Borrow 300 AVAX
- Total 600 (300 USDC + 300 AVAX)
- Combine USDC and AVAX to farm on TraderJoeXYZ
- LP position is now 300 AVAX—300 USDC
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At the start you are now delta neutral and could easily exit the strategy by returning the borrowed assets.

However, as the price of AVAX moves Aperture will need to rebalance the two positions to retain pseudo delta neutrality. As with all of our strategies, this is done automatically.

Rebalancing & Reinvesting

For Aperture's vaults the AVAX rebalance threshold is 8-11%—so AVAX moving 8-11% in either direction would trigger a rebalance. Different rebalance thresholds were chosen for different vaults based on optimal back test performance.

Accumulated interest on the borrowed AVAX (and to a lesser degree the borrowed USDC) can trigger the need for rebalances. Sometimes the AVAX price movement and AVAX interest payments will cancel each other out.

Scenarios that trigger the vault to automatically rebalance or compound:

- If AVAX increases
- in price, the amount of AVAX in the LP will decrease, so a portion of the rewards balance or LP itself would be sold off to add more AVAX to the LP.
- And vice versa, if AVAX decreases
- in price the amount of AVAX in the LP will go up and a portion of the rewards balance or LP itself would be sold off to add more USDC to the LP.
- Aperture also auto-compounds the farming rewards from the LP positions on the DEX (TraderJoeXYZ in this example) to further increase the yield of the strategy.
- Aperture's strategy uses a vault approach ("pooled funds") which allows for pooled savings on gas fees and removes any need for a large minimum deposit size.
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Where does the APY come from?

The APY for leveraged farming strategies (PDNs) is determined by several factors.

Fees & rewards contributing to yield:

- Trading / swap fees on the underlying DEX (TraderJoe, Pangolin)
- Farm token rewards on the underlying DEX (e.g. PNG from Pangolin)
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Fees & costs detracting from yield:

- Borrow cost from IronBank & Homora (when utilization is high the borrow cost goes up)

- Rebalancing costs (vault will rebalance when volatile token hits rebalance threshold)
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