💰 Dynamic Fees

Lyra's fee function is made up of three distinct parts:

1. A flat fee based on the option price
2. A flat fee for exchanging costs
3. A dynamic fee based on the pool's vega risk

1) and 2) are parameters which are initialized close to launch and will eventually be governed by the community.

3) is how Lyra manages its vega risk. The AMM **calculates its net vega exposure relative to the size of the pool** (the full algorithm is detailed in the whitepaper section 5.2.1) which we call its *vega utilization*. This term is multiplied by a boolean parameter which is equal to 1 if the trade increases the net vega exposure of the pool, and 0 otherwise. This creates an asymmetric spread around the Black Scholes theoretical value of the option, where trades which increase the risk of the pool are disincentivized relative to trades which hedge the pool.

As an example, imagine that the Black Scholes pricing layer prices the July 3500 call at $100, and the pool is net short 500 vega. In this scenario, the AMM might be willing to pay $95 for the call, but only sell it at $110. In this case, the extra vega responsive fee is adding $5 per option for the buyer, making it relatively cheaper to sell.