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Futures with a Stop vs. Defined Outcomes with Options on Futures

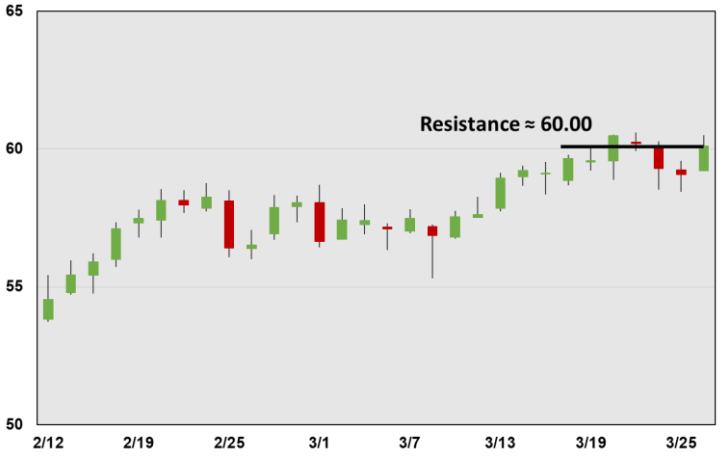
Introduction

Traders enter into a long or short futures trade with a couple of price levels in mind. One is the price target, and the second is a stop price or other parameter they'll use to determine whether it's time to exit a trade at a loss. This price may be a function of a trader believing a trend they were riding is no longer in place or may be based on their own maximum loss threshold. Some traders will set an alert that notifies them of this violation of negative price action or others may actually place an order to exit a trade if this price threshold is hit. Any traders that do not have some sort of risk management method in place will not be traders for long.

When a long or short futures trade is entered into, a trader should have a maximum loss defined. However, in many instances, stop losses work perfectly only on paper. When a stop price is hit, if this order is a stop-market order the execution price may not be equivalent to the stop loss price. A trader may try to enter a stop-limit order, but that may result in missing the exit trade completely. If a 'mental stop' is in place, this involves the trader taking action when a price level is hit—which relies heavily on the discipline of a trader. An alternative to using a stop price is taking a position using only options on futures. A well-structured option trade will have a maximum known loss, regardless of the subsequent price action. Consider the following example using options on Crude Oil (CL) futures contracts.

The chart in Exhibit 1 shows daily price action for the June WTI Crude Oil futures that trade at CME group. For a few days, the 60.00 price level has held, and a trader believes a move to the downside will occur in the next couple of weeks. Based on this outlook, they consider selling short the June CL future at 60.00. Their belief is the trade is a failure if the future were to hit the 62.00 price point. In this case 62.00 would be the stop loss price. The trader also thinks the 57.00 price point would hold if there were any price weakness in the price of crude oil so they would exit the trade with a profit at this level. Finally, the trader expects this trade to play out over the course of no more than two weeks.

Exhibit 1: June CL Futures Pricing



Source: CME Group

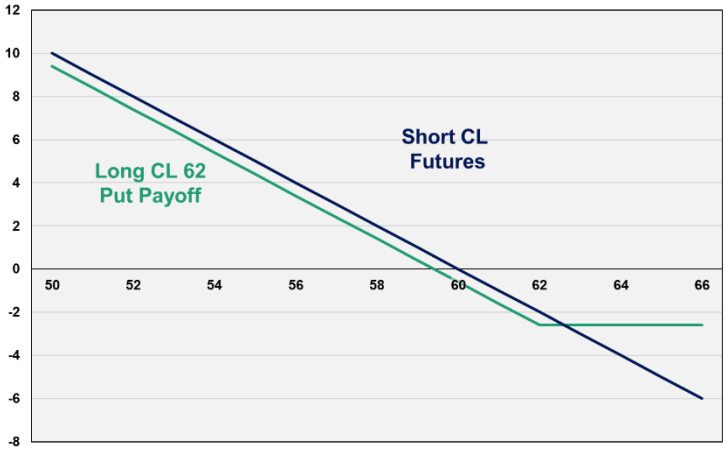
The specific trade in the futures market would involve selling short a CL contract at 60.00 and either placing a stop loss order or alert to exit the trade with CL hits 62.00 combined with a limit order to cover the short at 57.00.

An alternative trade with a similar risk/reward could result from entering into a bearish spread trade using short dated options on CL futures. Weekly options on CL futures expiring each Friday are available for trading at CME Group. Based on the trader's outlook, they look at the April 12th contracts. The CL Apr 12th 62.00 put is selling for 2.60. This option may be purchased in order to gain short exposure to CL futures for the next twelve trading days. The payoff for this option position at expiration appears on the chart in Exhibit 2, next page.

The maximum loss for this trade is capped at the 62.00 price level. However, this loss would be 2.60 as opposed to 2.00 based on the cost of the option. This extra 0.60 represents time value for the option contract and contributes to the potential loss on this trade. Option prices typically have two components: intrinsic value and time value. Intrinsic value depends on the type of option, strike price of the option, and current price of the underlying market. In this instance the

intrinsic value is 2.00, as this option represents the right to sell the CL future at 62.00 when it is trading at 60.00. As noted, the extra 0.60 is referred to as time value. This extra cost is a function of factors such as how much time is left to expiration and the expected volatility of the underlying market.

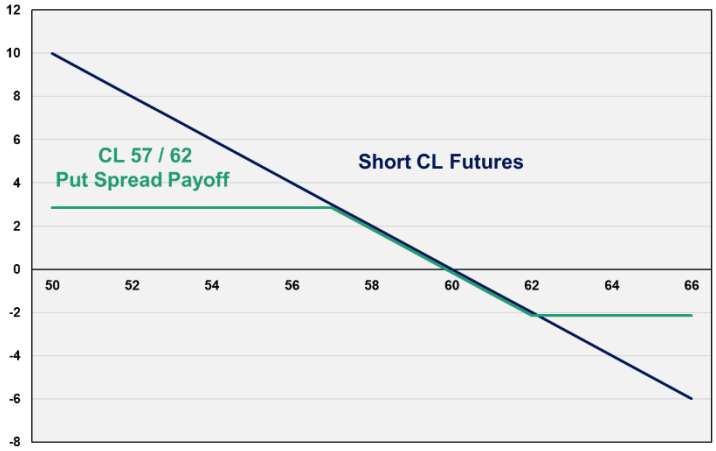
Exhibit 2: Long Put vs. Short Futures Payoff at Expiration



Source: TABB Group Calculations

Often traders will sell an option to reduce or eliminate the time value associated with buying an option. In this case an out-of-the-money put with the same expiration is sold to reduce this cost. The trader believes that the downside for CL is limited to 57.00 and so takes a look at the CL Apr 12th 57 put that can be sold for 0.45. The net result is now a bearish spread trade for a cost of 2.15 and a payoff that is illustrated by the diagram in Exhibit 3.

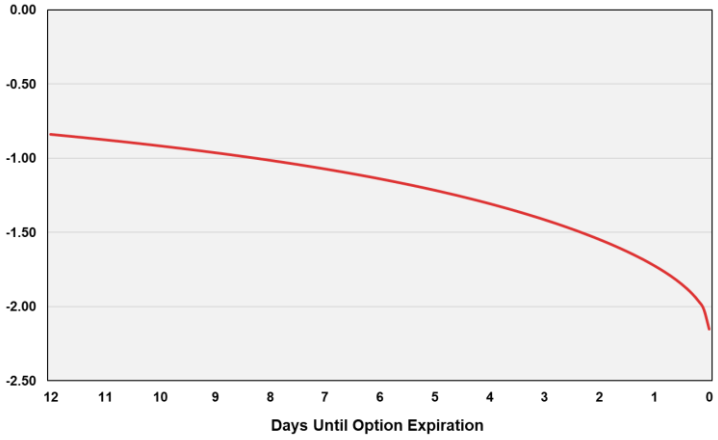
Exhibit 3: Bear Put Spread vs. Short Futures Payoff at Expiration



Source: TABB Group Calculations

The payoff for the bear put spread is closely aligned with the short CL futures position between the 57.00 and 62.00 price points. The trade loss is capped at 2.15, which was the cost of this spread. This result would occur if the trade were held through expiration and the CL futures contract price were at 62.00 or higher. The maximum potential gain is 2.85, which occurs at expiration if the CL futures price is at 57.00 or lower. In this case the 62.00 put is worth 5.00 more than the 57.00 strike put. The profit of 2.85 is the result of paying 2.15 for a spread that is now worth 5.00. Both the maximum loss and gain only would be achieved if the trade is held to expiration. Based on their analysis, the trader would exit this trade if the futures price hits 62.00. Using an option pricing calculator, the trade loss is estimated if the price of Crude Oil hits 62.00 at various times remaining to option expiration with this result showing up on the chart in Exhibit 4.

Exhibit 4: Trade Loss with CL at 62.00 Before Expiration

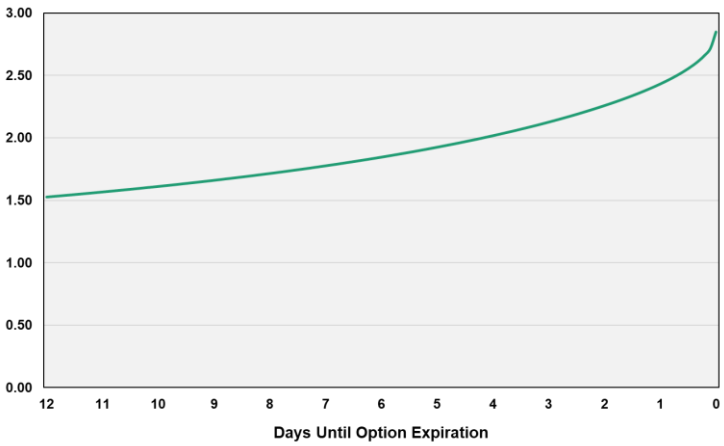


Source: TABB Group Calculations

If CL were to break out to the upside and hit 62.00 just a couple of days after the trade was initiated, the option spread would only have an unrealized loss of about 1.00; half of the loss that would be incurred by a short futures position. As expiration gets closer, the larger the potential loss for this spread, but it does not surpass the 2.00 level until the final day of trading for the option contracts.

Of course, this works the same for a position if the price target of 57.00 is achieved. Exhibit 5 shows the unrealized profit for this put spread if the futures price reaches 57.00.

Exhibit 5: Trade Profit with CL at 57.00

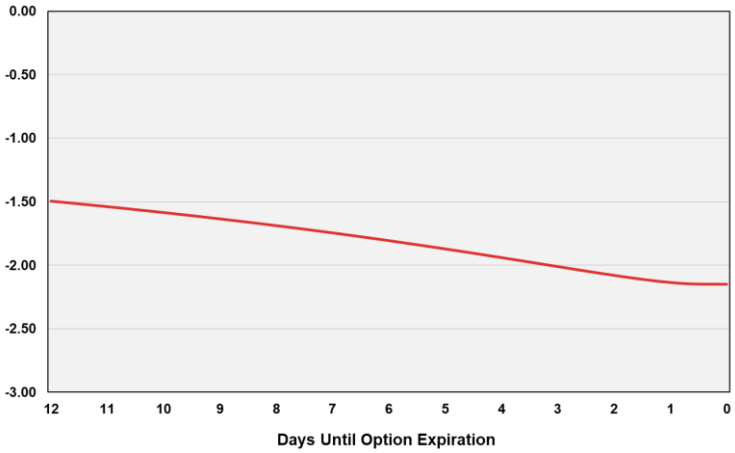


Source: TABB Group Calculations

The potential profit plays out in a similar way to the potential loss as a function of time to expiration. For example, a two-day 3-point move to 57.00 would result in a profit of about 1.60 and this potential profit trends higher the closer the move is to the maximum potential profit of 2.85.

The real benefit of placing an option spread trade instead of a short futures trade is apparent if there's a gap move to the upside in the price of oil. For example, the outcome based on a CL move to 64.00 is shown in Exhibit 6.

Exhibit 6: Trade Loss with CL at 64.00 Before Expiration



Source: TABB Group Calculations

A quick move to 64.00 would result in a loss between 1.50 and 2.00 anytime up to four days until the options expire. This loss is less than 2.00 despite the price of oil moving twice that amount in the opposite direction that was anticipated when the trade was initiated. Finally, regardless of how much higher the move for the price of oil, the ultimate worst-case scenario is a loss of 2.15.

Successful traders focus on the risk of a trade as much as, if not more, than the potential positive outcome of a trade. In the case of a negative result for a futures trade, traders will use either a hard stop order or a mental stop in the form of some sort of notification that a price level has been reached. An alternative can be an option trade where the ultimate risk and reward are defined at the beginning of a trade, regardless of the subsequent price action out of the underlying market. There are tradeoffs to using options on futures as opposed to a directional option trade but setting the worst-case scenario is a definite benefit for options on futures vs. futures.

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