

CHAPTER 10: OPTION LADDERS

As all options traders have learned the hard way and I have repeatedly stated, options are priced to lose. Accordingly, it generally makes sense to avoid paying too much for an outright call or put option, or even a long option strategy such as a vertical spread. As a reminder, a vertical spread involves the purchase of a close-to-the-money option and the sale of a further out-of-the-money option. The result is a limited risk and sometimes costly venture.

One way to keep the cost of purchasing an option, or a vertical option spread, low is to sell premium to pay for the primary trading venture. One way to do this would be to sell a put option to pay for a vertical call spread or sell a call option to pay for a vertical put spread, as discussed in Chapter 8. Yet, selling naked options, especially for the sole purpose of financing a long option strategy, can get hairy if things don't go as planned.

Vision without action is a daydream. Action without vision is a nightmare.

Some traders opt for ratio spreads (sell a near-the-money option and two out-of-the-money options), which can generally give traders the ability to profit in most market scenarios but wreaks havoc on a trading account if the directional play is "too" right. Perhaps one way to combat the disadvantage of trading vertical spreads with naked legs or traditional ratio spreads while maintaining most of the benefits of trading financing is an *option ladder*.

Trading option ladders is the practice of staggering the short option strike prices of a ratio spread. Another way to look at it? The sale of an additional option with a distant strike to cover the cost of a vertical debit spread. For instance, a trader could buy a near-the-money call option, sell an out-of-the-money call option, then also sell a further out-of-the-money call option. Or if bearish, a trader can buy a near-the-money put option, sell an out-of-the-money put option, and then sell an even further out-of-the-money put option. Depending on how the trade is structured, this could result in a "free" trade, a cheap trade, or even a small credit. That said, in most circumstances, an option ladder that can be executed as a credit probably means the trader has designed the trade with the strike prices too close together for my liking. Because I believe a proper ladder spread should generally involve a small debit, we will proceed accordingly. However, keep in mind that any credit received for executing such a trade would alter the risk and reward landscape as well as the breakeven points.

CALL LADDER (BULLISH STRATEGY)

Trading call ladders brings the best aspects of option buying and option selling together to create a relatively low cost, low margin, and high-probability venture. The risk comes in being too right, but with the trade simply being slightly accurate in the direction is enough to see a green outcome.



ACTION

- ✓ Buy an NTM call option.
- ✓ Sell an OTM call option.
- ✓ Sell a further OTM call option.

WHEN TO USE

- Ω You are moderately bullish.
- Ω You don't want to allocate a significant amount of capital.
- Ω The market is not expected to skyrocket higher.
- Ω You are not willing to accept downside risk.

PROFIT PROFILE

- Ω The profit potential is limited to the difference between the strike prices of the long call and the first short call, *minus* the premium paid to enter the spread, *minus* transaction costs.
- Ω At expiration, the trade maxes out at or above the first short call strike price and incrementally gives those profits back if the futures price is beyond the strike price of the second short call option.
- Ω At expiration, the first breakeven point is equivalent to the strike price of the long call *plus* the premium paid for the spread *plus* transaction costs.
 - $RB1 = \text{Long Call Strike Price} + \text{Net Premium Paid} + \text{Transaction Costs}$
 - The price of the trade begins making money.
- Ω The second breakeven point is calculated by taking the difference between the long call option and the first short call option, subtracting the premium paid and adding that figure to the strike price of the second short call option.
 - $RB2 = \text{Second Short Call Strike Price} + (\text{Long Call Strike Price} - \text{First Short Call Strike Price}) - \text{Net Premium Paid} + \text{Transaction Costs}$
 - The price of the trade begins losing money.

RISK

- Ω Unlimited risk above the second short call option strike price.
- Ω The risk is limited to the premium paid for the spread if the futures price is below the strike price of the long call option.
- Ω The market trading above the second short call is equivalent to being short a futures contract from the strike price.

ADVANTAGES

- Ω This strategy uses the market's money to purchase options with close-to-the-money strike prices.
- Ω In most scenarios, the trader's risk is limited to the net premium paid for the spread.
- Ω Traders can be wrong and lose very little money.

DISADVANTAGES

- Ω This strategy exposes the trader to substantial (unlimited) risk if he is too right.
- Ω Spikes in volatility might cause large drawdowns because the strategy involves two short options and only one long option.
- Ω The trader might feel trapped in the trade if prices move swiftly higher because profits might not materialize until close to expiration (after most of the time value has eroded from the options).

An option ladder is a great way to get a foot in the door without a large cash outlay. Further, the risk of being wrong is minimal but in exchange for that luxury, the risk of being too right is significant. In fact, it is unlimited. For this reason, this strategy can be frustrating. On the flip side, should the directional speculation be dramatically off the mark, the trader feels little pain. In short, this strategy is best used to predict a moderate move in one

direction or the other but should not be used if there is a higher probability of a massive increase in volatility. This is because once the futures price moves above the breakeven point of the trade, the risk and reward profile is identical to being long or short a futures contract. Let's look at how the math works out for an option ladder spread.

EXAMPLE:

TRADE:	Buy one December gold 1500 call option @ 22.00 (\$2,200) Sell one December gold 1550 call option @ 12.00 (\$1,200) Sell one December gold 1580 call option @ 8.00 (\$800)
MARGIN REQUIRED:	\$1,552
CASH OUTLAY:	\$200
MAX PROFIT:	\$4,800 ((1550.00 – 1500.00 – 2.00) * \$100)
MAX RISK:	Unlimited above 1,628; \$200 below

A trader who is moderately bullish gold with a time horizon of about two months might decide to put an option ladder together to keep costs low despite purchasing a near-the-money call option. In fall 2019, it might have been possible to purchase a December gold 1500 call for about \$2,200 (\$22.00 in premium) with 55 days to expiration. Knowing most options expire worthless, it doesn't make sense to wager over two grand on a single trade. Even if the trader is right, he might suffer from time value erosion while waiting for the market to make its move. The trader might decide to sell the December 1550 call against the long 1500 call option for \$12.00 in option premium, or \$1,200. This move converts the trade into a vertical call spread (known as a bull call spread) and it cuts the cost and risk on the trade from \$2,200 to \$1,000 ($(\$22.00 \times \$12.00) \times \$100.00$). However, \$1,000 is still a hefty wager on a long option play in my opinion; if a trader wanted to take it a step further, he could sell a December 1580 call for about \$8.00, or \$800. This final option sale converts the *vertical call spread* into an *option ladder* but, more important, it reduces the cost of the primary call purchase (the 1500 call) to just \$200. In other words, selling two calls against the desired long call purchase saves the trader \$2,000 in premium. It also nearly eliminates the downside risk. If the price of gold moves lower, the trader is out the premium paid of \$200 rather than the original prospect of \$2,200. I think we can all agree this is a small price to pay for being wrong.

On the other hand, the trader is giving up the potential for unlimited gains. More specifically, the trader is giving up gains above \$1,550. Even more critical, above \$1,580 the trader starts giving profits back until running out of money at about \$1,628 (figured by taking the difference between the strike prices minus the premium paid and adding it to the strike price of the short call). Above \$1,628 the trader might as well be short a futures contract because the risk suddenly becomes limitless (Figure 47).

Despite the prospects of runaway losses, the options ladder strategy provides traders with an attractive profit zone. For instance, in the trade above the risk was a mere \$200 (if the price of gold stays below \$1,500). The maximum profit of \$4,800 (figured by taking the distance between the long and short options of the vertical spread, subtracting the premium paid for the spread, and then multiplying by \$100) occurs at expiration if the price of gold is at or above \$1,550 but below the strike price of the second short call (\$1,580). At the hypothetical time of entry, the price of gold was hovering near \$1,480; thus, the only scenario in which this strategy exposes the trader to losses in excess of \$200 plus transaction costs is a rally of \$100 per ounce in less than two months. This is possible, but not necessarily common based on historical norms. Unfortunately, this spread expired worthless rendering the maximum loss of \$200.



Figure 47: Option ladders are a creative and efficient way to implement a directional strategy. In this example, risk beyond \$200 doesn't kick in unless gold reaches prices not seen in six years (as of the date of this writing).

PUT LADDER (BEARISH STRATEGY)

Like the call ladder tactic, executing put ladders enable traders to purchase a NTM put option using the market's money through the sale of two OTM puts with differing strike prices. Although the trade does pose unlimited risk exposure, that risk is generally in a place unlikely to cause trouble.



ACTION

- ✓ Buy a NTM put option.
- ✓ Sell an OTM put option.
- ✓ Sell a further OTM put option.

WHEN TO USE

- Ω The outlook is moderately bearish.
- Ω You have no desire to allocate a significant amount of capital.
- Ω The market is not believed to be in the position of a precipitous collapse.
- Ω You are unwilling to accept the upside risk.

PROFIT PROFILE

- Ω The profit potential is limited to the difference between the strike prices of the long put and the first short put, *minus* the premium paid to enter the spread, *minus* transaction costs.
- Ω At expiration, the trade maxes out at, or below, the first short put strike price and incrementally gives those profits back if the futures price is beyond the strike price of the second short put option.
- Ω At expiration, the first breakeven point is equivalent to the strike price of the long put *minus* the premium paid for the spread *minus* transaction costs.
 - $RB1 = \text{Long Put Strike Price} - \text{Net Premium Paid} - \text{Transaction Costs}$
 - The price of the trade begins making money.
- Ω The second breakeven point is calculated by taking the difference between the long put option and the first short put option, subtracting the premium paid and subtracting that figure from the short strike price of the second put option.
 - $RB2 = \text{Second Short Put Strike Price} - ((\text{Long Put Strike Price} - \text{First Short Put Strike Price}) - \text{Net Premium Paid}) - \text{Transaction Costs}$
 - The price of the trade begins losing money.

RISK

- Ω Unlimited risk below the second short put option strike price.
- Ω The risk is limited to the premium paid for the spread if the futures price is above the strike price of the long put option.
- Ω The market trading below the second short put is equivalent to being short a futures contract from the strike price.

ADVANTAGES

- Ω This strategy uses the market's money to purchase options with close-to-the-money strike prices.
- Ω In most scenarios, the trader's risk is limited to the net premium paid for the spread (low cost and risk).
- Ω Traders can be wrong and lose very little money.

DISADVANTAGES

- Ω This strategy exposes the trader to substantial (unlimited) risk if he is too right.
- Ω Spikes in volatility might cause large drawdowns because the strategy involves two short options and only one long option.
- Ω The trader might feel trapped in the trade if prices move swiftly higher because profits might not materialize until close to expiration (after most of the time value as eroded from the options).

A put ladder operates in the same manner as the call ladder but, of course, the trader is predicting the underlying commodity to move moderately lower rather than higher. Again, with this strategy, the trader is willing to run the risk of being too right in exchange for using the market's money to purchase a near-the-money put option. I feel compelled to mention the importance of being aware of market characteristics when trading strategies involving open-ended risk exposure in the anticipated direction. Whether a ratio spread or a ladder is implemented, one must always keep in mind that commodity markets such as oil, gold, silver, and even the grains and softs, tend to explode higher but dribble lower. Conversely, stock indices such as the S&P 500 and NASDAQ are prone to riding the escalator up but the elevator down. These are not fresh ideas; I have mentioned them multiple times, but extra care should be taken when playing these strategies in the direction in which prices generally move swiftly.

Perhaps a put ladder is best used in a market that has recently put in some sort of significant low, such as an annual or multiyear low, and has since bounced. These types of patterns are often followed by a retest of lows or at least a significant pullback. However, in the case the rally that seems like a dead-cat bounce materializes into a healthy rally, the put ladder poses little risk as prices move higher.

EXAMPLE:

TRADE:	Buy one December live cattle 109.00 put option @3.00 (\$1,200) Sell one December live cattle 105.00 put option @1.60 (\$640) Sell one December live cattle 102.00 put option @1.00 (\$400)
MARGIN REQUIRED:	\$701
CASH OUTLAY:	\$160
MAX PROFIT:	\$1,440 $((109.00 - 105.00 - 0.40) * \$400)$
MAX RISK:	Unlimited below 98.40; \$160 above

A late summer low in cattle futures in 2019 resulted in a nearly 12.00-point rally in a short amount of time (Figure 48). An options trader might have opted to play the downside using a put ladder to avoid excessive risk but enjoy the luxury of owning a close-to-the-money put option. The trader could have hypothetically purchased a December 109.00 put option for 3.00 in premium or \$1,200 because each full point is worth \$400 to a trader, and sold the 105.00 put for 1.60 and a 102.00 put for 1.00. This creates a net debit of 0.40 $(3.00 - 1.60 - 1.00)$, or \$160 $(0.40 \times \$400)$.

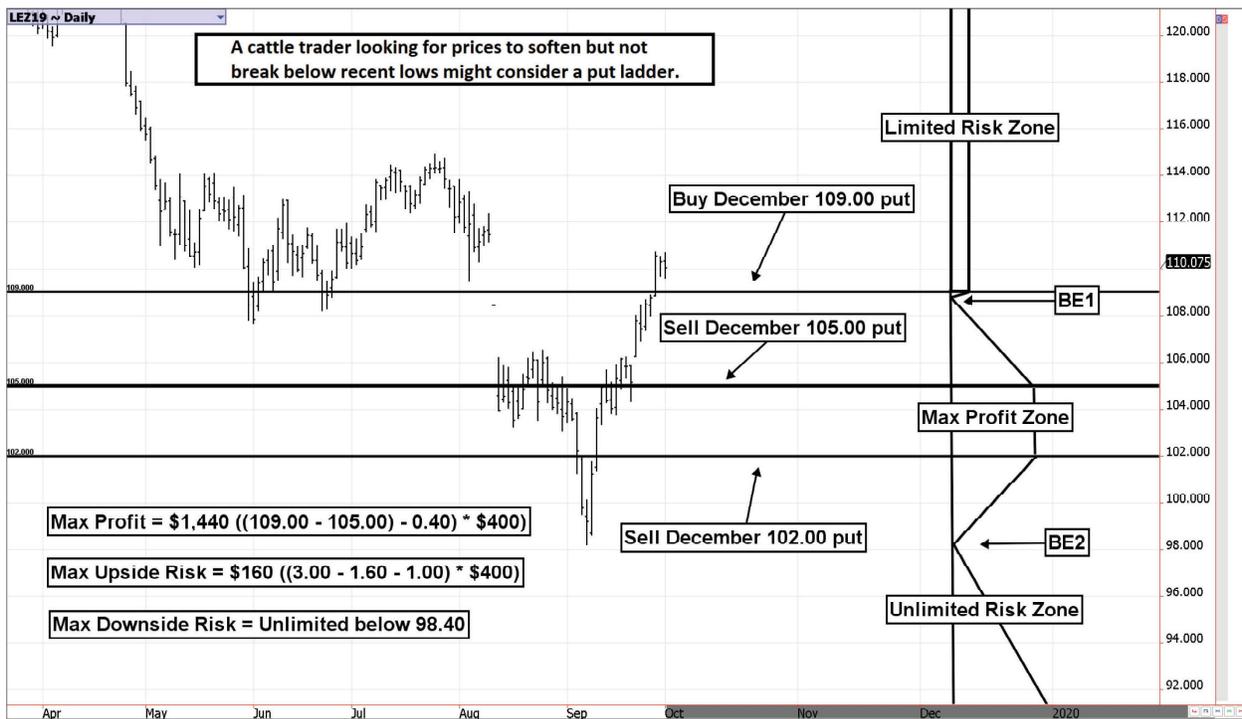


Figure 48: Option ladders afford traders the luxury of a "no harm no foul" experience if the anticipated direction is inaccurate.

The net debit, or cost of the spread, can be subtracted from the strike price of the long put to determine the first breakeven point. This is where, at expiration, the trader begins making money. The second breakeven point represents where the trade begins to lose money at expiration; it can be figured by taking the difference between

the strike price of the long put option (109.00) and the first short put option (105.00), then subtracting the cost of the trade (0.40) and finally subtracting that figure (3.60) from the strike price of the second short put. Remember, trades involving one long option and two short options of the same type (call or put) are structured to make money until the futures price reaches the first short option strike and then give that money back as the market moves beyond the strike price of the second option.

Let's not forget why a trader would build a ladder strategy rather than a traditional ratio spread. Although the out-of-the-pocket expense of ladder spreads is generally higher than that of a ratio because the second short option is at a distant strike price (collecting more premium for the trader); the risk is shifted dramatically away from the market. Had the trader bought the 109.00 put and sold two of the 105.00 puts, the result would have been a small net premium credit, but the risk would be approximately below 101.00. The ladder version of the trade shifts the risk below 98.00 and the recent futures contract low. This 3.00-point difference provides a more comfortable buffer enabling the trader to not only sleep better at night but will work toward mitigating the emotional stress of the position and, therefore, promote better decision making. This spread expired worthless, but with minimal risk, it was worth the effort.