5 Diagonal Bull Call Spread

This chapter assumes you are familiar with the basic concepts of options, as discussed in chapter 1. If you are unfamiliar with spreads, you may also wish to read section 4.1.

5.1 Diagonalizing a Spread

A **diagonal** spread uses different strike prices and different expiration dates for each leg of the spread. To avoid the danger of ending up with a naked call position, make sure the long-leg of the spread expires after the short-leg. Doing this will give the long-leg more time-value, so it will cost more than the short-leg but it will also retain some value on downward moves of the stock. This gives the diagonal spread a slightly bearish character.

Diagonalizing is a technique that can be applied to any spread, rather than a particular type of spread. One particularly nice feature of a diagonalized spread is that when the short side has expired, it is often possible to sell another short-term call and recover more of your initial investment.

5.1.1 The Diagonal Bull Call Spread

As in the vertical version of this spread, you buy a call, and also sell a call with a higher strike price. The long side of the spread will have the later expiration date. This gives you a downside hedge in case the stock does not advance sufficiently by expiration. Once the short call expires, another one can be sold, sometimes at a different strike price, to re-establish the spread and make more income.

Let's compare the diagonal spread with the vertical spread described in chapter 4. Arlo's Political Cartoons is selling for $22, and has the following calls to choose from:

	March	June	September
ARLO $20 Call	3	4.	5
ARLO $25 Call	1	1.5	2

We establish two spreads:

Vertical Bull Spread Buy March $20, sell March $25 for a debit of 2-points.

Diagonal Bull Spread Buy June $20, sell March $25 for a debit of 3-points.

The vertical spread has a maximum profit of 3-points if ARLO closes anywhere above $25 by the March expiration. The most you can lose is your initial investment of 2-points, which occurs if ARLO closes anywhere below $20 at the March expiration.

The diagonal spread has a maximum profit of 2-points at the March expiration if the stock closes anywhere above $25. Should the stock close below $20 at the March expiration, the June call should still have some time-value left and can be sold to reduce the loss, or held onto in case the stock recovers. How much the call will cost depends on a variety of factors, but here are some possibilities:

Stock Price @ March Expiration	10.	14.	17	20	22	25.	30	35
June. 20 Premium @ March Expiration	0.05	0.50	1	2	3	5.50	10	15

Figure 5.1 gives the profit graph for both the diagonal and vertical spreads. The line for the diagonal spread is curved, not straight, because there is still time value remaining in the long call.

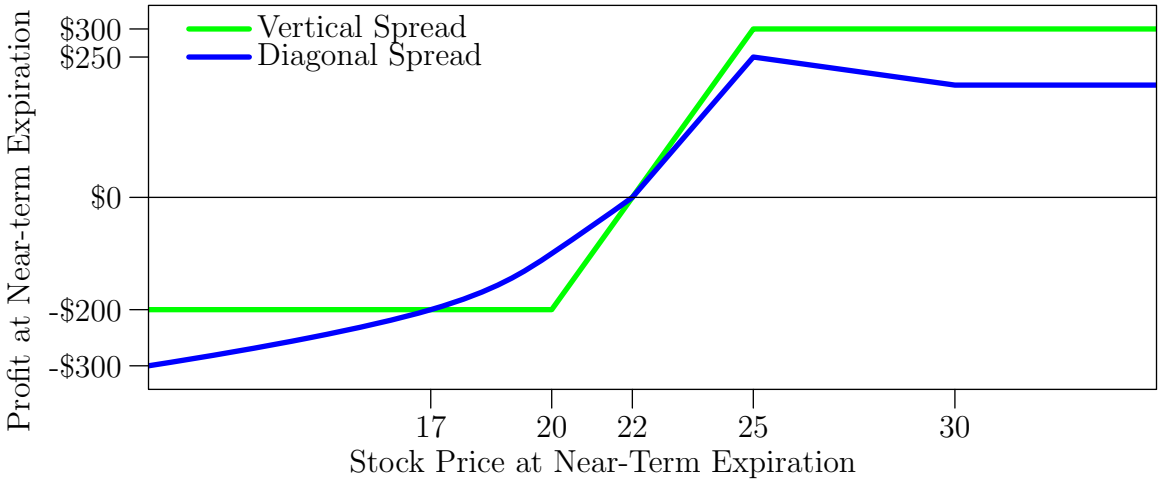

Figure 5.1: Profit graphs comparing the vertical spread with its diagonalized version.

Looking at the graph, you can see that if ARLO experiences a really terrible drop both spreads will be pretty much a total loss. The diagonal will be the big loser because it costs more to setup. On the other hand, the diagonal outperforms the vertical spread between $17 and $22, losing less at every stock price between these two points. There is also an interesting fine point about the diagonal spread that should be mentioned. Observe that at the strike of $25, when each spread should reach their maximum width of 5 points each, the diagonal spread actually widens to more than 5-points. This is because of the extra time value remaining in the long June call.

The graph makes it clear that the investor gives up a very small amount of upside for the advantage of hedging his downside.

Once the March call has expired, the spread can be closed by selling the long call. But it may be better to sell the June $25 call and create a new spread. The new spread will be a typical vertical bull call spread. If ARLO were still $22 at March expiration, then the June $25 call would probably sell for the same price that the March $25 call did, which

was 1-point. Selling this call reduces our initial debit to the same amount as the vertical spread (2-points), and gives more time for the stock to move in our favor. But ARLO may be higher in June, perhaps just below the $25 strike. If you think it is likely to run higher, sell the June $30 call.

If ARLO is below $20, it may be better to leave the call long. The $25 calls would probably have very depressed premiums if this were the case, and re-establishing the spread might not be worth it. Leaving the call long leaves open the possibility of re-establishing the spread when the share price recovers. If you think ARLO will continue to move down, then it is probably best to sell the call.

5.1.2 Using LEAP Calls in a Diagonal Bull Spread

This strategy can employed using a LEAP[1] call for the long arm of the spread. LEAPS are more expensive, but give the investor more opportunities to sell short calls against them, due to their longer lives. This can significantly reduce your net investment, and in some cases, completely pay for the LEAP.

If the LEAP is chosen well, and the stock appreciates significantly over the year or two you hold the position, you can end up with an excellent profit. At that time, you can sell the LEAP and take your profits, exercise to get shares, or roll the LEAP up to a higher strike price, and continue the strategy. This would depend on the economics and outlook of the business and how you think this will impact the share price.

Large, mature companies whose share price is depressed are excellent candidates for this strategy. While you will sacrifice any dividend the company pays, you can often earn more from the short term call premiums. If this strategy sounds appealing, subsection 13.9.1 has an extended discussion of this strategy.

As mentioned in subsection 13.9.1, using LEAPs makes a diagonal bull call spread resemble a covered call strategy with the long LEAP used to replace the stock. The same techniques discussed in chapter 2 for covered calls, such as rolling up, or rolling forward, can be used with this strategy.

5.2 Up to the Minute Summary

- A **diagonal** spread uses different strike prices and different expiration dates.

- The long-term call should be the long-arm of the spread. The expiration date of the long term call should be far enough away so that the short call is covered at all times. You do not want a naked call position at any time.

- Diagonalizing is a technique. Any spread can be diagonalized.

[1] LEAPS are options with an expiration date of a year or more away.

- Diagonalizing a spread gives it more downside protection and reduces the maximum profit.
- Once the short-arm of the diagonal spread has expired, you can sell a new short-term call, to reduce the cost of the spread or enhance profits.
- The diagonal bull call spread can be used with LEAP calls as the long arm of the spread. This makes the bull call spread appear more like a covered call position than a bull spread, with a long call used to replace the stock position.