Chapter 18

Calendar and Diagonal Spreads

“Time is your friend; impulse is your enemy.”

Calendar Spreads

Calendar spreads are a great way to get to combine the advantages of spreads and the advantages of directional option trades all into the same position. Depending on how you implement this strategy, you can have a market neutral position that you can roll out a few times to pay the cost of the spread, while taking advantage of time decay, or you could use this as a short term market neutral position with a longer term directional bias that is equipped with unlimited gain potential. Either way, the trade can provide many advantages that a plain old call or a put cannot provide on their own.

A long calendar spread, which is often referred to as a time spread is the buying and selling of a call option or the buying and selling of a put option of the same strike price and of different expiration months. In essence, you are selling a near dated option and buying a longer dated option. This means that the result is a net debit to the account. In fact, the sale of the short dated option reduces the price of the long dated option, making the trade less expensive than buying the long dated option outright. Since the two options expire in different months of expiration, this trade can take on many different forms as expiration months pass. We’ll discuss these details later in the article.

There are two types of long calendar spreads; call and put. There are inherit advantages to trading a put calendar over a call calendar but both are readily acceptable trades. However, some of the advantages of a put calendar to a call calendar are:

Because puts are purchased as insurance policies and institutional stock positions you will see higher premiums on the put side rather than the call. These additional premiums can add up during the calendar’s life.

Many stocks have dividends. When your short a call, which you are in a call calendar, there is a chance you may be assigned. If you’re short a put, that dividend risk does not occur.

A long calendar spread is a good strategy to use when you expect prices to expire at the value of the strike price you are trading at the expiry of the front month option. Whether you use calls or puts depends on your sentiment of the underlying investment vehicle. If you are bullish, you would buy a calendar call spread. If you are bearish, you would buy a calendar put spread. Your short term sentiment is neutral, and ideally the short dated option expires out the money. Once this happens the trader is left with a long option position. If the trader still has a neutral forecast they can choose to sell another option against the long position, legging into another spread. If the traders now feels the stock will start to move in the direction of their longer term forecast, they can leave the long position in play, and reap the benefits of having unlimited profit potential. To give you an example of how this strategy is applied, we’ll walk through an example.

Planning the Trade

The first step in planning a trade is to conduct a thorough market analysis and a technical analysis of the underlying stock you are considering for the calendar spread. This strategy can be applied to a stock, index, or ETF that offers options. However, for the best results, consider a vehicle that is extremely liquid, with very narrow spreads between bid and ask prices. For our example, we will use the DIA, which is the ETF that tracks the Dow Jones Industrial Average.

Looking at a 1 year chart, you can see that recent price action is bullish, and has been in a sustained uptrend for the last few years. This would give us a bullish bias, so we’ll construct a call calendar spread.
If you look at a 1-year chart, you’ll see that prices are overbought, and it is likely to see prices consolidate in the short term. Based on these metrics, a calendar spread would be a good fit. If prices do consolidate short term, the short-dated option should expire out of the money. The longer-dated option would be a valuable asset once prices start to resume the upward trend.

Based on the current price of the DIA, which is $129.45, we’ll look at the prices of the August and September 130 calls. Here is what the trade looks like:

- Bought September DIA 130 Calls: -$2.45
- Sold August DIA 130 Calls: +$1.38
- Net Debit: $1.07

Upon entering the trade, it is important to know how it will react. Generally speaking, spreads move much slower than most option strategies. This is because each position slightly offsets the other in the short term. If the DIA remains above $131 at August’s expiration, then the August call will expire worthless leaving the investor long a September 131 call. In this case, you will want the market to move as much as possible to the upside. The more it moves, the more profitable this trade becomes.

If prices are below $131, the investor can choose to roll out the position at that time, meaning they would buy back the August 131 call, and sell September call. If you are increasingly bullish on the market at that time, you can leave the position as a long call instead.

The last steps involved in this process are to establish an exit plan and to make sure you have properly managed your risk. A proper position size will help to manage risk, but a trader should also make sure that they have an exit strategy in mind when taking the trade. As it stands, the max loss in this trade is the net debit of $1.07.

Trading Tips
There are a few trading tips to consider when trading calendar spreads. First off, when trading a calendar spread, try to think of this strategy as a covered call. The only difference is that you do not own the underlying stock, but you do own the right to purchase it.

By treating this trade like a covered call, it will help you pick expiration months quickly. When selecting the expiration date of the long option, it is wise to go at least 2-3 months out. This will depend largely on your forecast. However, when selecting the short strike, it is a good practice to always sell the shortest dated option available. These options lose value the fastest, and can be rolled out month to month over the life of the trade.

The next trading tip is how to leg into the trade. For traders that own calls or puts against a stock, at any point they can sell an option against this position and “leg” into a calendar spread. For example, if you own calls on a particular stock and it has made a significant move to the upside, but has recently leveled out, you can sell a call against this stock if you are neutral over the short term. Traders can use this legging in strategy to ride out the dips in an upward trending stock.

Lastly, the final trading tip is in regards to managing risk. Plan your position size around the max loss of the trade, and try to cut losses short when you have determined that the trade no longer falls within the scope of your forecast.

What to avoid

Like any trading strategy, it is important to know the risks and downsides involved. First and foremost, it is important to know that this trade has limited upside when both legs are in play. However, once the short option expires, the remaining long position has unlimited profit potential. It is important to remember that in the early stages of this trade, it is a neutral trading strategy. If the stock starts to move more than anticipated, this is what can result in limited gains.

Speaking of expiration dates, this is another risk that needs to be planned for. As the expiration date for the short option approaches, action needs to be taken. If the short option expires out of the money, then the contract expires worthless. If the option is in the money, then the trader should consider buying back the option at the market price. After the trader has taken action with the short option, they can then choose whether or not they want to roll the position.

The last risk to avoid when trading calendar spreads is an untimely entry. In general, market timing is much less critical when trading spreads, but a trade that is very ill timed can result in a max loss very quickly. Therefore, it is important to survey the condition of the overall market, and to make sure you are trading within the direction of the underlying trend of the stock.

Conclusion

In summary it is important to remember that a long calendar spread is a neutral and in some instances a directional trading strategy that is used when a trader expects a gradual or sideways movement in the short term, and has a more direction bias over the life of the longer dated option. This trade is constructed by selling a near dated option and buying a longer dated option resulting in a net debit. This spread can be created with either calls or puts and therefore can be a bullish or bearish strategy. The trader wants to see the near dated option decay at a faster rate than the longer dated option. When trading this strategy here are a few key points to remember:

- Can be traded as either a bullish or bearish strategy.
- Generates profits as time decays
- Risk is limited to the net debit
- Benefits from an increase in volatility
- If assigned, the trader loses the time value left in the position
- Provides additional leverage in order to make excess returns.
• Losses are limited if the stock price moves dramatically.
• Gains are unlimited once the short leg expires.

Diagonal Spreads

A diagonal spread is very similar in nature to a calendar spread. The diagonal spread is the sale of a front month option and the purchase of a longer dated option with different strike prices. This allows you to have more directional bias compared to that of a calendar spread. With the purchase of the long dated option, a diagonal always begins as a debit spread.

Similar to calendar spreads diagonals are great as a stand-alone strategy but they are all-important to understanding more complex strategies. Like so many spread strategies diagonal spreads are building blocks that when used in combination create varying profit opportunities and are integral to the professional options investors’ portfolio. Diagonalizing is a powerful method and can be used in many spread strategies. When you look at the structure of a diagonal it is a long vertical spread where one leg has been moved to a further out month thus creating the diagonal. In doing so the position Greeks become more favorable as you will see with further study.

The key to any diagonal is the sale of the front month option. By selling the front month option and buying the back month option, you are making money on time decay. The front month option will decay faster than the back month resulting in a positive theta position. Many traders will opt to leg into a diagonal spread, timing the sale of the call to coincide with pullbacks in the underlying stock price as it trends higher.

There are two types of diagonals, a call diagonal which is a more bullish position and a put diagonal which is more bearish.

Diagonal Greeks: The Greeks of a diagonal are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Call Diagonal</th>
<th>Put Diagonal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta</td>
<td>+ Delta</td>
<td>- Delta</td>
</tr>
<tr>
<td>Theta</td>
<td>+ Theta</td>
<td>+ Theta</td>
</tr>
<tr>
<td>Vega</td>
<td>+ Vega</td>
<td>+ Vega</td>
</tr>
</tbody>
</table>

**Delta:** The delta will be positive or negative representing your directional bias.

**Theta:** Positive theta is the reason why most people make this trade. Positive theta means that time decay is working in your favor.

**Vega:** The Vega is positive which means as implied volatility rises, you will make money. It’s important to find a diagonal spread where implied volatility is at a support level and rising. Diagonals are not the ideal trade when implied is at extreme highs.

**Investor Tip:** Because of a positive Vega decreases in implied volatility will have negative effects on this strategy.

Let’s walk through an example to illustrate how the strategy works and how to put each of the steps into motion.

Example 1

The first step in this process is selecting a candidate to trade. This can be accomplished by running a favorite search, selecting from a bullish/bearish watchlist, or from a pre-determined list of liquid ETFs to choose from.

For our first example, let’s look at XLY; which is the SPRDs Select Sector Fund – Consumer Discretionary ETF.
The next step is to conduct a technical analysis of the stock in question. Looking at the chart of XLY, you can see that prices are trending higher. As a result, this would be an acceptable candidate for a diagonal call spread.

Before we select expiration months and strike prices, below are a few steps to consider as you go through the decision making process.

**Entrance Criteria:**

1. **Technical Analysis**
   a. Trade with the trend. For a call diagonal look for an uptrending stock, for a put diagonal look for a downtrending stock.
   b. Look for those other entry signals that you have developed through technical analysis.
2. **Strike Selection**
   a. Your long option should be 1 or 2 strikes ITM for both a call or put diagonal
   b. Your short option should be OTM for both a call or put diagonal
3. **Expiration Selection**
   a. Your long option should be 1-3 months past the front month expiration. You should allow yourself opportunities to roll if those opportunities arise.
   b. For legging in, buy as much as time as you feel you need to take advantage of the trend. Usually from 1-5 months.
   c. Your short option should be front month, 15-45 days away

The next step is selecting expiration months and strike prices. There are several ways to trade Diagonals. Neither one is better than the other. It all depends on the goal and style of the individual investor. There are two ways to make the trade, all at once or legging in. Since the next step is selecting an expiration month and strike prices, we’ll use XLY as an example to discuss both strategies.

**Entering the trade all at once** is the simultaneous purchase of the long dated option and sell of the short term option. Now the time has come for out next step- entering the trade. Let’s take a look at a diagonal bull call spread.

Figure 3 shows XLY’s December and January option chain. With the stock trading at $46.38, we will purchase an ITM option at the 46 strike for $1.31.
At the same moment you purchase the January 46 call, you sell the front month December 47 call for $.41. Here is how the trade looks so far:

- Bought January XLY 46 Calls: $1.31
- Sold December XLY 47 Calls: +$0.41
- Net Debit: $0.90

If the stock’s price rises past your short strike of $47, you will receive .41¢. If the stock falls below your breakeven of $45.10, you will begin losing money. However, if the stock treads water and is still trading below $47 near December expiration, you can roll the December 47 strike to January. This will bring in another credit.

Certainly there are advantages to the trader that can roll into the next month. You have the opportunity to increase your potential gain by over 100%.

In the midst of entering and rolling out a diagonal spread, it is important to touch on the next step, which is monitoring the position. When monitoring a position you are looking for opportunities to roll or exit the position at an optimum level. Be sure to check your market posture and technical support and resistance levels while in the trade. Remember following the procedure will keep you from pre-mature exit of the position.

Another way to trade diagonals is by legging in. This involves the purchase of a long dated (3-5 months) call or put. One would enter the position when they see the proper technical signal on the chart.

As with Calendar spreads, Diagonals are very forgiving strategies. If you are incorrect in your forecasted movement of the stock you can still profit. However, because of the effect price movement has on options at or near expiration an understanding of the risk involved in holding short (sold) options until expiration is essential. An option that is slightly out-of-the-money and has a value of 30¢ with a day or two left until expiration is exposed to sudden adverse price changes. A $1.00 move in the underlying stock price could put your option in-the-money thus taking away premium and increasing assignment risk. Therefore it is prudent for investors to buy back the sold option and roll out to another month when possible.

Rolling an option is somewhat subjective so there is not at perfect price or time to roll out to the next month. However, it plays a major role in the profitability of this strategy as risk can be totally removed from a position as each roll decreases the cost basis of the trade.

At expiration slightly out-of-the-money and slightly in-the-money options have what is known as Pin Risk. Option sellers cannot expect to avoid assignment with 100% accuracy. Pinning occurs the following Monday after expiration when the underlying equity may be assigned. If the stock gaps adversely an unexpected loss may be realized by the seller of that option.
Historically high implied volatility will have a negative impact on diagonal spreads because of the positive Vega the position carries.

Always have an equal amount of sold and bought option contracts to avoid creating naked positions.

Maximum gain is difficult to calculate for the life of the position because implied volatility and price movement are not easily forecasted.

As with all strategies it is imperative that a process is in place to insure proper execution. A compelling reason to make the trade followed by a well thought out entry utilizing forecasting and money management skills is required.

Exiting and rolling may be the most important part of the process as this is where the profits are realized. Below are guidelines for entering, monitoring and exiting a position.

As you become familiar with this trading strategy, it is important that you are always ready and willing to find the next best candidate to trade. As part of your trading routine, it makes things easier to have a pipeline of potential trades to enter next. In order to create the pipeline it requires you to do searches regularly and maintain both a bullish and bearish watchlist. You may find it is easier to let a loser go if there is a better opportunity around the corner.

**Summary**

<table>
<thead>
<tr>
<th>Concept</th>
<th>A long diagonal spread is a neutral and/or directional trading strategy that is used when a trader expects a gradual or sideways movement in the underlying stock. This is accomplished by selling a near dated option and buying a longer dated option resulting in a net debit. This spread can be created with either calls or puts and therefore can be a bullish or bearish strategy. The trader wants to see the near dated option decay at a faster rate than the longer dated option.</th>
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| Strengths and Weaknesses | • Can be traded as either a bullish or bearish strategy.  
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• Losses are limited if the stock price moves dramatically.  
• Gains are limited to the difference between strikes minus debit.  
• Gains are unlimited once the short leg expires. |
| Probability of Win | Target the 60% to 80% probability range. |
| Risk/Reward Considerations | Return on Investment for a successful trade is approximately 25% to 66% for trades set to expire in 20-40 days. |