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Calendar Spreads



Calendar Spread



- Also known as a time spread.
 - Purchase one long-term option
 - Sell one near-term option
- Strike price and expiration month selection based on personal objectives.



Horizontal Calendar Spread



- Same strike price.
- Different expiration month.
- Objective:
 - Take advantage of near-term option's rapid time decay.
 - Exploit difference in implied volatility.



Diagonal Calendar Spread



- Different strike price.
- Different expiration month.
- Objective:
 - Stock price consolidation as the near-term option expires.
 - Take advantage of a directional bias with unlimited profit potential at a lower cost.



Neutral Outlook



- Sell one near-term option.
- Purchase one long-term option.
- At-the-money strike prices.
- The objective is to sell time.



Neutral Outlook Example



- XYZ = \$60.00/share
 - Buy 6-month 60-strike call = \$5.00 debit
 - Sell 3-month 60-strike call = \$3.00 credit
- Net debit = \$2.00



Neutral Outlook Example



- The near-term option expires worthless and the investor keeps the premium.
- The investor still holds the long-term options.
- The long-term option position remains profitable as long as theta does not exceed the premium collected.



Neutral Outlook Example: Result at Near-Term Expiration



Option	Value 3 Months Later	Net Spread Profit/Loss
3 MONTH	\$0.00	+\$3.00
6 MONTH	\$3.00	-\$2.00
NET VALUE	\$3.00	+\$1.00



Scenario at Expiration: Stock Remains Unchanged



- Ideally the stock is slightly below the strike price at the near-term expiration.
 - Allow near-term option to expire worthless
 - Sell the longer term
- An option that is close to being in-the-money will have to be bought back to avoid assignment.



Scenario at Expiration: Stock Decreases



- Close the entire position as the long-term option is at risk of further depreciation.
- Allow the near-term option to expire worthless and hold the long-term option.
- Close out long-term option position and hold the naked call position.



Scenario at Expiration: Stock Increases



- Both positions will generate an intrinsic value, but their respective time value will continue to depreciate.
- The investor would close the position at the expiration of the near-term option contract.
- As an alternative, the investor could buy back the near-term option and profit from a continuation.



Directional Bias



- Sell one near-term option.
- Purchase one long-term option.
- Out-of-the-money strike prices.
- The objective is to trade a direction bias
 - Bullish: calendar spread using call options
 - Bearish: calendar spread using put options



Directional Bias Example



- XYZ = \$60.00/share, investor is bullish.
 - Buy 6-month 60-strike call = \$5.00 debit
 - Sell 3-month 65-strike call = \$1.50 credit
- Net debit = \$3.50



Direction Bias Example



- Higher probability of the near-term option expiring worthless.
- Objective is to hold onto the long-term option contract as the underlying moves in the anticipated direction before the long-term option expiration.
- Cost basis is lowered as a result of the short option expiring worthless.



Scenario at Expiration: Stock Remains Unchanged



- Allow near-term option to expire worthless and hold the long-term option position.
- The spread can be re-establish using the next expiration month.
- Lower breakeven point due to additional premium collected from the sale of another option.



Scenario at Expiration: Stock Decreases



- Consider closing the entire position as the longer term option is at risk of further depreciation.
- Expiration of the near-term option has hedged some of the immediate risk from the adverse move.
- Close out the long-term option position and hold the naked call position into expiration.



Scenarios at Expiration: Stock Increases



- Both options ‘in-the-money’
 - Could close the position at a profit due to the spread differential.
 - Buy back near-term and sell next expiration.
- Long-term option “in-the-money”
 - Could close the position at a profit.
 - Allow near-term option to expire and hold the long-term option for unlimited profit potential.
 - Sell “out-of-the-money” option, next expiration.



Reverse Calendar Spread



- Purchase one near-term option.
- Sell one long-term option.
- Same strike price.
- Different expiration month.



Reverse Calendar Spread – When to Use



- Generate income.
- Expensive options premium due to high implied volatility.
- Expectation of a drop in implied volatility or a large move in the underlying stock.



Reverse Calendar Spread Example



- XYZ = \$50.00/share
 - Sell 6-month 50-strike call = \$3.00 credit
 - Buy 2-month 50-strike Call = \$1.10 debit

- Net credit = \$1.90



Implied Volatility Decrease



Option	Starting Value	5% Drop in Implied Volatility	Profit/Loss
Short 6-Month Call	-\$3.00	-\$2.00	+\$1.00
Long 2-Month Call	+\$1.10	+\$0.75	-\$0.35
NET CREDIT	-\$1.90	-\$1.25	+\$0.65



Considerations



- Long-term option has a higher Vega than the near-term option.
- The long-term option will lose more value based on a 5% drop in implied volatility compared to near-term option.
- The strategy may be closed for a profit.



Decrease in the Underlying Shares



Option	Starting Value of Options	\$5.00 Drop in Share Value	Profit/Loss
Short 6-Month Call	-\$3.00	-\$0.70	+\$2.30
Long 2-Month Call	+\$1.10	+\$0.00	-\$1.10
NET CREDIT	-\$1.90	-\$0.70	+\$1.20

Position value based on share price at the near-term options expiration date.



Considerations



- The long-term option will continue to decrease in value as the shares drop.
- The near-term option loss is limited to the premium paid regardless of how much the stock decreases.
- The strategy may be closed at the expiration of the near-term option for a profit.



