

## MONTREAL EXCHANGE

# Short Ratio Call Spread

### Description

A short call ratio spread means buying one call (generally an at-the-money call) and selling two calls at the same expiration but with a higher strike. This strategy is the combination of a bull call spread and a naked call, where the strike of the naked call is equal to the upper strike of the bull call spread.

### Outlook

The investor is ideally hoping for a slow rally up to the strike where they have sold two calls or a sharp fall in implied volatility during the life of the options.

### Summary

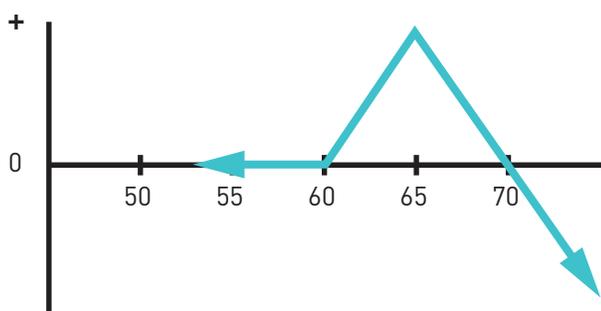
This strategy can profit from a slight rise, a steady stock price, or from a falling implied volatility. The actual behavior of the strategy depends largely on the Delta, Theta and Vega of the combined position as well as whether a debit is paid or a credit received when initiating the position.

### Motivation

Profit from a limited stock move and/or falling implied volatility, and perhaps also earn income.

#### Short Ratio Call Spread

Net Position



#### Example

Long 1 XYZ 60 call  
Short 2 XYZ 65 calls

#### MAXIMUM GAIN

High strike - low strike net - premium received

#### MAXIMUM LOSS

Unlimited

## Variations

One simple variation of this strategy is to use a different ratio such as 2x3 or 3x5. The general rules to variations is that the combined Delta of one side of the spread roughly equals the combined Delta of the other side when the position is initiated so that the strategy starts off being Delta-neutral, and that the passage of time will have a greater impact on the short calls provided the underlying remains within a limited range.

## Max Loss

The maximum loss would occur if the underlying stock went to infinity. If the strategy is analyzed as a bull call spread and a naked call combined, then when all the options go deep in-the-money, the bull call spread has a positive value equal to the difference between the strikes, and the naked call has a negative value equal to the difference between the stock's price and the upper strike price. Since there is no limit to the stock's upside potential, the option strategy's potential loss is also unlimited.

## Max Gain

The maximum gain would occur should the underlying stock be at the upper strike price at expiration. In this case, the two short calls would expire worthless and the long call would be in-the-money. The gain would be the in-the-money amount, which is the difference between the strike prices, plus the credit received (or minus the debit paid) when the position was initiated.

## Profit/Loss

This strategy has a limited profit potential, but the potential loss is unlimited. Probably the easiest way to analyze the strategy is to divide it into two sub-positions: a bull call spread and a naked call. Should the stock rise sharply and all the options go deep in-the-money, the bull call spread has a positive value equal to the difference between the strikes and the naked call has a negative value equal to the difference between the stock's price and the upper strike price. Since there is no limit to the stock's upside potential, the strategy's potential loss is also unlimited.

The best case scenario is that of a bull call spread when the stock goes right to the upper strike but no further.

## Breakeven

Consider the strategy at expiration across a range of prices for the underlying stock: below the lower strike all options are worthless; as the stock moves above the lower strike the long call goes into-the-money and creates a gain; as the stock moves above the upper strike the short calls go into-the-money and start to offset the gain; when the stock is above the upper strike by the difference between the strikes the gain has been eliminated. From that point, continue by the amount of the credit (or drop back by amount of debit) to find the breakeven level. Finally, note that for a debit position there will be a second breakeven level equal to the lower strike plus the debit.

## Volatility

An increase in implied volatility, all other things equal, will have a negative impact on this strategy. The combined Vega of the two short calls will generally be much greater than that of the single long call. However, the extent to which the options are in-the-money or out-of-the-money, the time to expiration and level of interest rates are all factors that influence options' sensitivity to changes in market volatility, so the investor would be well-advised to test out any strategy using a theoretical model before actually executing a trade.

## Time Decay

The passage of time, all other things equal, will generally have a positive impact on this strategy. However, the extent to which the options are in-the-money or out-of-the-money, the time to expiration and level of interest rates are all factors that influence options' sensitivity to the passage of time. The investor should analyze each option that makes up the strategy to determine what will be the effect of time decay and is advised to test out any strategy on a theoretical model before actually executing a trade.

## Assignment Risk

Early assignment, while possible at any time, generally occurs only when the stock goes ex-dividend.

And be aware, a situation where a stock is involved in a restructuring or capitalization event, such as a merger, takeover, spin-off or special dividend, could completely upset typical expectations regarding early exercise of options on the stock.

## Expiration Risk

The investor cannot know for sure whether or not they will be assigned on either or both of the short calls until the Monday after expiration. Should the unexpected occur, the investor could find themselves with an unanticipated position on the Monday following expiration and subject to an adverse move in the stock over the weekend.

## Related Position

Comparable Position: N/A

Opposite Position: [Long Ratio Call Spread](#)