

## MONTREAL EXCHANGE

# Short Call Butterfly

### Description

A short call butterfly consists of two long calls at a middle strike and short one call each at a lower and upper strike. The upper and lower strikes (wings) must both be equidistant from the middle strike (body), and all the options must have the same expiration date.

### Outlook

The strategy is hoping to capture a movement to outside of the wings at the expiration of the options.

### Summary

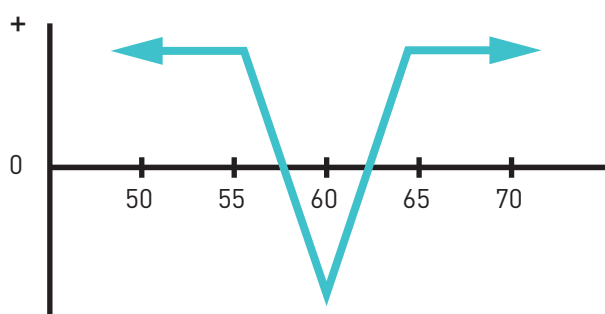
This strategy tends to be successful if the underlying stock is outside the wings of the butterfly at expiration.

### Motivation

The investor is attempting to correctly predict an upcoming move in either direction, usually for a limited debit, if any.

#### Short Call Butterfly

Net Position



#### Example

Short 1 XYZ 65 call  
Long 2 XYZ 60 calls  
Short 1 XYZ 55 call

#### MAXIMUM GAIN

Net premium received

#### MAXIMUM LOSS

High strike - middle strike - net premium received

### Variations

The short call butterfly and short put butterfly, assuming the same strikes and expiration, will have the same payoff at expiration. They may, however, vary in their likelihood of early exercise should the options go into-the-money or the stock pay a dividend.

While they have similar risk/reward profiles, this strategy differs from the long iron butterfly in that a positive cash flow occurs up front, and any negative cash flow is uncertain and would occur somewhere in the future.

## Max Loss

The maximum loss would occur should the underlying stock be at the middle strike at expiration. In that case, the short call with the lower strike would be in-the-money and all the other options would expire worthless. The loss would be the difference between the lower and middle strike (the wing and the body), less the premium received for initiating the position.

## Max Gain

The maximum profit would occur should the underlying stock be outside the wings at expiration. If the stock were below the lower strike all the options would expire worthless; if above the upper strike all the options would be exercised and offset each other for a zero profit. In either case the investor would pocket the premium received for initiating the position.

## Profit/Loss

The potential profit and loss are both very limited. In essence, a butterfly at expiration has a minimum value of zero and a maximum value equal to the distance between either wing and the body. An investor who sells a butterfly receives a premium somewhere between the minimum and maximum value, and profits if the butterfly's value moves toward the minimum as expiration approaches.

## Breakeven

The strategy breaks even if at expiration the underlying stock is above the lower strike or below the upper strike by the amount of premium received to initiate the position.

## Volatility

An increase in implied volatility, all other things equal, will usually have a slightly positive impact on this strategy.

## Time Decay

The passage of time, all other things equal, will usually have a negative impact on this strategy if the body of the butterfly is at-the-money, and a positive impact if the body is away from the money.

## Assignment Risk

The short calls that form the wings of the butterfly are subject to exercise at any time, while the investor decides if and when to exercise the body. The components of this position form an integral unit, and any early exercise could be extremely disruptive to the strategy. In general, since the cost of carry makes it optimal to exercise a call option on the last day before expiration, this should not pose a problem. But the investor should be wary of using this strategy where dividend situations or tax complications have the potential to intrude.

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

This strategy has expiration risk. If at expiration the stock is trading right at either wing the investor faces uncertainty as to whether or not they will be assigned on that wing. If the stock is near the upper wing, the investor will be exercising their calls from the body and is fairly certain of being assigned on the lower wing, so the risk is that they are not assigned on the upper wing. If the stock is near the lower wing the investor risks being assigned at the lower wing.

The real problem with the assignment uncertainty is the risk that the investor's position when the market re-opens after expiration weekend is other than expected, thus subjecting the investor to events over the weekend.

# Related Position

Comparable Position: [Short Put Butterfly](#)

Opposite Position: [Long Call Butterfly](#)