

# MONTREAL EXCHANGE

# Long Iron Butterfly

## Description

This strategy combines a short call at an upper strike, a long call and long put at a middle strike, and short a put at lower strike. The upper and lower strikes (wings) must both be equidistant from the middle strike (body), and all the options must be the same expiration.

An alternative way to think about this strategy is a long straddle with a short strangle. It could also be considered as a bull call spread and a bear put spread.

## Outlook

The investor is looking for a sharp move either up or down in the underlying stock during the life of the options.

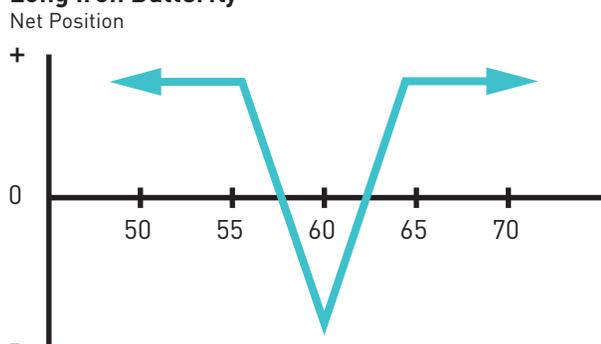
## Summary

This strategy profits if the underlying stock is outside the wings of the iron butterfly at expiration.

## Motivation

Profit from a move in the underlying stock in either direction.

### Long Iron Butterfly



### Example

Short 1 XYZ 65 call  
Long 1 XYZ 60 call  
Long 1 XYZ 60 put  
Short 1 XYZ 55 put

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#### MAXIMUM GAIN

High strike - middle strike - net premium paid

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#### MAXIMUM LOSS

Net premium paid

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## Variations

While this strategy has a similar risk/reward profile to the short call butterfly and short put butterfly, the long iron butterfly differs in that a negative cash flow occurs up front, and any positive 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 body of the butterfly at expiration. In that case all the options would expire worthless, and the premium paid to initiate the position would have been lost.

## Max Gain

The maximum gain would occur should the underlying stock be outside the wings at expiration. In that case, either both calls or both puts would be in-the-money. The profit would be the difference between the body and either wing, less the premium paid to initiate the position.

## Profit/Loss

The potential profit and loss are both very limited. In essence, an iron 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 buys an iron butterfly pays a premium somewhere between the minimum and maximum value, and profits if the butterfly's value moves toward the maximum as expiration approaches.

## Breakeven

The strategy breaks even if at expiration the underlying stock is either above or below the body of the butterfly by the amount of premium paid to initiate the position.

## Volatility

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

## Time Decay

As with most strategies where the investor is a net buyer of option premium, passage of time, all other things equal, will have a negative effect on this strategy.

## Assignment Risk

Yes. The short options 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. If an early exercise occurs at the wing, the investor can exercise an option at the body (put or call, whichever is appropriate) to lock in the maximum gain and continue to hold the other half of the position, which might still have value. So early exercise might be a good thing, although it may require borrowing stock or financing stock for one business day.

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

Yes. 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. Should the investor not be assigned on the wing, they could be unexpectedly long or short the stock on the Monday following expiration and hence subject to an adverse move over the weekend.

# Related Position

Comparable Position: [Short Call Butterfly](#)

Opposite Position: [Short Iron Butterfly](#)