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# Butterflies, Condors and Broken Wings

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- Introduction
- Long Butterfly
- Iron Condor
- Broken Wing Butterfly
- Vertical Spread Management
- Summary

- Long Butterfly and Iron Condor are neutral strategies
- Payout at expiration is based on hitting a price range
- Key levels are known when trade is initiated
- Broken Wing versions of these spreads result in a unique payout structure



# Long Butterfly

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- Constructed using options of the same type (call or put) and expiration
- Uses different strikes
- Highest and lowest strikes are purchased
- Middle strike options sold – number equal to long options
- Initiated at a cost or debit



# Long Butterfly

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XYZ @ 55.00

January Expiration – 45 Days

	Call	Put
Jan 50	5.95	0.85
Jan 55	2.85	2.75
Jan 60	1.10	6.00

Buy 1 Jan 50 Call @ 5.95

Buy 1 Jan 60 Call @ 1.10

Sell 2 Jan 55 Calls @ 5.70 (2.85 ea)

**Net Debit = (5.95 + 1.10) – 5.70 = (1.35)**



# Long Butterfly

**CBOE**<sup>®</sup>

XYZ @ 55.00

January Expiration – 45 Days

	Call	Put
Jan 50	5.95	0.85
Jan 55	2.85	2.75
Jan 60	1.10	6.00

Buy 1 Jan 50 Put @ 0.85

Buy 1 Jan 60 Put @ 6.00

Sell 2 Jan 55 Puts @ 5.50 (2.75 ea)

**Net Debit = (0.85 + 6.00) – 5.50 = (1.35)**



# Long Butterfly

## Long Jan 50/55/60 Call Butterfly at Expiration –

XYZ	Long 1 50 Call	Short 2 55 Calls	Long 1 60 Call	Debit	Profit / Loss
45	0.00	0.00	0.00	(1.35)	(1.35)
50	0.00	0.00	0.00	(1.35)	(1.35)
55	5.00	0.00	0.00	(1.35)	3.65
60	10.00	(10.00)	0.00	(1.35)	(1.35)
65	15.00	(20.00)	5.00	(1.35)	(1.35)





# Long Butterfly

## Long Jan 50/55/60 Put Butterfly at Expiration –

XYZ	Long 1 50 Put	Short 2 55 Puts	Long 1 60 Put	Debit	Profit / Loss
45	5.00	(20.00)	15.00	(1.35)	(1.35)
50	0.00	(10.00)	10.00	(1.35)	(1.35)
55	0.00	0.00	5.00	(1.35)	3.65
60	0.00	0.00	0.00	(1.35)	(1.35)
65	0.00	0.00	0.00	(1.35)	(1.35)



# Long Butterfly

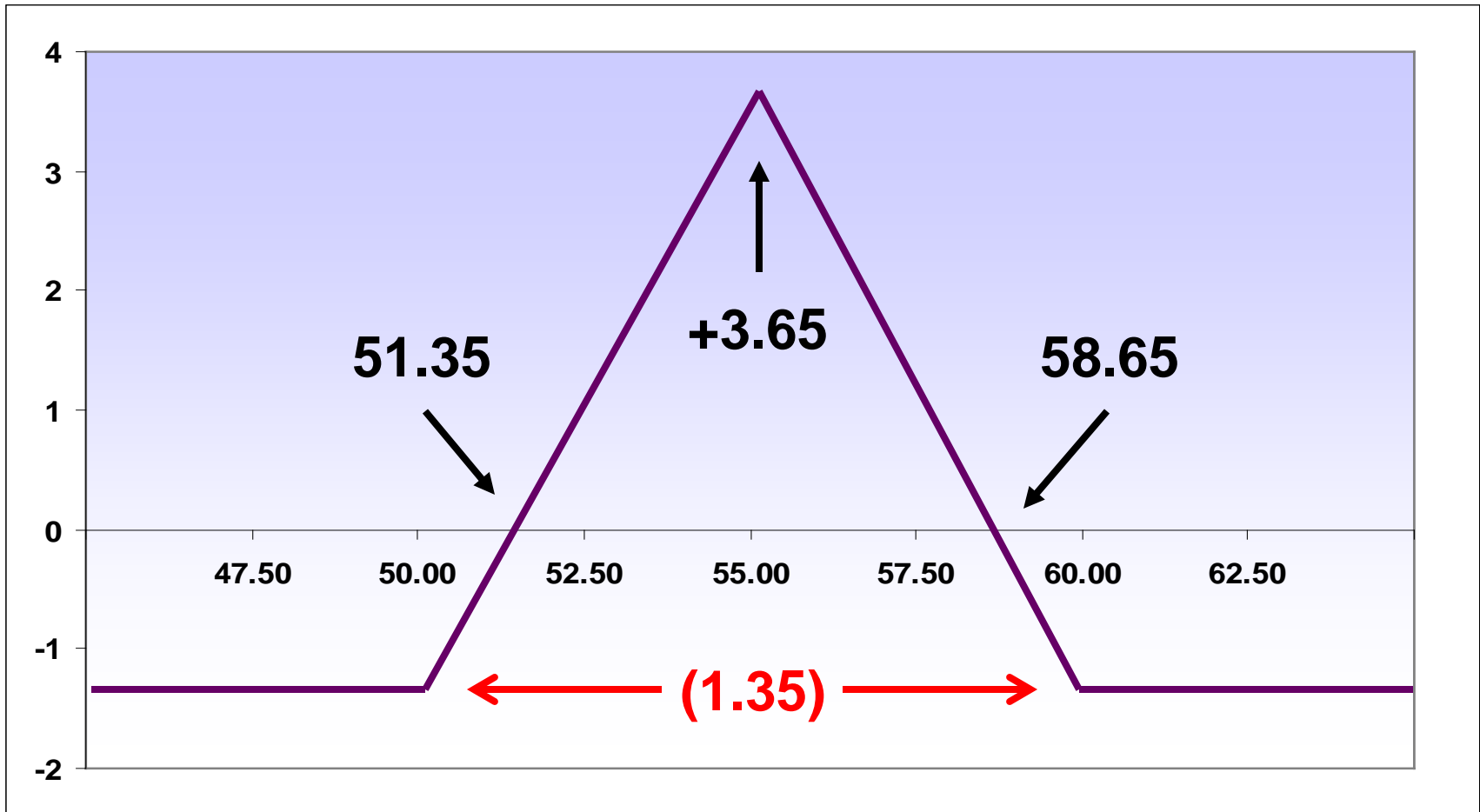
## Key Levels –

Maximum Gain	3.65
Maximum Gain Price	55.00
Maximum Loss	(1.35)
Maximum Loss Prices	< 50 or > 60
Break Even Prices	51.35 or 58.65



# Long Butterfly

## Payout Diagram –



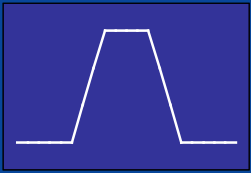


# Long Butterfly

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## Summary –

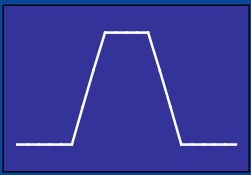
- Spread can be constructed from all call or all put options
- Initiated with a debit or cost to account
- Risk / reward known if held to expiration
- Single price point results in maximum profit



# Iron Condor

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- Constructed with four different options
- Two calls and two puts
- Lower two strike options are puts
- Higher two strike options are calls
- Highest and lowest strikes are purchased
- Two middle strike options sold
- Trade is done for a net credit



# Iron Condor

XYZ @ 57.50

January Expiration – 45 Days

	Call	Put
Jan 50	8.05	0.45
Jan 55	4.35	1.75
Jan 60	1.90	4.30
Jan 65	0.70	8.10

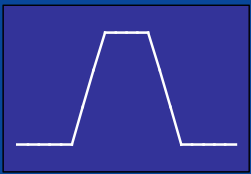
Buy 1 Jan 50 Put @ 0.45

Sell 1 Jan 55 Put @ 1.75

Sell 1 Jan 60 Call @ 1.90

Buy 1 Jan 65 Call @ 0.70

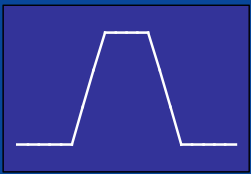
**Net Credit = - 0.45 + 1.75 + 1.90 - 0.70 = 2.50**



# Iron Condor

## Jan 50/55/60/65 Iron Condor at Expiration –

	Long 50 Put	Short 55 Put	Short 60 Call	Long 65 Call	Credit	Profit / Loss
45	5.00	(10.00)	0.00	0.00	2.50	(2.50)
50	0.00	(5.00)	0.00	0.00	2.50	(2.50)
55	0.00	0.00	0.00	0.00	2.50	2.50
60	0.00	0.00	0.00	0.00	2.50	2.50
65	0.00	0.00	(5.00)	0.00	2.50	(2.50)
70	0.00	0.00	(10.00)	5.00	2.50	(2.50)

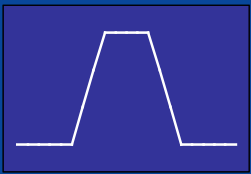


# Iron Condor

## Key Levels –

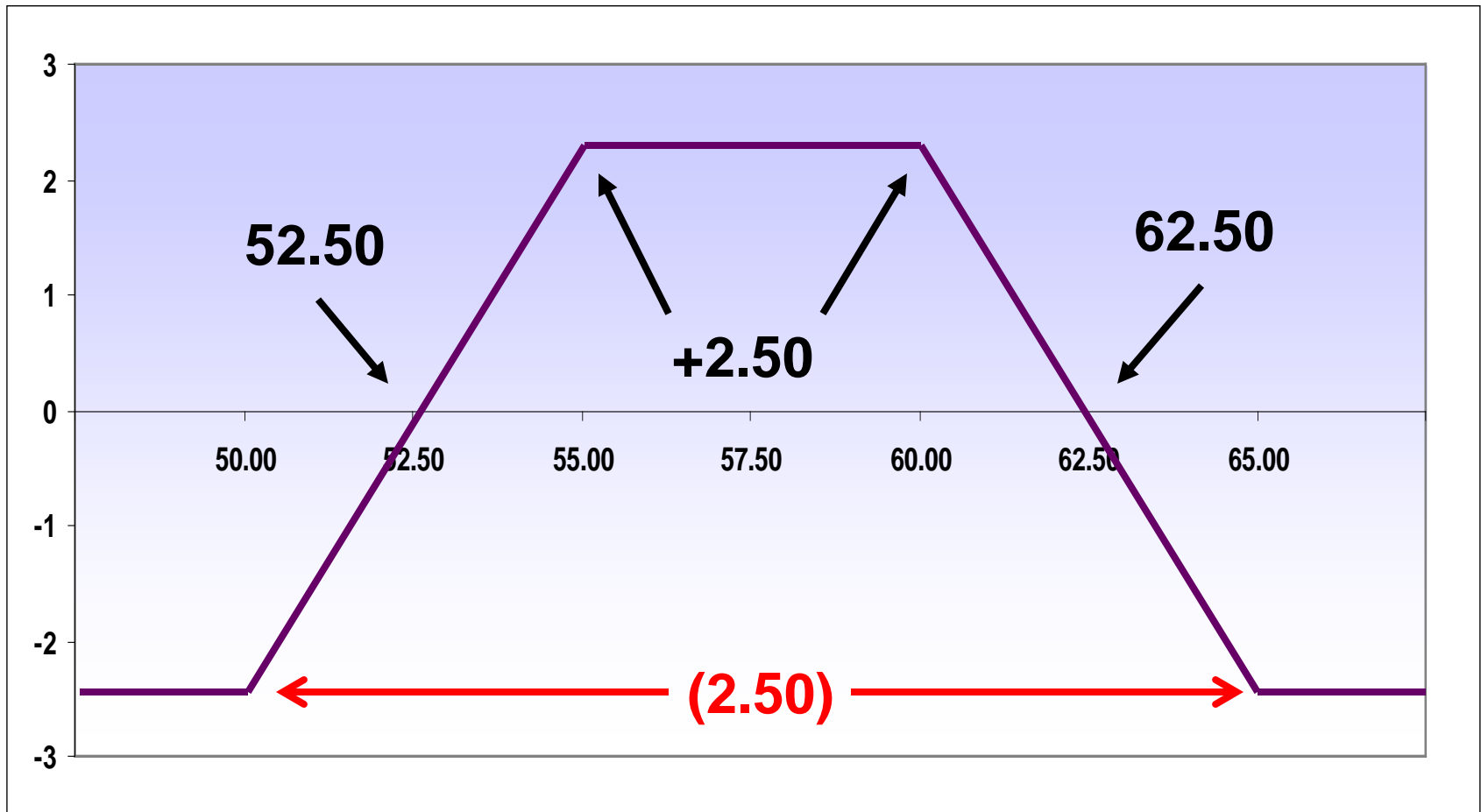
Maximum Gain	2.50
Maximum Gain Prices	Between 55 & 60
Maximum Loss	(2.50)
Maximum Loss Prices	< 50 or > 65
Break Even Prices	52.50 or 62.50

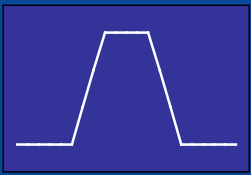




# Iron Condor

## Payout Diagram –



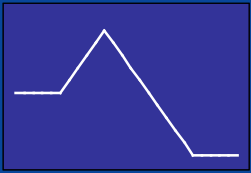


# Iron Condor

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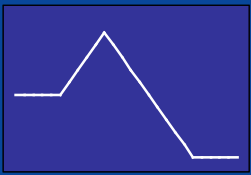
## Summary –

- Spread constructed from a combination of call and put options
- Initiated with a credit to account
- Maximum profit results from a range of closing prices at expiration
- Risk / reward known upon initiation of spread



# Broken Wing Spreads

- Usually done with as a Butterfly
- Can be created in a Condor format
- Involves skipping a strike price when constructing the spread
- Result can be a payout that works in both a directional and neutral market situation



# Broken Wing Butterfly

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- XYZ trading at 57.50
- January expiration 45 days out
- Believe XYZ will drift to 55.00
- Think there may be risk to extreme downside in XYZ
- Decide to initiate a Broken Wing Butterfly instead of a Butterfly spread



# Broken Wing Butterfly

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## Broken Wing Butterfly w/ Calls

XYZ @ 57.50

January Expiration – 45 Days

	Call	Put
Jan 50	8.30	0.70
Jan 55	4.80	2.15
Jan 60	2.40	4.80
Jan 65	1.05	8.45

Buy 1 Jan 50 Call @ 8.30

Sell 2 Jan 55 Calls @ 9.60 (4.80 ea)

Buy 1 Jan 65 Call @ 1.05

**Net Credit = - 8.30 + 9.60 - 1.05 = 0.25**

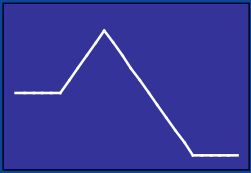


# Broken Wing Butterfly

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## Jan 50/55/65 Broken Wing Call Butterfly at Expiration

XYZ	Long 1 50 Call	Short 2 55 Calls	Long 1 65 Call	Credit	Profit / Loss
45	0.00	0.00	0.00	0.25	0.25
50	0.00	0.00	0.00	0.25	0.25
55	5.00	0.00	0.00	0.25	5.25
60	10.00	(10.00)	0.00	0.25	0.25
65	15.00	(20.00)	0.00	0.25	(4.75)
70	20.00	(30.00)	5.00	0.25	(4.75)



# Broken Wing Butterfly

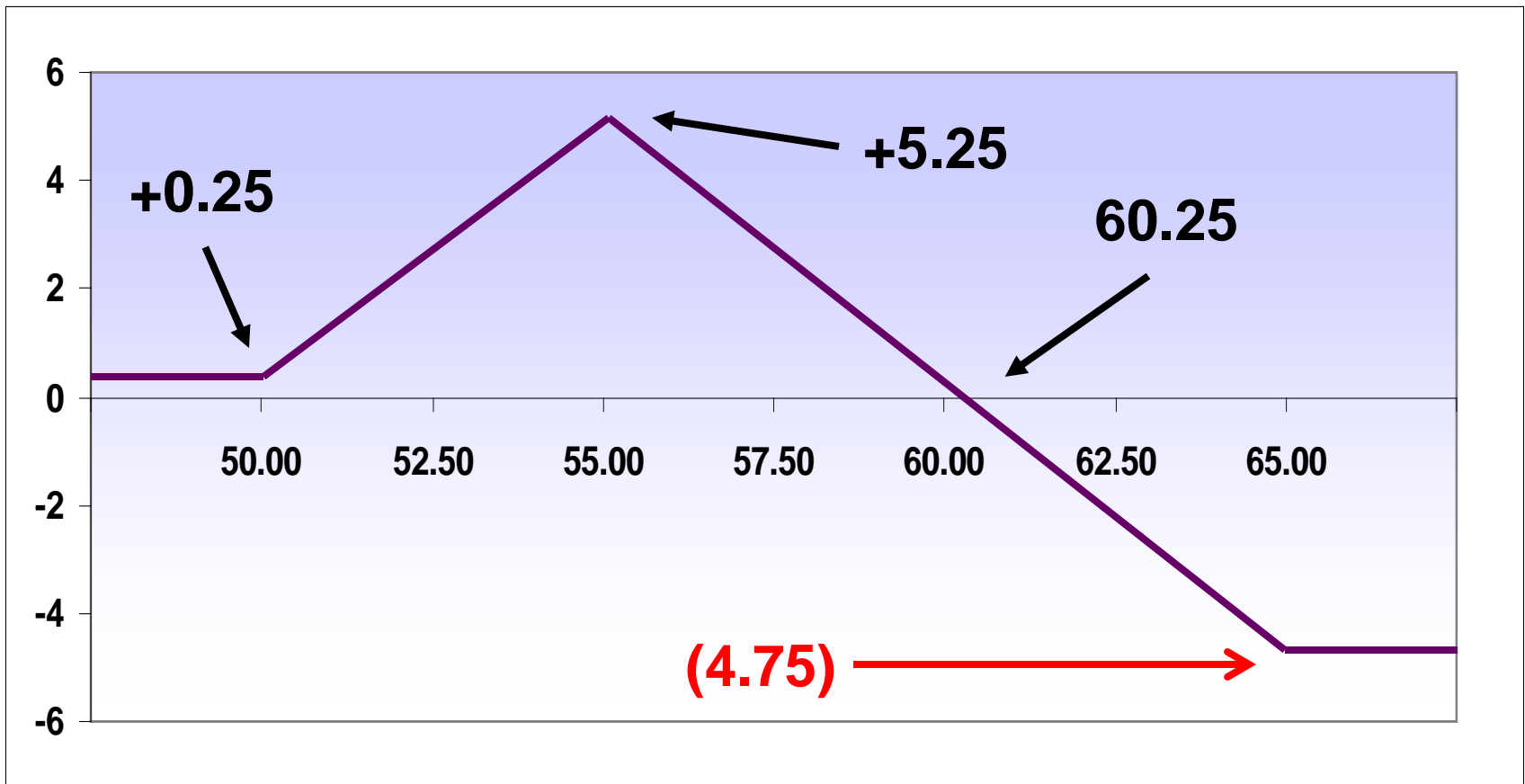
## Key Levels –

Maximum Gain	5.25
Maximum Gain Price	55.00
Maximum Loss	(4.75)
Maximum Loss Prices	Over 65.00
Break Even Price	60.25

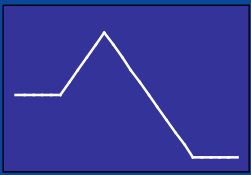


# Broken Wing Butterfly

## Payout Diagram –





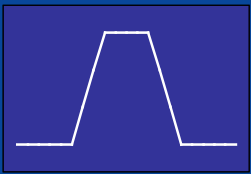


# Broken Wing Butterfly

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Comparison –

- One alternative to this spread could be an Iron Condor
- Iron Condor constructed with 45/50 Puts and 55/60 Calls would be a good comparable



# Iron Condor

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XYZ @ 57.50

January Expiration – 45 Days

	Call	Put
Jan 45	12.50	0.05
Jan 50	8.05	0.45
Jan 55	4.35	1.75
Jan 60	1.90	4.30

Buy 1 Jan 45 Put @ 0.05

Sell 1 Jan 50 Put @ 0.45

Sell 1 Jan 55 Call @ 4.35

Buy 1 Jan 60 Call @ 1.90

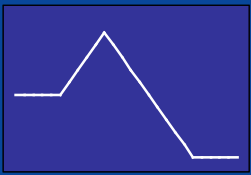
**Net Credit = - 0.05 + 0.45 + 4.35 - 1.95 = 2.80**



# Broken Wing Butterfly

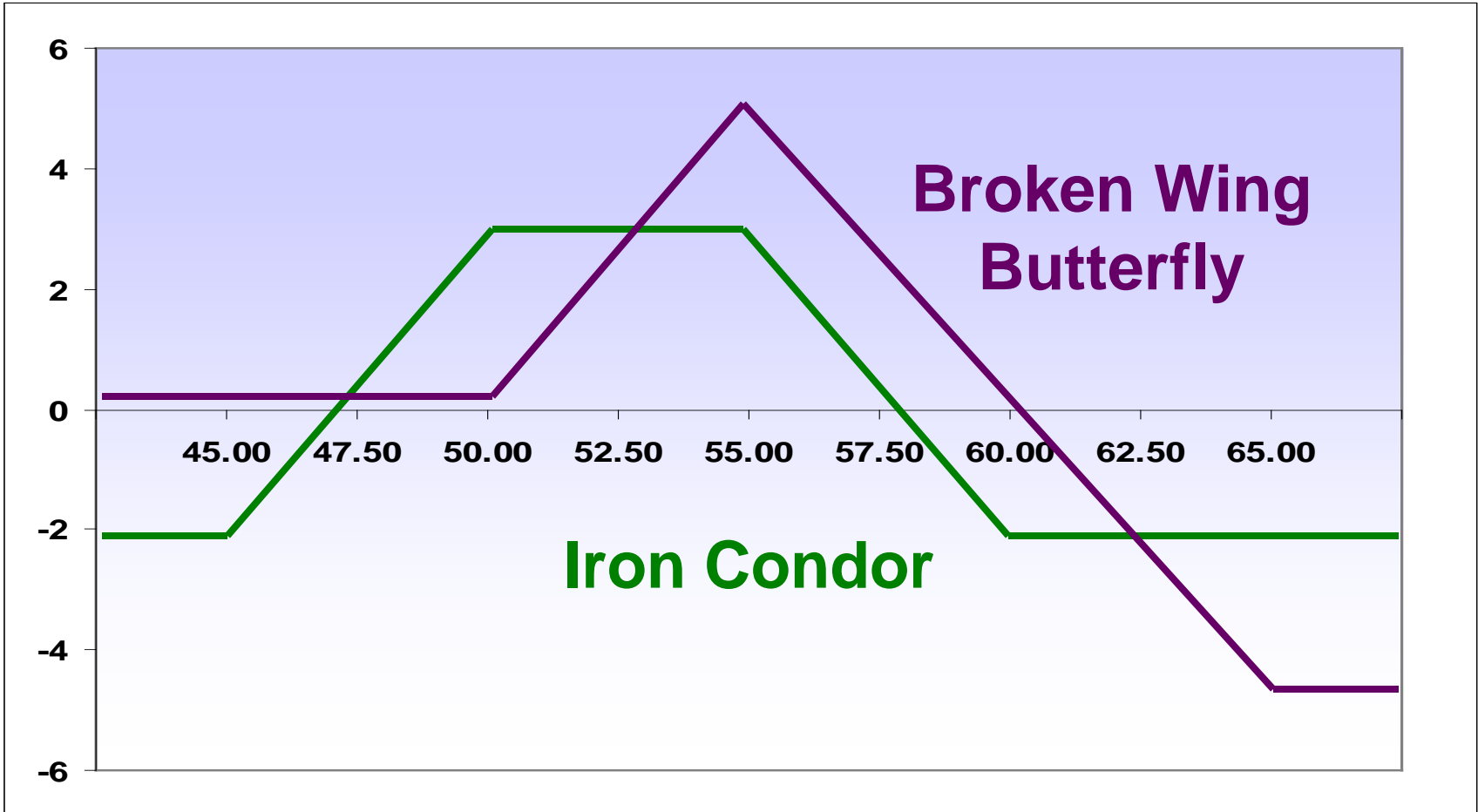
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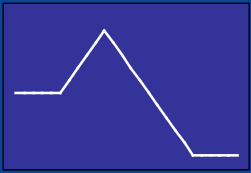
	Iron Condor	Broken Wing Butterfly
Maximum Gain	2.80	5.25
Maximum Gain Price(s)	Between 50 & 55	55.00
Maximum Loss	(2.30)	(4.75)
Maximum Loss Prices	< 45.00 or > 60.00	Over 65.00
Break Even Prices	47.20 or 57.80	60.25



# Broken Wing Butterfly

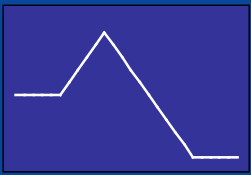
## Payout Comparison -





## Bull Call Spread Management –

- XYZ @ 52.00
- Expect XYZ to be at 55.00 at Jan expiration (45 days)
- Decide to buy a XYZ Jan 50/55 Bull Call Spread



# Broken Wing

XYZ @ 52.00

January Expiration – 45 Days

	Call	Put
Jan 50	3.75	1.65
Jan 55	1.50	4.40
Jan 60	0.50	8.35
Jan 65	0.10	13.00

Buy 1 Jan 50 Call @ 3.75

Sell 1 Jan 55 Call @ 1.50

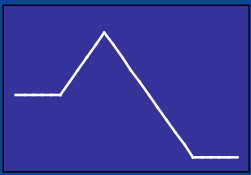
**Net Debit = -3.75 + 1.50 = -2.25**



# Broken Wing

## Bull Call Spread Management –

- XYZ quickly trades up to 55.00
- Have a small profit on Bull Call Spread
- Think stock is at resistance, now concerned about return to lower 50's
- What to do?



# Broken Wing

XYZ @ 55.00 (+3.00) January Expiration – 40 Days

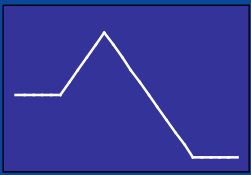
	Call	Put
Jan 50	5.75	0.75
Jan 55	2.75	2.60
Jan 60	0.95	5.85
Jan 65	0.25	10.20

Jan 50 Call @ 5.75

Jan 55 Call @ 2.75

**Spread Value = 5.75 - 2.75 = 3.00 (+0.75)**





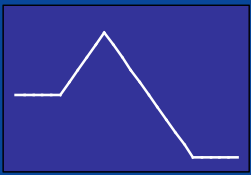
Again -

Concerned stock may return to lower 50's.

Certain stock has a ceiling at 55.00

Alternatives –

- 1) Exit trade – take 0.75 profit
- 2) Create a Broken Wing Butterfly



# Broken Wing

Create Broken Wing Butterfly –

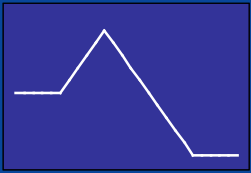
	Call	Put
Jan 50	5.75	0.75
Jan 55	2.75	2.60
Jan 60	0.95	5.85
Jan 65	0.25	10.20

Sell 1 Jan 55 Call @ 2.75

Buy 1 Jan 65 Call @ 0.25

**Net Credit = 2.75 - 0.25 = 2.50**

**Broken Wing Butterfly Credit = 2.50 - 2.25 = 0.25**



# Broken Wing

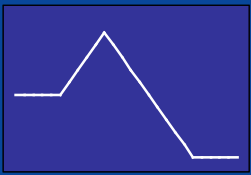
What do we have now –

Long 1 Jan 50 Call

Short 2 Jan 55 Calls

Long 1 Jan 65 Call

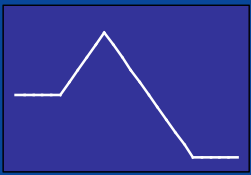
Net Spread Credit = 0.25



# Broken Wing

## Jan 50/55/65 Broken Wing Call Butterfly at Expiration

XYZ	Long 1 50 Call	Short 2 55 Calls	Long 1 65 Call	Credit	Profit / Loss
45	0.00	0.00	0.00	0.25	0.25
50	0.00	0.00	0.00	0.25	0.25
55	5.00	0.00	0.00	0.25	5.25
60	10.00	(10.00)	0.00	0.25	0.25
65	15.00	(20.00)	0.00	0.25	(4.75)
70	20.00	(30.00)	5.00	0.25	(4.75)



# Broken Wing

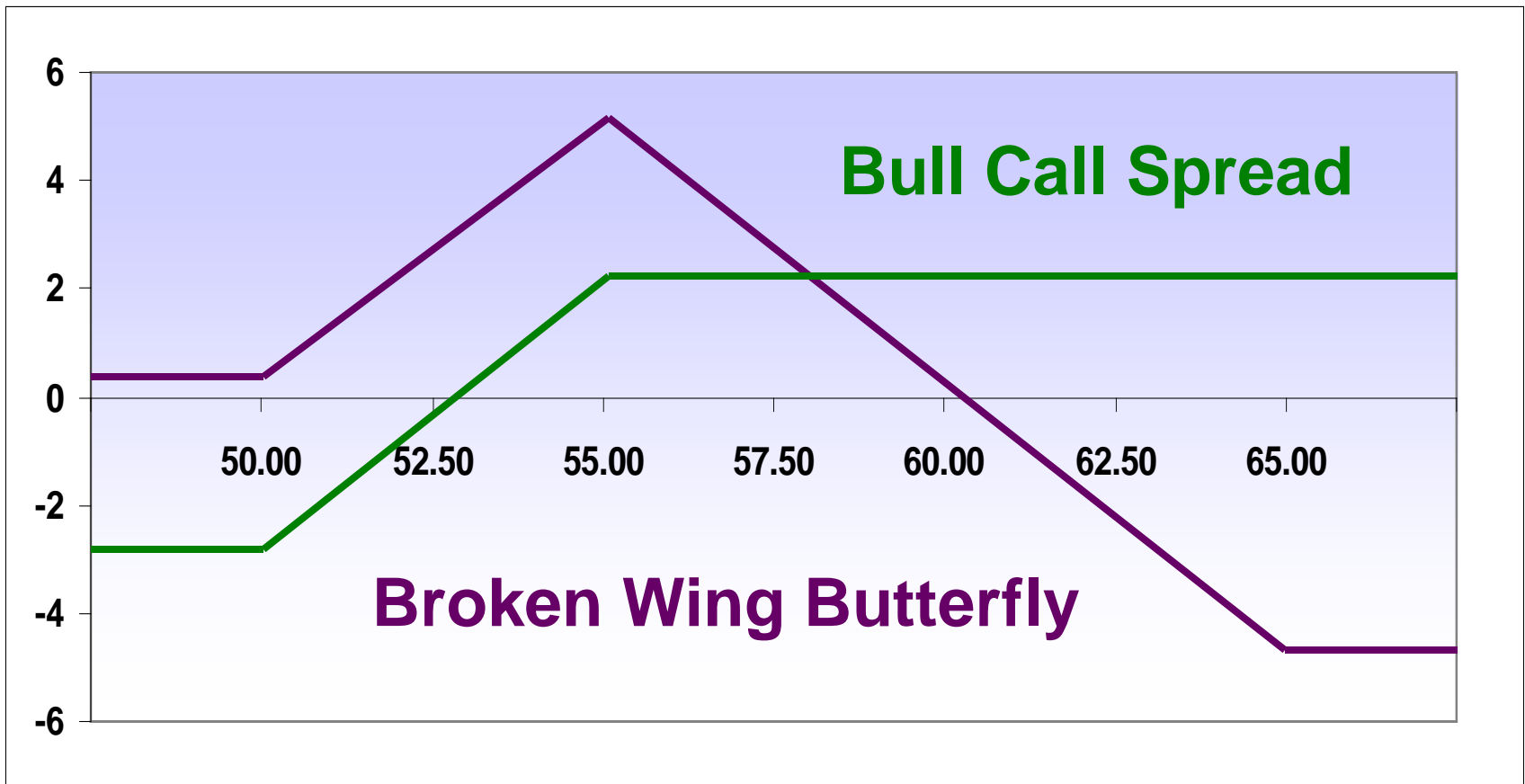
## Key Level Comparison –

	Butterfly	Bull Call Spread
Maximum Gain	5.25	2.75
Maximum Gain Price	55.00	55.00
Maximum Loss	(4.75)	(2.25)
Maximum Loss Prices	Over 65.00	Under 50.00
Break Even Prices	60.25	52.25



# Broken Wing

## Payout Diagram –





# Broken Wing

## Broken Wing Butterfly Payout Matrix –

	35	30	25	20	15	10	5	0
47.50	0.90	0.90	0.85	0.80	0.70	0.55	0.35	0.25
50.00	1.25	1.30	1.35	1.35	1.40	1.30	1.10	0.25
52.50	1.40	1.50	1.70	1.85	2.10	2.30	2.60	2.75
55.00	1.15	1.35	1.60	1.90	2.25	2.70	3.40	5.25
57.50	0.60	0.75	0.95	1.20	1.50	1.90	2.40	2.75
60.00	(0.30)	(0.20)	(0.15)	(0.05)	0.05	0.15	0.25	0.25
62.50	(1.30)	(1.30)	(1.35)	(1.45)	(1.55)	(1.70)	(2.00)	(2.25)
65.00	(2.25)	(2.35)	(2.50)	(2.65)	(2.90)	(3.25)	(3.65)	(4.75)
67.50	(3.05)	(3.20)	(3.40)	(3.60)	(3.85)	(4.15)	(4.50)	(4.75)

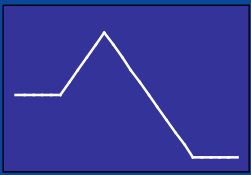


# Broken Wing

## Bull Call Spread Payout Matrix –

	35	30	25	20	15	10	5	0
47.50	(1.35)	(1.40)	(1.50)	(1.60)	(1.75)	(1.95)	(2.15)	(2.25)
50.00	(0.65)	(0.70)	(0.75)	(0.85)	(0.95)	(1.10)	(1.40)	(2.25)
52.50	0.15	0.20	0.20	0.20	0.20	0.25	0.25	0.25
55.00	0.95	1.00	1.10	1.20	1.35	1.50	1.85	2.75
57.50	1.60	1.70	1.80	1.95	2.10	2.30	2.55	2.75
60.00	2.10	2.20	2.30	2.40	2.50	2.65	2.75	2.75
62.50	2.40	2.45	2.55	2.60	2.65	2.70	2.75	2.75
65.00	2.55	2.60	2.65	2.70	2.75	2.75	2.75	2.75
67.50	2.65	2.70	2.70	2.75	2.75	2.75	2.75	2.75

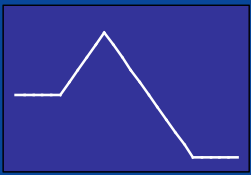




# Broken Wing Butterfly

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	Bull Call Spread	Broken Wing Butterfly
Maximum Gain	2.75	5.25
Maximum Gain Price(s)	Above 55.00	55.00
Maximum Loss	(2.25)	(4.75)
Maximum Loss Prices	< 50.00	Over 65.00
Break Even Prices	52.25	60.25



## Managed Trade Summary –

- A Broken Wing Butterfly can be created as part of managing a vertical spread
- The example altered the risk reward of a bullish trade resulting in a neutral to bearish position
- This change was due to ‘resistance’ being reached

- A Long Butterfly or Iron Condor may be used to target a price or price range for a stock
- The Broken Wing version of these two spreads may be used in a more directional manner
- Additionally, a vertical spread may be managed with the result being a Broken Winged spread

Questions / Comments?

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