

Mastering Options Strategies

A step-by-step guide to understanding profit & loss diagrams



Because Money Doesn't Grow on Trees

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In order to simplify the computations, commissions have NOT been included in the examples used in these materials. Commission costs will impact the outcome of all stock and options transactions and must be considered prior to entering into any transactions.

Options involve risk and are not suitable for all investors. Prior to buying or selling an option, a person must receive a copy of *Characteristics and Risks of Standardized Options*, available to download at www.cboe.com. Copies of this document are also available from your broker or The Options Clearing Corporation (OCC), One North Wacker Drive, Suite 500, Chicago, IL 60606 or by calling 1-888-OPTIONS. The OCC Prospectus contains information on options issued by The Options Clearing Corporation. Copies of this document are also available from the OCC at the above address. The documents available discuss exchange-traded options issued by The Options Clearing Corporation and are intended for educational purposes. No statement in the documents should be construed as a recommendation to buy or sell a security or to provide investment advice.

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PAST PERFORMANCE IS NOT A GUARANTEE OF FUTURE PERFORMANCE.

Why You Need This Workbook

Learning the basics of options involves three steps:

- 1. Understand the rights and obligations of long and short options,
- 2. Learn to calculate profit and loss at expiration, and
- 3. Master the mechanics of exercise and assignment.

This workbook takes you through each step. First, by drawing diagrams, you will learn how to calculate profit and loss on an option's expiration date. This will also teach you recognize the potential profit, potential risk and break-even point of different positions. This knowledge will serve you well when choosing strategies. Second, the problems that ask you to recognize when option exercise and assignment occurs will reinforce how options can interact with a position in the underlying stock.

After mastering the concepts taught in this workbook, your options education will **not** be complete! You will still need to learn the tradeoffs that different strategies offer and about option price behavior. Finally, to use options successfully for either investing or trading, you must learn a two-step thinking process. After identifying a goal, the first step is initiating an option position, and the second step is closing the position on or before the expiration date. These concepts along with many strategies are taught in classes at The CBOE's Options Institute.

To learn more about The Options Institute classes, schedules and/or to register, call 1-877-THE-CBOE or visit www.cboe.com

How to Draw Profit and Loss Diagrams

Step 1: Describe the opening transaction completely

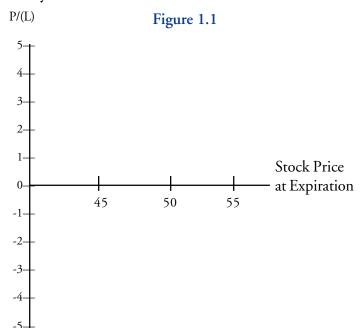
Strategy: Long Call EXAMPLE: Buy a 50 Call @ \$2

Step 2: Make a profit/loss table and a grid for the diagram.

The table (Table 1.1) should have one column for each option and one column for the total profit/loss. On the grid (Figure 1.1), the vertical line represents profit and loss, labeled P/(L), and the horizontal line represents a range of stock prices.

Strategy: Long Call EXAMPLE: Buy a 50 Call @ \$2

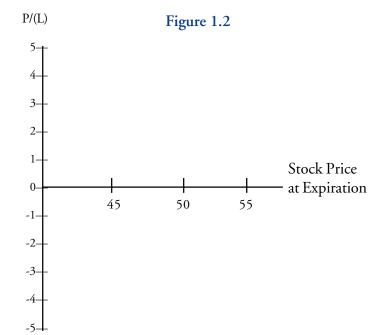
Table 1.1	
Stock Price at Expiration	Long 50 Call @ 2 P/(L)
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	



Step 3: Select a stock price at expiration and calculate the option's value.

With a stock price of \$55 at expiration, for example, the 50 Call has a value of \$5.

Table 1.2	
Stock Price at Expiration	Long 50 Call @ 2 P/(L)
57 56 55 54 53 52 51 50 49 48 47	3

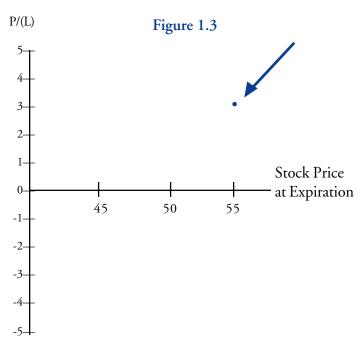


How to Draw Profit and Loss Diagrams

Step 4: Calculate the profit or loss.

For a purchased (long) option, subtract the purchase price from the value at expiration. For a sold (short) option, subtract the value at expiration from the selling price. In this example, 5 (value at expiration) minus 2 (purchase price) equals a profit of 3. Plot the profit on the graph in Figure 1.3.

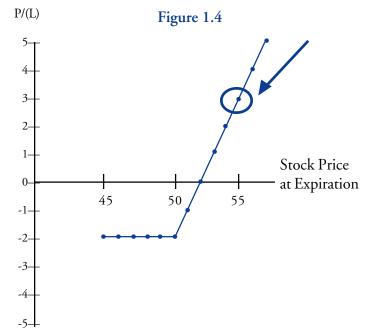
Table 1.3	
Stock Price at Expiration	Long 50 Call @ 2 P/(L)
57	
56	
55	(3)
54	
53	
52	
51	
50	
49	
48	
47	



Step 5: Plot the profit or loss

A stock price of \$55 at expiration, in this example, yields a profit of 3 and creates the point (55, 3) on the grid.

Table 1.4	
Stock Price at Expiration	Long 50 Call @ 2 P/(L)
57	5
56	4
55	(3)
54	2
53	1
52	0
51	(1)
50	(2)
49	(2)
48	(2)
47	(2)



Step 6: Repeat steps 3, 4 and 5

Repeating the steps above over a range of stock prices creates a set of points which, when connected, becomes the profit and loss diagram.

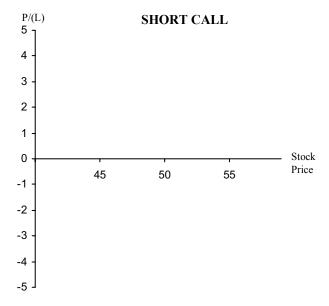
Call Strategies

STRATEGY: Long Call Buy \$50 Call @ 3 EXAMPLE: Stock Price Long Call at Expiration <u>P/(L)</u> 58 57 56 55 54 53 52 51 50

> 49 48

P/(L)	LONG	CALL	
5 -]			
4 -				
3 -				
2 -				
1 -				
0 -	•	1	-	Stock Price
-1 -	45	50	55	Trice
-2 -				
-3 -				
-4 -				
-5 -				

STRATEGY: Short Call Sell \$50 Call @ 3 EXAMPLE: Short Call Stock Price at Expiration P/(L)58 57 56 55 54 53 52 51 50 49 48



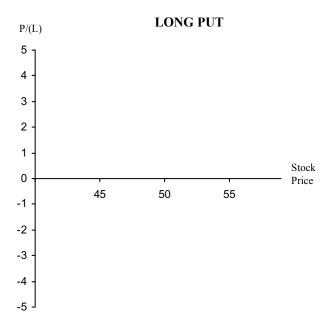
Put Strategies

STRATEGY: Long Put

EXAMPLE:	Buy \$50 Put @ 2
Stock Price at Expiration	Long Put P/(L)
53	
52	
51	
50	
49	
48	
47	
46	
45	

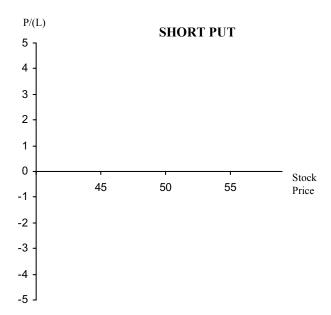
44

43



STRATEGY: Short Put Sell \$50 Put @ 2 EXAMPLE: at

Stock Price at Expiration	Short Put P/(L)
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	



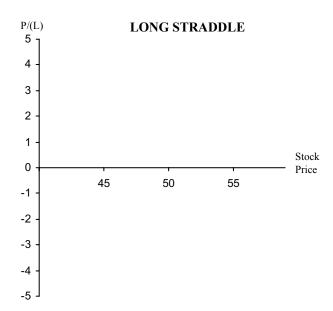
Straddles

STRATEGY: Long Straddle

EXAMPLE: Buy \$50 Call @ 3 and

Buy \$50 Put @ 2

Stock Price at Expiration	Long Call P/(L)	Long Put $P/(L)$	Total P/(L)
59			
57			
55			
53			
51			
50			
49			
47			
44			
43			
41			

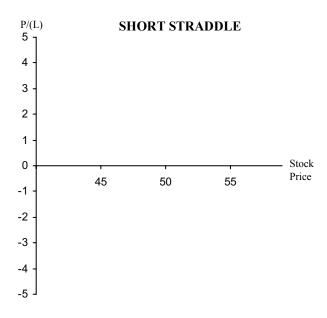


STRATEGY: Short Straddle

41

EXAMPLE: Sell \$50 Call @ 3 and Sell \$50 Put @ 2

Stock Price at Expiration	Short Call P/(L)	Short Put P/(L)	Total <u>P/(L)</u>
59			
57			
55			
53			
51			
50			
49			
47			
45			
43			



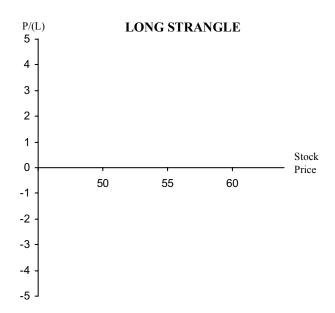
Strangles

Long Strangle STRATEGY:

Buy \$55 Call @ 1 1/2 and EXAMPLE:

Buy \$50 Put @ 1 1/2

Stock Price at Expiration	Long Call P/(L)	Long Put P/(L)	Total <u>P/(L)</u>
61			
59			
57			
55			
53			
51			
50			
49			
47			
45			
43			

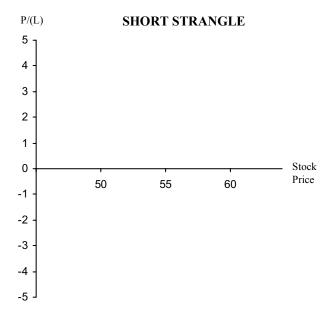


STRATEGY: Short Strangle

Sell \$55 Call @ 1 1/2 and EXAMPLE: Sell \$50 Put @ 1 1/2

> Total (L)

Stock Price	Short Call	Short Put	Tota
at Expiration	<u>P/(L)</u>	<u>P/(L)</u>	<u>P/(1</u>
61			
59			
57			
55			
53			
51			
50			
49			
47			
45			
43			

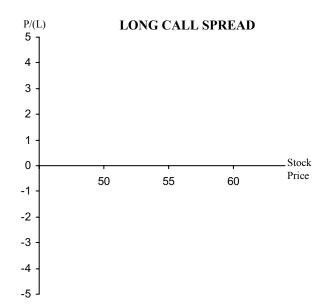


Call Spreads

STRATEGY: Long Call Spread

EXAMPLE: Buy \$50 Call @ 4 and Sell \$55 Call @ 2

Stock Price at Expiration	Long Call P/(L)	Short Call P/(L)	Total <u>P/(L)</u>
58			
57			
56			
55			
54			
53			
52			
51			
50			
49			
48			

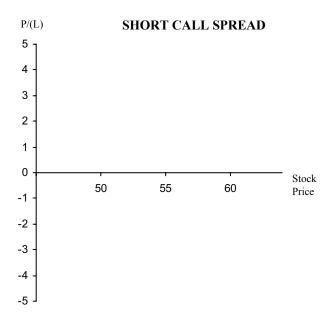


STRATEGY: Short Call Spread

EXAMPLE: Sell \$50 Call @ 4 and

Buy \$55 Call @ 2

Stock Price at Expiration	Short Call P/(L)	Long Call P/(L)	Total <u>P/(L)</u>
58			
57			
56			
55			
54			
53			
52			
51			
50			
49			
48			



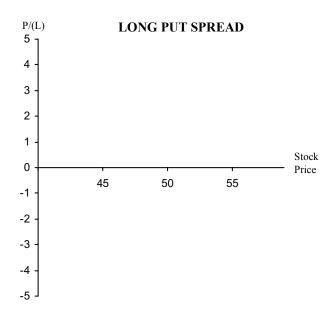
Put Spreads

STRATEGY: Long Put Spread

EXAMPLE: Buy \$50 Put @ 3 1/2 and

Sell \$45 Put @ 1 1/2

Stock Price at Expiration	Long Put $P/(L)$	Short Put P/(L)	Total P/(L)
53			
52			
51			
50			
49			
48			
47			
46			
45			
44			
43			

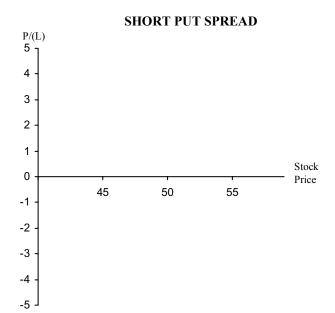


STRATEGY: Short Put Spread

EXAMPLE: Sell \$50 Put @ 3 1/2 and

Buy \$45 Put @ 1 1/2

Stock Price at Expiration	Short Put $P/(L)$	Long Put P/(L)	Total P/(L)
53			
52			
51			
50			
49			
48			
47			
46			
45			
44			
43			



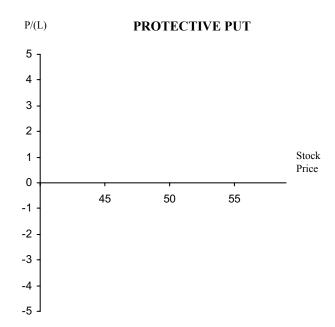
Stock and Option Strategies

STRATEGY: Protective Put

EXAMPLE: Buy Stock @ 50 and

Buy \$50 Put @ 2

Stock Price at Expiration	Long Stock P/(L)	Long Put $\underline{P/(L)}$	Total P/(L)
57			
56			
55			
54			
53			
52			
51			
50			
49			
48			
47			

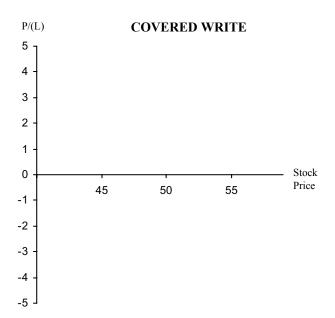


STRATEGY: Covered Write

EXAMPLE: Buy Stock @ 50 and

Sell \$50 Call @ 3

		_	
Stock Price at Expiration	Long Stock P/(L)	Short Call P/(L)	Total <u>P/(L)</u>
53			
52			
51			
50			
49			
48			
47			
46			
45			
44			
43			



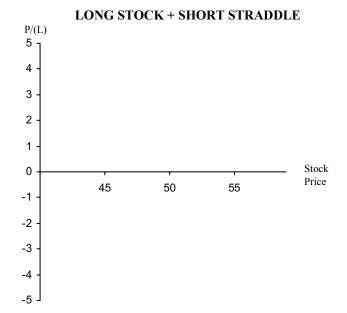
Stock and Option Strategies

STRATEGY: Long Stock + Short Straddle

EXAMPLE: Buy Stock @ 50 and

Sell \$50 Call @ 3 and Sell \$50 Put @ 2

Stock Price at Expiration	Long Stock P/(L)	Short Call P/(L)	Short Put P/(L)	Total <u>P/(L)</u>
55				
54				
53				
52				
51				
50				
49				
48				
47				
46				
45				



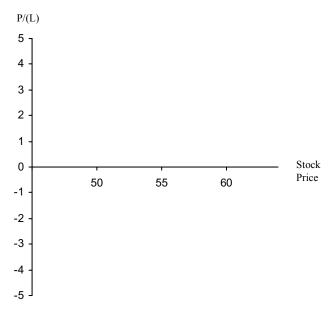
STRATEGY: Long Stock + Short Strangle

EXAMPLE: Buy Stock @ 52 and

Sell <u>1</u> \$55 Call @ 1 <u>and</u> Sell <u>1</u> \$50 Put @ 1

Stock Price at Expiration	Long Stock P/(L)	Short Call P/(L)	Short Put P/(L)	Total <u>P/(L)</u>
56				
55				
54				
53				
52				
51				
50				
49				
48				
47				
46				

LONG STOCK + SHORT STRANGLE



Stock and Option Strategies

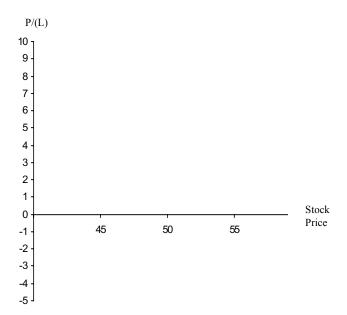
STRATEGY: Long Stock + Ratio Call Spread

EXAMPLE: Buy Stock @ 50 and Buy 1 \$50 Call @ 3 and

Sell <u>2</u> \$55 Calls @ 1 1/2 each

Stock Price at Expiration	Long Stock P/(L)	Long Call P/(L)	Short Calls P/(L)	Total P/(L)
56				
55				
54				
53				
52				
51				
50				
49				
48				
47				

LONG STOCK + RATIO CALL SPREAD



STRATEGY: Long Stock + Collar

46

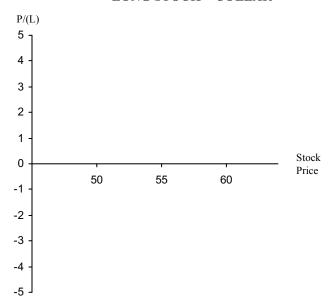
EXAMPLE: Buy Stock @ 52 and

Sell <u>1</u> \$55 Call @ 1 <u>and</u>

Buy <u>1</u> \$50 Put @ 1

Stock Price at Expiration	Long Stock P/(L)	Short Call P/(L)	Long Put P/(L)	Total P/(L)
58				
57				
56				
55				
54				
53				
52				
51				
50				
49				
48				

LONG STOCK + COLLAR



Synthetic Combinations

STRATEGY: Long Split-Strike Synthetic

EXAMPLE: Buy 1 \$55 Call @ 1 1/2 and Sell 1 \$50 Put @ 1

58

57

56

55

5351

50

49

48 47

47

Stock Price	Long Call	Short Put	Total
at Expiration	<u>P/(L)</u>	<u>P/(L)</u>	<u>P/(L)</u>
59			

Total <u>P/(L)</u>				

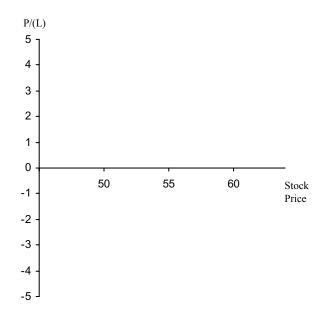
LONG SPLIT-STRIKE SYNTHETIC P/(L) 5 -4 3 2 1 Stock 0 Price 50 55 60 -2 -3 -4 -5 -

STRATEGY: Short Split-Strike Synthetic

EXAMPLE: Sell <u>1</u> \$55 Call @ 1 1/2 <u>and</u> Buy <u>1</u> \$50 Put @ 1

Stock Price at Expiration	Short Call P/(L)	Long Put P/(L)	Total <u>P/(L)</u>
59			
58			
57			
56			
55			
53			
51			
50			
49			
48			

SHORT SPLIT-STRIKE SYNTHETIC



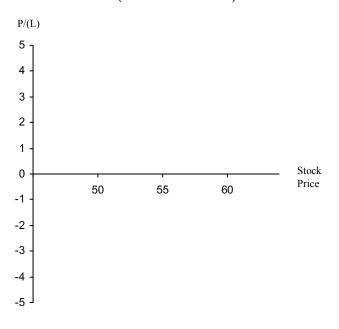
Ratio Spreads

STRATEGY: 1 X 2 Ratio Vertical Spread With Calls

EXAMPLE: Buy <u>1</u> \$50 Call @ 3 <u>and</u> Sell <u>2</u> \$55 Calls @ 1 each

Stock Price at Expiration	Long Call P/(L)	Short Calls P/(L)	Total P/(L)
62			
60			
59			
58			
57			
56			
55			
54			
53			
52			
51			
50			
48			

1 X 2 RATIO VERTICAL SPREAD WITH CALLS (FRONT SPREAD)



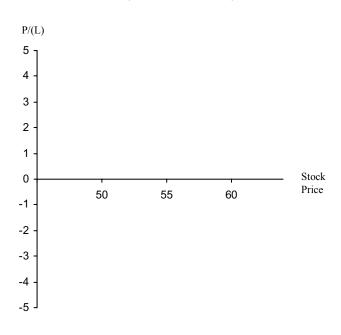
STRATEGY: 1 X 2 Ratio Volatilty Spread With Calls

EXAMPLE: Sell 1 \$50 Call @ 3 and

Buy <u>2</u> \$55 Calls @ 1 each

Stock Price at Expiration	Short Call P/(L)	Long Calls P/(L)	Total <u>P/(L)</u>
62			
60			
59			
58			
57			
56			
55			
54			
53			
52			
51			
50			
18			

1 X 2 RATIO VOLATILITY SPREAD WITH CALLS (BACK SPREAD)



Butterfly Strategies

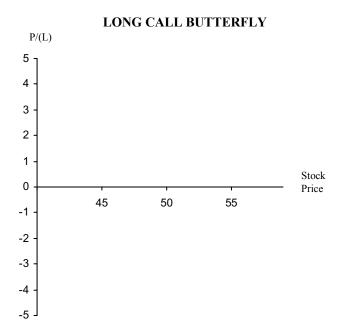
STRATEGY: Call Butterfly

EXAMPLE: Buy 1 \$45 Call @ 6 and

Sell <u>2</u> \$50 Calls <u>@</u> 3 ea. <u>and</u>

Buy <u>1</u> \$55 Call @ 1

Stock Price at Expiration	Short Calls $\underline{P/(L)}$	Long Call P/(L)	Total <u>P/(L)</u>
56			
55			
54			
53			
52			
51			
50			
49			
48			
47			
46			
45			
44			



STRATEGY: Short Butterfly with Calls EXAMPLE: Sell <u>1</u> \$45 Call @ 6 and and an arrow are supported by the calls are supported by the call are supp

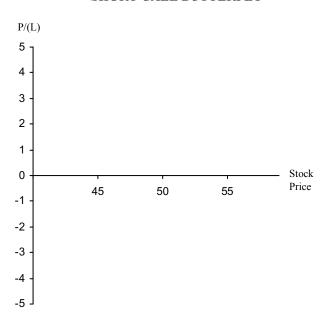
Buy <u>2</u> \$50 Calls @ 3 ea. <u>and</u>

Sell <u>1</u> \$55 Call @ 1

Stock Price at Expiration	Long Calls P/(L)	Short Call P/(L)	Total P/(L)
56			
55			
54			
53			
52			
51			
50			
49			
48			
47			
46			
45			

44

SHORT CALL BUTTERFLY

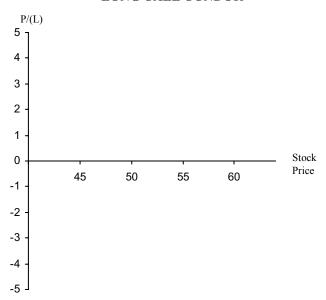


Condor Strategies

STRATEGY:	Long Condor with Calls
EXAMPLE:	Buy <u>1</u> \$45 Call @ 6 <u>and</u>
	Sell <u>1</u> \$50 Call @ 4 and
	Sell <u>1</u> \$55 Call @ 2 and
	Buy <u>1</u> \$60 Call @ 1

Stock Price at Expiration	-	Short 50 <u>P/(L)</u>	Short 55 <u>P/(L)</u>	Long 60 <u>P/(L)</u>	Total <u>P/(L)</u>
62					
60					
58					
56					
55					
54					
52					
50					
48					
46					
45					

LONG CALL CONDOR



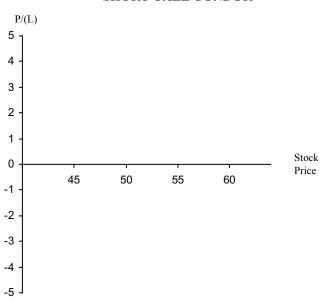
STRATEGY: Short Condor with Calls
EXAMPLE: Sell 1 \$45 Call @ 6 and
Buy 1 \$50 Call @ 4 and
Buy 1 \$55 Call @ 2 and

44

Sell <u>1</u> \$60 Call @ 1

Stock Price at Expiration	Short 45 <u>P/(L)</u>	Long 50 <u>P/(L)</u>	Long 55 <u>P/(L)</u>	Short 60 <u>P/(L)</u>	Tota <u>P/(L</u>
62					
60					
58					
56					
55					
54					
52					
50					
48					
46					
45					
44					

SHORT CALL CONDOR



Iron Strategies

STRATEGY: EXAMPLE:	Iron Butterfly Buy <u>1</u> \$45 Put @ 1 <u>and</u> Sell <u>1</u> \$50 Put @ 3 <u>and</u> Sell <u>1</u> \$50 Call @ 3 <u>and</u> Buy <u>1</u> \$55 Call @ 1		P/(L)		IRON BUT	TERFLY	
Stock Price at Expiration Long P/(I) 56 55 54 53 52 51	Put Short Put Short Call Long Call L) P/(L) P/(L) P/(L)	Total P/(L)	5] 4 - 3 - 2 - 1 - 0 			<u>'</u>	Stock Price
50 49 48 47 46 45			-1 - -2 - -3 - -4 - -5 -	45	50	55	
STRATEGY: EXAMPLE:	Iron Condor Buy 1 \$45 Put @ 1 and Sell 1 \$50 Put @ 3 and Sell 1 \$55 Call @ 3 and Buy 1 \$60 Call @ 1				IRON CO	ONDOR	
Stock Price Long at Expiration P/(I	Put Short Put Short Call Long Call L) P/(L) P/(L) P/(L)	Total P/(L)	P/(L) 5				
62			4 -				
60			3 -				
58			2 -				
56							
55			1 -				
54			0	-	1		Stock Price
52			-1 -	45	50 55	60	
50							
48			-2 -				

These strategies are presented for educational purposes only. Transaction costs may make these impractical for individual investors.

Synthetic Positions

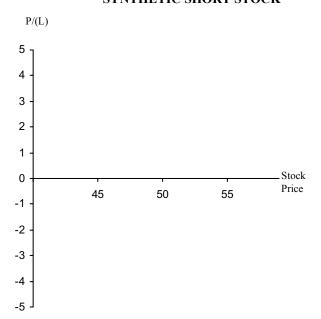
STRATEGY:	Synthetic Lor	ng Stock						
EXAMPLE:	Buy <u>1</u> \$50 Ca Sell <u>1</u> \$50 Pu			P/(L)	SYNTH	IETIC LON	NG STOCK	
Stock Price at Expiration 55 54 53 52 51 50 49 48 47 46 45	Long Call P/(L)	Short Put P/(L)	Total P/(L)	5 4 - 3 - 2 - 1 - 0 - 1 2 3 4 5	45	50	55	_ Stock Price

STRATEGY: Synthetic Short Stock
EXAMPLE: Sell 1 \$50 Call @ 2 and
Buy 1 \$50 Put @ 2

Stock Price at Expiration	Short Call P/(L)	Long Put P/(L)	Total P/(L)
55			
54			
53			
52			
51			
50			
49			
48			
47			
46			

45

SYNTHETIC SHORT STOCK



Synthetic Positions

STRATEGY:	Synthetic Long Call						
EXAMPLE:	Buy Stock @ 50 and Buy <u>1</u> \$50 Put @ 2		P/(L)	SYNTH	ETIC LON	NG CALL	
Stock Price at Expiration 55 54 53 52 51 50 49 48 47 46 45	Long Stock Long Put P/(L) P/(L)	Total P/(L)	5 - 4 - 3 - 2 - 1 2 3 4 5 - 5	4 5	50	55	_ Stock Price
STRATEGY:	Synthetic Short Call						
EXAMPLE:	Sell Stock Short @ 50 <u>and</u> Sell <u>1</u> \$50 Put @ 2		P/(L)	SYNT	HETIC SH	ORT CALL	
Stock Price	Short Stock Short Put	Total	5]				

	Sell <u>1</u> \$50 Put	<u>@</u> 2		D/(L)	SINI	iiLiic sii	OKI CILL	,
Stock Price at Expiration	Short Stock P/(L)	Short Put P/(L)	Total <u>P/(L)</u>	P/(L) 5				
55				4 -				
54				3 -				
53				2 -				
52				1 -				
51				0		<u> </u>	-	Stock
50				-1 -	45	50	55	Price
49								
48				-2 -				
47				-3 -				
46				-4 -				
45				_5]				

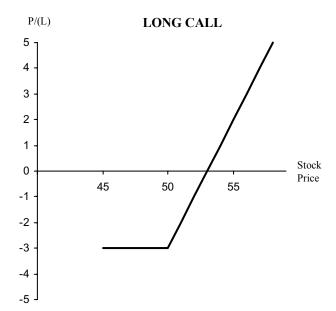
Synthetic Positions

STRATEGY:	Synthetic Long							
EXAMPLE:	Sell Stock Sho Buy <u>1</u> \$50 Cal				SYNTH	ETIC LON	IG PUT	
				P/(L) 5 ¬				
Stock Price at Expiration	Short Stock P/(L)	Long Call P/(L)	Total P/(L)	4 -				
55								
54				3 -				
53				2 -				
52				1 -				
51				0	-	1		Stock
50				-1 -	45	50	55	Price
49				-2 -				
48								
47				-3 -				
46				-4 -				
45				₋₅]				
STRATEGY:								
STRETTEGT.	Synthetic Shor	rt Put						
EXAMPLE:	Buy Stock	@ 50 <u>and</u>			SYNT	HETIC SH	ORT PUT	
EXAMPLE:	Buy Stock Sell <u>1</u> \$50 Call	@ 50 <u>and</u> 1 @ 2		P/(L)	SYNT	HETIC SH	ORT PUT	
EXAMPLE: Stock Price	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call	Total P/(L)	P/(L)	SYNT	HETIC SH	ORT PUT	
EXAMPLE: Stock Price at Expiration	Buy Stock Sell <u>1</u> \$50 Call	@ 50 <u>and</u> 1 @ 2	Total <u>P/(L)</u>		SYNT	HETIC SH	ORT PUT	
EXAMPLE: Stock Price	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5]	SYNT	HETIC SH	ORT PUT	
EXAMPLE: Stock Price at Expiration 55	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5	SYNT	HETIC SH	ORT PUT	
EXAMPLE: Stock Price at Expiration 55 54	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5 7 4 - 3 - 2 -	SYNT	HETIC SH	ORT PUT	
EXAMPLE: Stock Price at Expiration 55 54 53	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5	SYNT	HETIC SH	ORT PUT	Stool
EXAMPLE: Stock Price at Expiration 55 54 53 52	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5	,	,	,	Stock Price
Stock Price at Expiration 55 54 53 52 51	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5	SYNT:	HETIC SH	ORT PUT	Stock Price
EXAMPLE: Stock Price at Expiration 55 54 53 52 51 50	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5	,	,	,	— Stock Price
EXAMPLE: Stock Price at Expiration 55 54 53 52 51 50 49	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5	,	,	,	— Stock Price
EXAMPLE: Stock Price at Expiration 55 54 53 52 51 50 49 48	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5	,	,	,	Stock Price
EXAMPLE: Stock Price at Expiration 55 54 53 52 51 50 49 48 47	Buy Stock Sell <u>1</u> \$50 Call Long Stock	@ 50 <u>and</u> 1 @ 2 Short Call		5	,	,	,	Stock Price

ANSWERS: Call Strategies

STRATEGY: Long Call

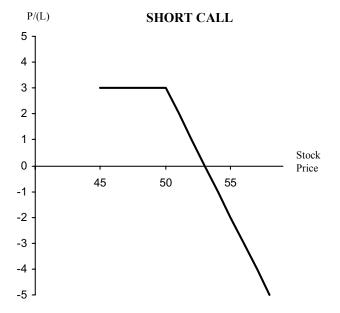
EXAMPLE:	Buy \$50 Call @ 3
Stock Price	Long Call
at Expiration	<u>P/(L)</u>
58	5
57	4
56	3
55	2
54	1
53	0
52	(1)
51	(2)
50	(3)
49	(3)
48	(3)



STRATEGY: Short Call

EXAMPLE: Sell \$50 Call @ 3

EXAMPLE:	Sell \$50 Call @ 3
Stock Price	Short Call
at Expiration	<u>P/(L)</u>
58	(5)
57	(4)
56	(3)
55	(2)
54	(1)
53	0
52	1
51	2
50	3
49	3
48	3



ANSWERS: Put Strategies

STRATEGY: Long Put Buy \$50 Put @ 2 EXAMPLE: Long Put Stock Price at Expiration <u>P/(L)</u> 53 (2) 52 (2) 51 (2) 50 (2) 49 (1) 0 48 47 46 2 45 3

4

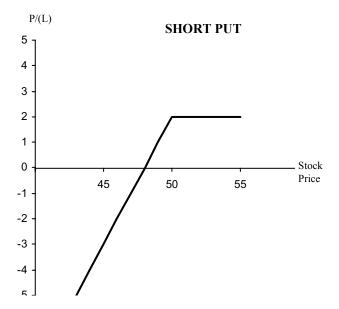
5

44

43

P/(L)	LONG PUT	
⁵]	\	
4 -		
3 -		
2 -		
1 -		0. 1
0 +		Stock Price
-1 -	45 \ \ 50 \ 55	
-2 -		
-3 -		
-4 -		
₋₅]		

STRATEGY: Short Put EXAMPLE: Sell \$50 Put @ 2 Short Put Stock Price at Expiration P/(L) 53 2 2 52 51 2 50 2 49 1 0 48 47 (1) 46 (2) 45 (3) 44 (4) 43 (5)



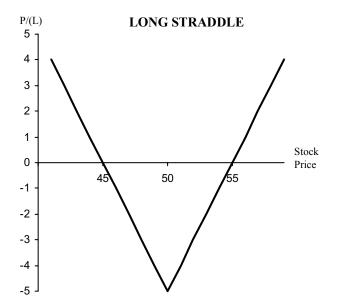
ANSWERS: Straddles

STRATEGY: Long Straddle

Buy \$50 Call @ 3 and EXAMPLE:

Buy \$50 Put @ 2

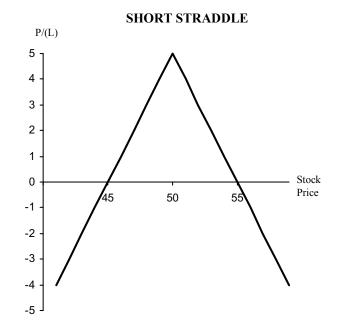
Stock Price at Expiration	Long Call <u>P/(L)</u>	Long Put P/(L)	Total <u>P/(L)</u>
59	6	(2)	4
57	4	(2)	2
55	2	(2)	0
53	0	(2)	(2)
51	(2)	(2)	(4)
50	(3)	(2)	(5)
49	(3)	(1)	(4)
47	(3)	1	(2)
45	(3)	3	0
43	(3)	5	2
41	(3)	7	4



STRATEGY: Short Straddle

EXAMPLE: Sell \$50 Call @ 3 and Sell \$50 Put @ 2

Stock Price at Expiration	Short Call P/(L)	Short Put $\underline{P/(L)}$	Total <u>P/(L)</u>
59	(6)	2	(4)
57	(4)	2	(2)
55	(2)	2	0
53	0	2	2
51	2	2	4
50	3	2	5
49	3	1	4
47	3	(1)	2
45	3	(3)	0
43	3	(5)	(2)
41	3	(7)	(4)



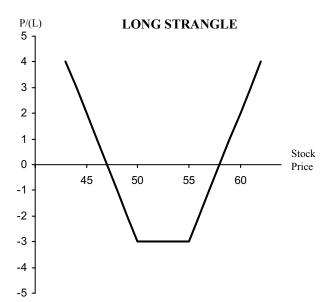
ANSWERS: Strangles

STRATEGY: Long Strangle

EXAMPLE: Buy \$55 Call @ 1 1/2 and

Buy \$50 Put @ 1 1/2

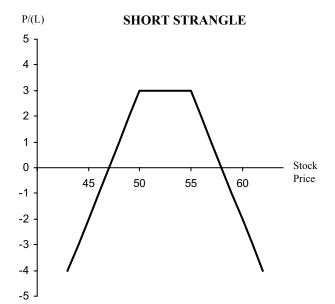
Stock Price at Expiration	Long Call P/(L)	Long Put $\underline{P/(L)}$	Total P/(L)
61	4 1/2	(1 1/2)	3
59	2 1/2	(1 1/2)	1
57	1/2	(1 1/2)	(1)
55	(1 1/2)	(1 1/2)	(3)
53	(1 1/2)	(1 1/2)	(3)
51	(1 1/2)	(1 1/2)	(3)
50	(1 1/2)	(1 1/2)	(3)
49	(1 1/2)	(1/2)	(2)
47	(1 1/2)	1 1/2	0
45	(1 1/2)	3 1/2	2
43	(1 1/2)	5 1/2	4



STRATEGY: Short Strangle

EXAMPLE: Sell \$55 Call @ 1 1/2 and Sell \$50 Put @ 1 1/2

Stock Price Short Call Short Put Total at Expiration <u>P/(L)</u> <u>P/(L)</u> <u>P/(L)</u> 61 (4 1/2)1 1/2 (3) 59 (21/2)1 1/2 (1) 57 (1/2) 1 1/2 1 3 55 1 1/2 1 1/2 53 1 1/2 3 1 1/2 3 51 1 1/2 1 1/2 3 50 1 1/2 1 1/2 2 49 1 1/2 1/2 1 1/2 0 47 $(1 \ 1/2)$ 45 1 1/2 (3 1/2)(2) 43 1 1/2 (5 1/2) (4)

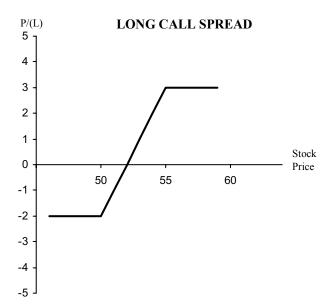


ANSWERS: Call Spreads

STRATEGY: Long Call Spread

EXAMPLE: Buy \$50 Call @ 4 and Sell \$55 Call @ 2

Stock Price Long Call Short Call	Total <u>P/(L)</u>
	$\mathbf{D}/(\mathbf{I})$
<u>at Expiration</u> $\underline{P/(L)}$ $\underline{P/(L)}$	1/(L)
58 4 (1)	3
57 3 0	3
56 2 1	3
55 1 2	3
54 0 2	2
53 (1) 2	1
52 (2) 2	0
51 (3) 2	(1)
50 (4) 2	(2)
49 (4) 2	(2)
48 (4) 2	(2)



STRATEGY: Short Call Spread

EXAMPLE: Sell \$50 Call @ 4 and

Buy \$55 Call @ 2

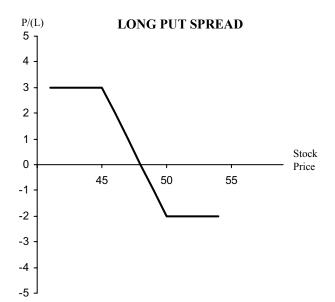
Buy \$33 Call (W 2				SHORT CALL SPREAD		
Stock Price at Expiration	Short Call P/(L)	Long Call P/(L)	Total P/(L)	P/(L) 5 _]		
58	(4)	1	(3)	4 -		
57	(3)	0	(3)			
56	(2)	(1)	(3)	3 -		
55	(1)	(2)	(3)	2 -		
54	0	(2)	(2)	1 -		
53	1	(2)	(1)	0		_ Stock
52	2	(2)	0	-1 -	50 \ 55 60	Price
51	3	(2)	1			
50	4	(2)	2	-2 -		
49	4	(2)	2	-3 -		
48	4	(2)	2	-4 -		
				₋₅]		

ANSWERS: Put Spreads

STRATEGY: Long Put Spread

EXAMPLE: Buy \$50 Put @ 3 1/2 and Sell \$45 Put @ 1 1/2

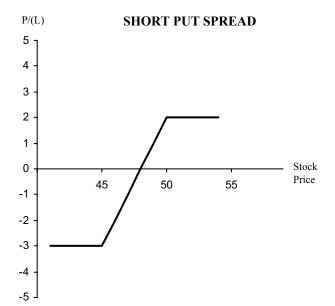
Stock Price at Expiration	Long Put P/(L)	Short Put P/(L)	Total <u>P/(L)</u>
53	(3 1/2)	1 1/2	(2)
52	(3 1/2)	1 1/2	(2)
51	(3 1/2)	1 1/2	(2)
50	(3 1/2)	1 1/2	(2)
49	(2 1/2)	1 1/2	(1)
48	(1 1/2)	1 1/2	0
47	(1/2)	1 1/2	1
46	1/2	1 1/2	2
45	1 1/2	1 1/2	3
44	2 1/2	1/2	3
43	3 1/2	(1/2)	3



STRATEGY: Short Put Spread

EXAMPLE: Sell \$50 Put @ 3 1/2 and Buy \$45 Put @ 1 1/2

Stock Price at Expiration	Short Put P/(L)	Long Put P/(L)	Total P/(L)
53	3 1/2	(1 1/2)	2
52	3 1/2	(1 1/2)	2
51	3 1/2	(1 1/2)	2
50	3 1/2	(1 1/2)	2
49	2 1/2	(1 1/2)	1
48	1 1/2	(1 1/2)	0
47	1/2	(1 1/2)	(1)
46	(1/2)	(1 1/2)	(2)
45	(1 1/2)	(1 1/2)	(3)
44	(2 1/2)	(1/2)	(3)
43	(3 1/2)	1/2	(3)



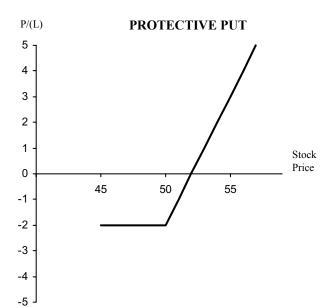
ANSWERS: Stock and Option Strategies

STRATEGY: Protective Put

EXAMPLE: Buy Stock @ 50 and

Buy \$50 Put @ 2

Stock Price at Expiration	Long Stock P/(L)	Long Put P/(L)	Total <u>P/(L)</u>
57	7	(2)	5
56	6	(2)	4
55	5	(2)	3
54	4	(2)	2
53	3	(2)	1
52	2	(2)	0
51	1	(2)	(1)
50	0	(2)	(2)
49	(1)	(1)	(2)
48	(2)	0	(2)
47	(3)	1	(2)

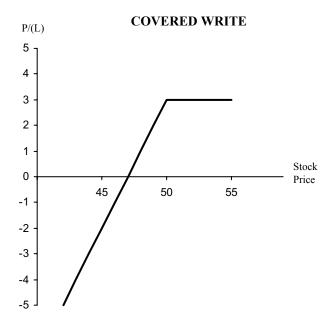


STRATEGY: Covered Write

EXAMPLE: Buy Stock @ 50 and

Sell \$50 Call @ 3

Long Stock P/(L)	Short Call P/(L)	Total <u>P/(L)</u>
2	1	3
1	2	3
0	3	3
(1)	3	2
(2)	3	1
(3)	3	0
(4)	3	(1)
(5)	3	(2)
(6)	3	(3)
(7)	3	(4)
(8)	3	(5)
	P/(L) 2 1 0 (1) (2) (3) (4) (5) (6) (7)	P/(L) P/(L) 2 1 1 2 0 3 (1) 3 (2) 3 (3) 3 (4) 3 (5) 3 (6) 3 (7) 3



ANSWERS: Stock and Option Strategies

-5 -

 $STRATEGY: \qquad Long\ Stock + Short\ Straddle$

EXAMPLE: Buy Stock @ 50 and

Sell \$50 Call @ 3 and Sell \$50 Put @ 2

Stock Price at Expiration	Long Stock P/(L)	Short Call P/(L)	Short Put P/(L)	Total <u>P/(L)</u>
55	5	(2)	2	5
54	4	(1)	2	5
53	3	0	2	5
52	2	1	2	5
51	1	2	2	5
50	0	3	2	5
49	(1)	3	1	3
48	(2)	3	0	1
47	(3)	3	(1)	(1)
46	(4)	3	(2)	(3)
45	(5)	3	(3)	(5)

LONG STOCK + SHORT STRADDLE P/(L) 5 4 3 2 1 Stock 0 Price 45 50 55 -1 -2 -3 -4

STRATEGY: Long Stock + Short Strangle

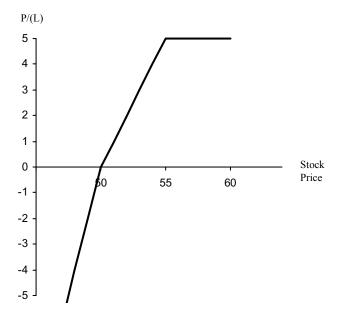
EXAMPLE: Buy Stock @ 52 and

Sell <u>1</u> \$55 Call @ 1 <u>and</u>

Sell <u>1</u> \$50 Put @ 1

Stock Price	Long Stock	Short Call	Short Put	Total
at Expiration	<u>P/(L)</u>	<u>P/(L)</u>	<u>P/(L)</u>	<u>P/(L)</u>
56	4	0	1	5
55	3	1	1	5
54	2	1	1	4
53	1	1	1	3
52	0	1	1	2
51	(1)	1	1	1
50	(2)	1	1	0
49	(3)	1	0	(2)
48	(4)	1	(1)	(4)
47	(5)	1	(2)	(6)
46	(6)	1	(3)	(8)

LONG STOCK + SHORT STRANGLE



ANSWERS: Stock and Option Strategies

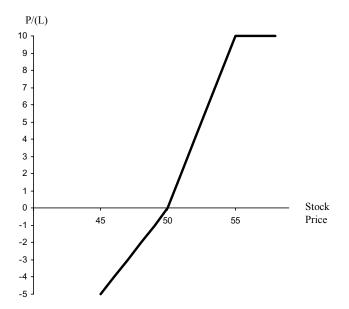
STRATEGY: Long Stock + Ratio Call Spread

EXAMPLE: Buy Stock @ 50 and

Buy <u>1</u> \$50 Call @ 3 <u>and</u> Sell <u>2</u> \$55 Calls @ 1 1/2 each

Stock Price at Expiration	Long Stock P/(L)	Long Call P/(L)	Short Calls P/(L)	Total P/(L)
56	6	3	1	10
55	5	2	3	10
54	4	1	3	8
53	3	0	3	6
52	2	(1)	3	4
51	1	(2)	3	2
50	0	(3)	3	0
49	(1)	(3)	3	(1)
48	(2)	(3)	3	(2)
47	(3)	(3)	3	(3)
46	(4)	(3)	3	(4)

LONG STOCK + RATIO CALL SPREAD



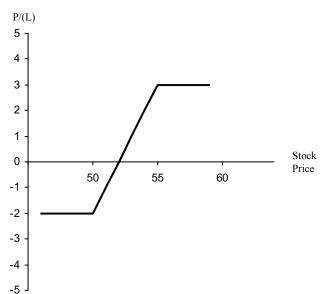
STRATEGY: Long Stock + Collar

EXAMPLE: Buy Stock @ 52 <u>and</u> Sell <u>1</u> \$55 Call @ 1 <u>and</u>

Buy 1 \$50 Put @ 1

Stock Price at Expiration	Long Stock P/(L)	Short Call P/(L)	Long Put P/(L)	Total <u>P/(L)</u>
58	6	(2)	(1)	3
57	5	(1)	(1)	3
56	4	0	(1)	3
55	3	1	(1)	3
54	2	1	(1)	2
53	1	1	(1)	1
52	0	1	(1)	0
51	(1)	1	(1)	(1)
50	(2)	1	(1)	(2)
49	(3)	1	0	(2)
48	(4)	1	1	(2)

LONG STOCK + COLLAR

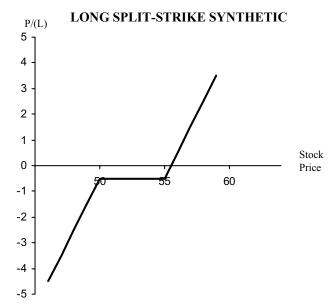


ANSWERS: Synthetic Combinations

STRATEGY: Long Split-Strike Synthetic

EXAMPLE: Buy 1 \$55 Call @ 1 1/2 and Sell 1 \$50 Put @ 1

Stock Price at Expiration	Long Call P/(L)	Short Put P/(L)	Total <u>P/(L)</u>
59	2 1/2	1	3 1/2
58	1 1/2	1	2 1/2
57	1/2	1	1 1/2
56	(1/2)	1	1/2
55	(1 1/2)	1	(1/2)
53	(1 1/2)	1	(1/2)
51	(1 1/2)	1	(1/2)
50	(1 1/2)	1	(1/2)
49	(1 1/2)	0	(1 1/2)
48	(1 1/2)	(1)	(2 1/2)
47	(1 1/2)	(2)	(3 1/2)

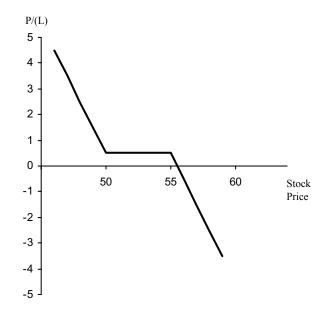


STRATEGY: Short Split-Strike Synthetic

EXAMPLE: Sell <u>1</u> \$55 Call @ 1 1/2 <u>and</u> Buy <u>1</u> \$50 Put @ 1

Stock Price at Expiration	Short Call P/(L)	Long Put P/(L)	Total <u>P/(L)</u>
59	(2 1/2)	(1)	(3 1/2)
58	(1 1/2)	(1)	(2 1/2)
57	(1/2)	(1)	(1 1/2)
56	1/2	(1)	(1/2)
55	1 1/2	(1)	1/2
53	1 1/2	(1)	1/2
51	1 1/2	(1)	1/2
50	1 1/2	(1)	1/2
49	1 1/2	0	1 1/2
48	1 1/2	1	2 1/2
47	1 1/2	2	3 1/2

SHORT SPLIT-STRIKE SYNTHETIC



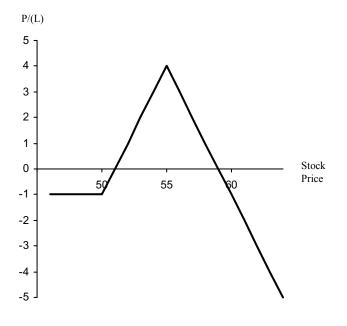
ANSWERS: Ratio Spreads

STRATEGY: 1 X 2 Ratio Vertical Spread With Calls

EXAMPLE: Buy <u>1</u> \$50 Call @ 3 <u>and</u> Sell <u>2</u> \$55 Calls @ 1 each

Stock Price at Expiration	Long Call P/(L)	Short Calls P/(L)	Total <u>P/(L)</u>
62	9	(12)	(3)
60	7	(8)	(1)
59	6	(6)	0
58	5	(4)	1
57	4	(2)	2
56	3	0	3
55	2	2	4
54	1	2	3
53	0	2	2
52	(1)	2	1
51	(2)	2	0
50	(3)	2	(1)
48	(3)	2	(1)

1 X 2 RATIO VERTICAL SPREAD WITH CALLS (FRONT SPREAD)

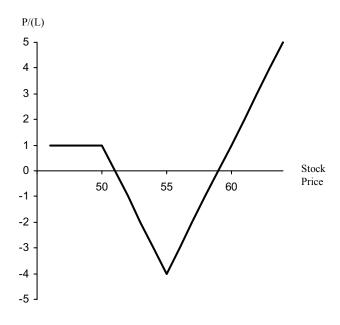


STRATEGY: 1 X 2 Ratio Volatilty Spread With Calls

EXAMPLE: Sell <u>1</u> \$50 Call @ 3 <u>and</u> Buy <u>2</u> \$55 Calls @ 1 each

Stock Price at Expiration	Short Call P/(L)	Long Calls P/(L)	Total <u>P/(L)</u>
62	(9)	12	3
60	(7)	8	1
59	(6)	6	0
58	(5)	4	(1)
57	(4)	2	(2)
56	(3)	0	(3)
55	(2)	(2)	(4)
54	(1)	(2)	(3)
53	0	(2)	(2)
52	1	(2)	(1)
51	2	(2)	0
50	3	(2)	1
48	3	(2)	1

1 X 2 RATIO VOLATILITY SPREAD WITH CALLS (BACK SPREAD)



ANSWERS: Butterfly Strategies

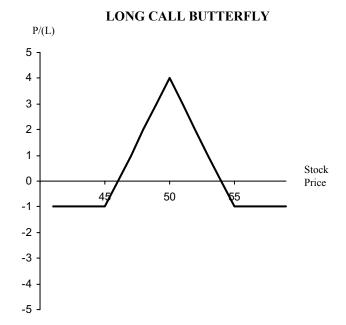
STRATEGY: Call Butterfly

EXAMPLE: Buy 1 \$45 Call @ 6 and

Sell <u>2</u> \$50 Calls @ 3 ea. <u>and</u>

Buy <u>1</u> \$55 Call @ 1

Stock Price at Expiration	Long Call P/(L)	Short Calls P/(L)	Long Call P/(L)	Total <u>P/(L)</u>
56	5	(6)	0	(1)
55	4	(4)	(1)	(1)
54	3	(2)	(1)	0
53	2	0	(1)	1
52	1	2	(1)	2
51	0	4	(1)	3
50	(1)	6	(1)	4
49	(2)	6	(1)	3
48	(3)	6	(1)	2
47	(4)	6	(1)	1
46	(5)	6	(1)	0
45	(6)	6	(1)	(1)
44	(6)	6	(1)	(1)



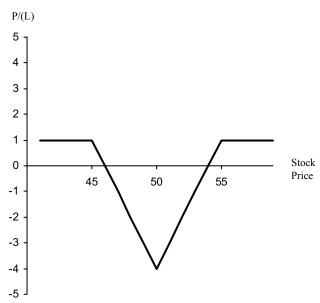
STRATEGY: Short Butterfly with Calls EXAMPLE: Sell <u>1</u> \$45 Call @ 6 <u>and</u>

Buy <u>2</u> \$50 Calls @ 3 ea. <u>and</u>

Sell <u>1</u> \$55 Call <u>@</u> 1

Stock Price at Expiration		Long Calls P/(L)	Short Call P/(L)	Total <u>P/(L)</u>
56	(5)	6	0	1
55	(4)	4	1	1
54	(3)	2	1	0
53	(2)	0	1	(1)
52	(1)	(2)	1	(2)
51	0	(4)	1	(3)
50	1	(6)	1	(4)
49	2	(6)	1	(3)
48	3	(6)	1	(2)
47	4	(6)	1	(1)
46	5	(6)	1	0
45	6	(6)	1	1
44	6	(6)	1	1

SHORT CALL BUTTERFLY

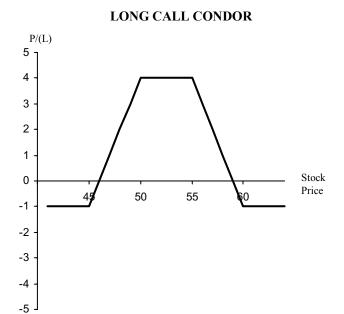


ANSWERS: Condor Strategies

STRATEGY: Long Condor with Calls EXAMPLE: Buy 1 \$45 Call @ 6 and Sell 1 \$50 Call @ 4 and

Sell <u>1</u> \$55 Call @ 2 <u>and</u> Buy <u>1</u> \$60 Call @ 1

Stock Price at Expiration	Long 45 <u>P/(L)</u>	Short 50 <u>P/(L)</u>	Short 55 <u>P/(L)</u>	Long 60 <u>P/(L)</u>	Total <u>P/(L)</u>
62	11	(8)	(5)	1	(1)
60	9	(6)	(3)	(1)	(1)
58	7	(4)	(1)	(1)	1
56	5	(2)	1	(1)	3
55	4	(1)	2	(1)	4
54	3	0	2	(1)	4
52	1	2	2	(1)	4
50	(1)	4	2	(1)	4
48	(3)	4	2	(1)	2
46	(5)	4	2	(1)	0
45	(6)	4	2	(1)	(1)
44	(6)	4	2	(1)	(1)

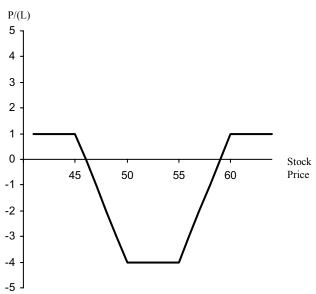


STRATEGY: Short Condor with Calls EXAMPLE: Sell <u>1</u> \$45 Call @ 6 <u>and</u> Buy <u>1</u> \$50 Call @ 4 <u>and</u>

Buy 1 \$50 Call @ 4 and Buy 1 \$55 Call @ 2 and Sell 1 \$60 Call @ 1

Stock Price at Expiration	Short 45 <u>P/(L)</u>	Long 50 <u>P/(L)</u>	Long 55 <u>P/(L)</u>	Short 60 <u>P/(L)</u>	Total P/(L)
62	(11)	8	5	(1)	1
60	(9)	6	3	1	1
58	(7)	4	1	1	(1)
56	(5)	2	(1)	1	(3)
55	(4)	1	(2)	1	(4)
54	(3)	0	(2)	1	(4)
52	(1)	(2)	(2)	1	(4)
50	1	(4)	(2)	1	(4)
48	3	(4)	(2)	1	(2)
46	5	(4)	(2)	1	0
45	6	(4)	(2)	1	1
44	6	(4)	(2)	1	1

SHORT CALL CONDOR



ANSWERS: Iron Strategies

IRON BUTTERFLY

IRON CONDOR

55

Stock Price

Stock Price

STRATEGY: Iron Butterfly

EXAMPLE: Buy <u>1</u> \$45 Put @ 1 <u>and</u> Sell <u>1</u> \$50 Put @ 3 <u>and</u>

Sell <u>1</u> \$50 Put @ 3 and Sell <u>1</u> \$50 Call @ 3 and Buy <u>1</u> \$55 Call @ 1

	D	uj <u>1</u> 455 C	D/(L)						
Stock Price at Expiration		Short Put P/(L)	Short Call P/(L)	Long Call P/(L)	Total P/(L)	P/(L) 5			
56	(1)	3	(3)	0	(1)	4 -		\wedge	
55	(1)	3	(2)	(1)	(1)	3 -			
54	(1)	3	(1)	(1)	0	2 -		/ \	
53	(1)	3	0	(1)	1	1 -	/	,	\
52	(1)	3	1	(1)	2	']			
51	(1)	3	2	(1)	3	0			\
50	(1)	3	3	(1)	4	-1 -	49	50	6 5
49	(1)	2	3	(1)	3	-2 -			
48	(1)	1	3	(1)	2				
47	(1)	0	3	(1)	1	-3 -			
46	(1)	(1)	3	(1)	0	-4 -			
45	(1)	(2)	3	(1)	(1)	_5]			
44	0	(3)	3	(1)	(1)	J			

P/(L)

STRATEGY: Iron Condor

EXAMPLE: Buy <u>1</u> \$45 Put @ 1 <u>and</u> Sell <u>1</u> \$50 Put @ 3 <u>and</u>

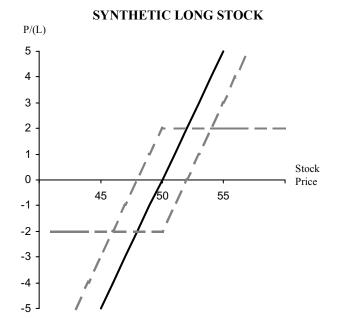
Sell <u>1</u> \$55 Call <u>@</u> 3 <u>and</u> Buy <u>1</u> \$60 Call <u>@</u> 1

Stock Price at Expiration	Long Put P/(L)	Short Put P/(L)	Short Call P/(L)	Long Call P/(L)	Total P/(L)	5	
62	(1)	3	(4)	0	(1)	4 -	
60	(1)	3	(2)	(1)	(1)	3 -	
58	(1)	3	0	(1)	1	2 -	/
56	(1)	3	2	(1)	3	1 -	/
55	(1)	3	3	(1)	4	']	/
54	(1)	3	3	(1)	4	0 —	
52	(1)	3	3	(1)	4	-1 - -	45 50
50	(1)	3	3	(1)	4	-2 -	
48	(1)	1	3	(1)	2		
46	(1)	(1)	3	(1)	0	-3 -	
45	(1)	(2)	3	(1)	(1)	-4 -	
44	0	(3)	3	(1)	(1)	-5	

ANSWERS: Synthetic Positions

STRATEGY: Synthetic Long Stock EXAMPLE: Buy $\underline{1}$ \$50 Call @ 2 and Sell $\underline{1}$ \$50 Put @ 2

Stock Price at Expiration	Long Call P/(L) 3	Short Put $\underline{P/(L)}$ 2	Total <u>P/(L)</u> 5
53 54	2	2	<i>3</i>
53	1	2	3
52	0	2	2
51	(1)	2	1
50	(2)	2	0
49	(2)	1	(1)
48	(2)	0	(2)
47	(2)	(1)	(3)
46	(2)	(2)	(4)
45	(2)	(3)	(5)



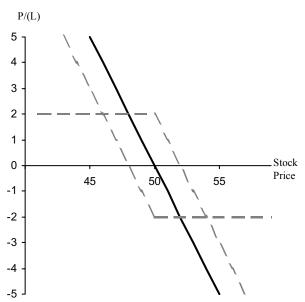
STRATEGY: Synthetic Short Stock

EXAMPLE: Sell <u>1</u> \$50 Call @ 2 and

Buy <u>1</u> \$50 Put @ 2

SYNTHETIC SHORT STOCK

Stock Price at Expiration 55 54 53 52 51 50 49	Short Call P/(L) (3) (2) (1) 0 1 2 2	Long Put P/(L) (2) (2) (2) (2) (2) (1)	Total P/(L) (5) (4) (3) (2) (1) 0
50	2	(2)	0
48	2	0	2
47 46	2 2	1 2	3
45	2	3	5



ANSWERS: Synthetic Positions

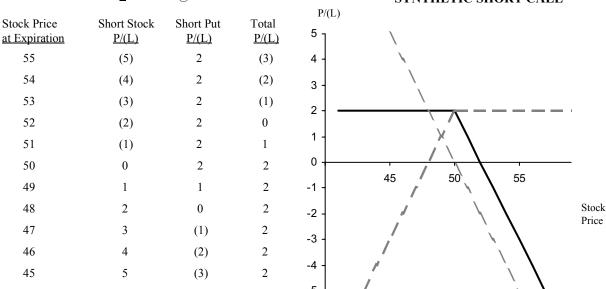
STRATEGY:	Synthetic Lon	g Call			
EXAMPLE:	Buy Stock Buy <u>1</u> \$50 Put	@ 50 <u>and</u>		P/(L)	SYNTHETIC LONG CALL
Stock Price at Expiration 55 54 53 52 51 50 49 48 47	Long Stock P/(L) 5 4 3 2 1 0 (1) (2) (3)	Long Put P/(L) (2) (2) (2) (2) (2) (2) (1) 0 1	Total P/(L) 3 2 1 0 (1) (2) (2) (2) (2)	P/(L) 5	45 50 55 Stock Price
46 45	(4) (5)	2 3	(2) (2)	-4 - -5	

STRATEGY: Synthetic Short Call

EXAMPLE: Sell Stock Short @ 50 and

Sell <u>1</u> \$50 Put @ 2

SYNTHETIC SHORT CALL



ANSWERS: Synthetic Positions

STRATEGY: EXAMPLE:		ort @ 50 <u>and</u>			SYNTHETIC LONG PUT
Stock Price at Expiration	Buy <u>1</u> \$50 Ca Short Stock <u>P/(L)</u> (5)	ll @ 2 Long Call P/(L) 3	Total <u>P/(L)</u> (2)	P/(L) 5 4	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
54	(4)	2	(2)	3 - 2 -	
53 52	(3) (2)	1 0	(2) (2)	1 -	
51 50	(1) 0	(1) (2)	(2) (2)	0	Stock Price
49	1	(2)	(1)	-1 -	X
48 47	2 3	(2) (2)	0	-3 -	
46 45	4 5	(2)	2 3	-4 -	\
43	3	(2)	3	-5 J	,
STRATEGY:	Synthetic Sh	nort Put			
EXAMPLE:	Buy Stock Sell <u>1</u> \$50 C	@ 50 <u>and</u>		747	SYNTHETIC SHORT PUT

	SYNTHETIC SHORT PUT	P/(L)		@ 50 <u>and</u> 11 @ 2	Buy Stock Sell <u>1</u> \$50 Ca	EXAMPLE:
	,	⁵]	Total <u>P/(L)</u>	Short Call P/(L)	Long Stock $P/(L)$	Stock Price at Expiration
	/	4 -	2	$\frac{1/(L)}{(3)}$	<u>17(L)</u> 5	<u>at Expiration</u> 55
	/	3 -	2	(2)	4	54
		2	2	(1)	3	53
	X	1 -	2	0	2	52
Stock		0	2	1	1	51
Price	45 50 55		2	2	0	50
		-1 -	1	2	(1)	49
		-2 -	0	2	(2)	48
		-3 -	(1)	2	(3)	47
		-4 -	(2)	2	(4)	46
		_	(3)	2	(5)	45

