

CBOE

CHICAGO BOARD OPTIONS EXCHANGE

Cross-Index Spreads

Strategies – Opportunities – Challenges

presented by: The Options Institute at CBOE

Disclaimer

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.

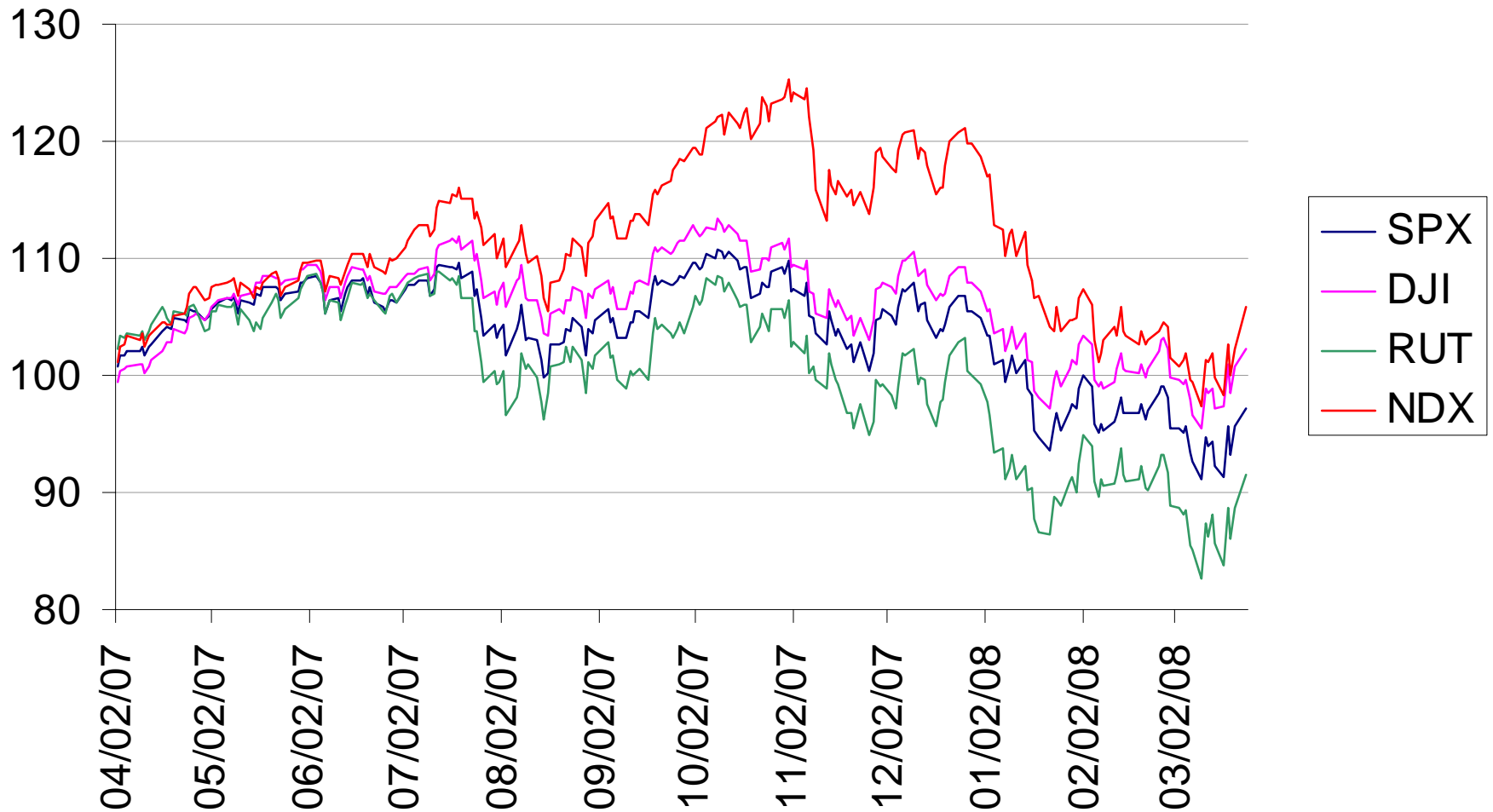
Any strategies discussed, including examples using actual securities and price data, are strictly for illustrative and educational purposes only and are not to be construed as an endorsement, recommendation, or solicitation to buy or sell securities.

Options involve risks and are not suitable for everyone. Prior to buying or selling an option, an investor must receive a copy of Characteristics and Risks of Standardized Options. Copies may be obtained from your broker or from The Chicago Board Options Exchange, 400 S. LaSalle, Chicago, IL 60605. Investors considering options should consult their tax advisor as to how taxes may affect the outcome of contemplated options transactions.

Session Outline

- Indexes tend to move together
- Brief review of vertical spreads
- 4 Cross-Index Spread Strategies

Indexes Tend to Move Together



Indexes Tend to Move Together 1

7/19 – 8/17 2007

SPX – 6.9%

DJIA – 6.6%

RUT – 7.7%

NDX – 8.0%

9/20 – 10/19 2007

SPX – 2.7%

DJIA – 2.6%

RUT – 3.6%

NDX – 3.8%

Indexes Tend to Move Together 2

3/13 – 4/19 2007

SPX + 6.7%

DJIA + 6.1%

RUT + 5.2%

NDX + 6.4%

11/21 – 12/21 2007

SPX + 4.7%

DJIA + 5.1%

RUT + 6.2%

NDX + 5.3%

But NOT Always!

4/24 – 5/18 2007

SPX + 2.9%

DJIA + 4.6%

RUT – 0.2%

NDX + 2.0%

Cross-Index Spreads

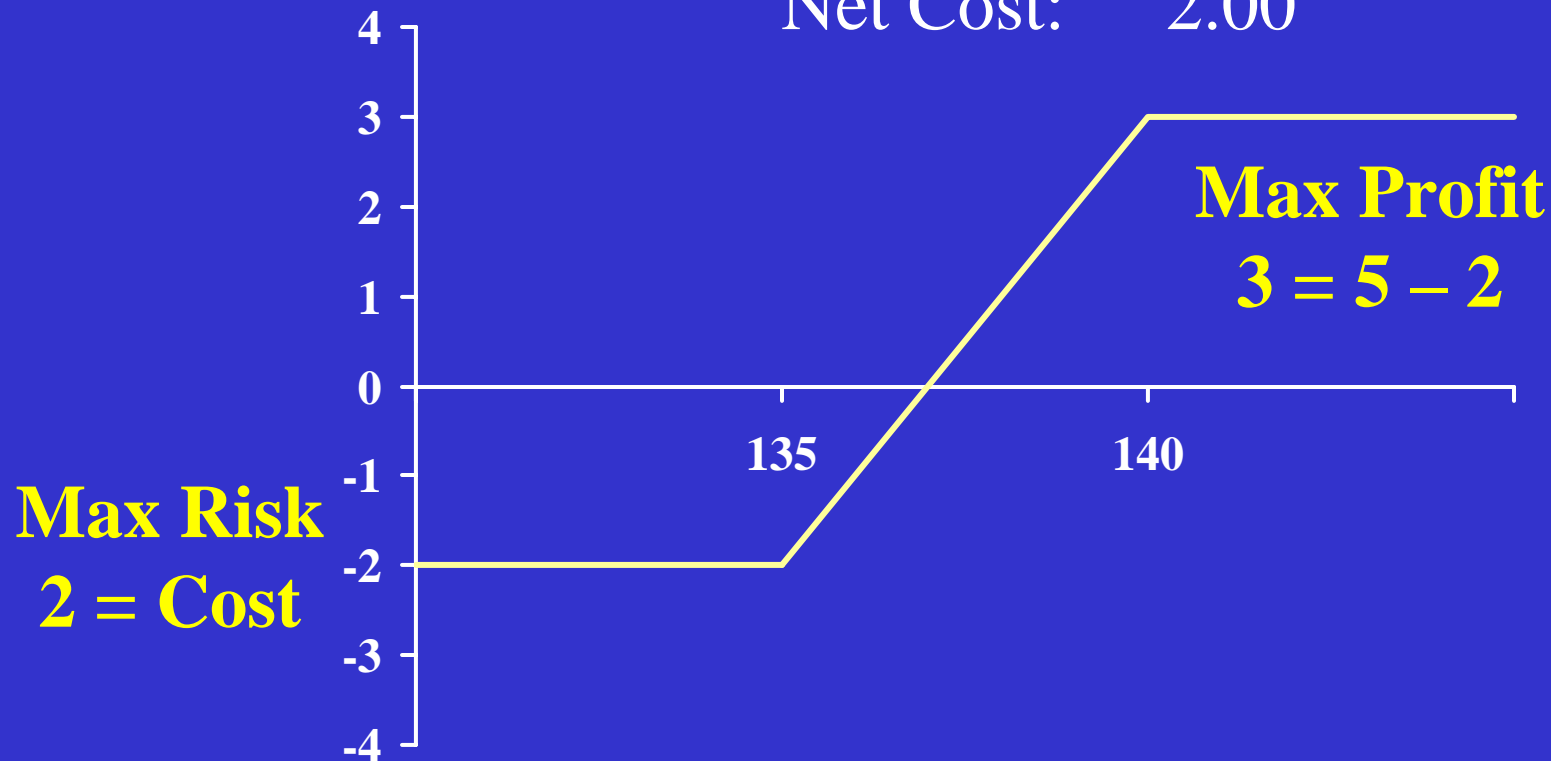
- Bull Call Spread on Index A (Dr)
+ Bear Call Spread on Index B (Cr)
- Bull Call Spread on Index A (Dr)
+ Bull Put Spread on Index B (Cr)
- Note: a directional view is required

Bull Call Spread Review

Buy XSP 135 Call 5.00

Sell XSP 140 Call 3.00

Net Cost: 2.00



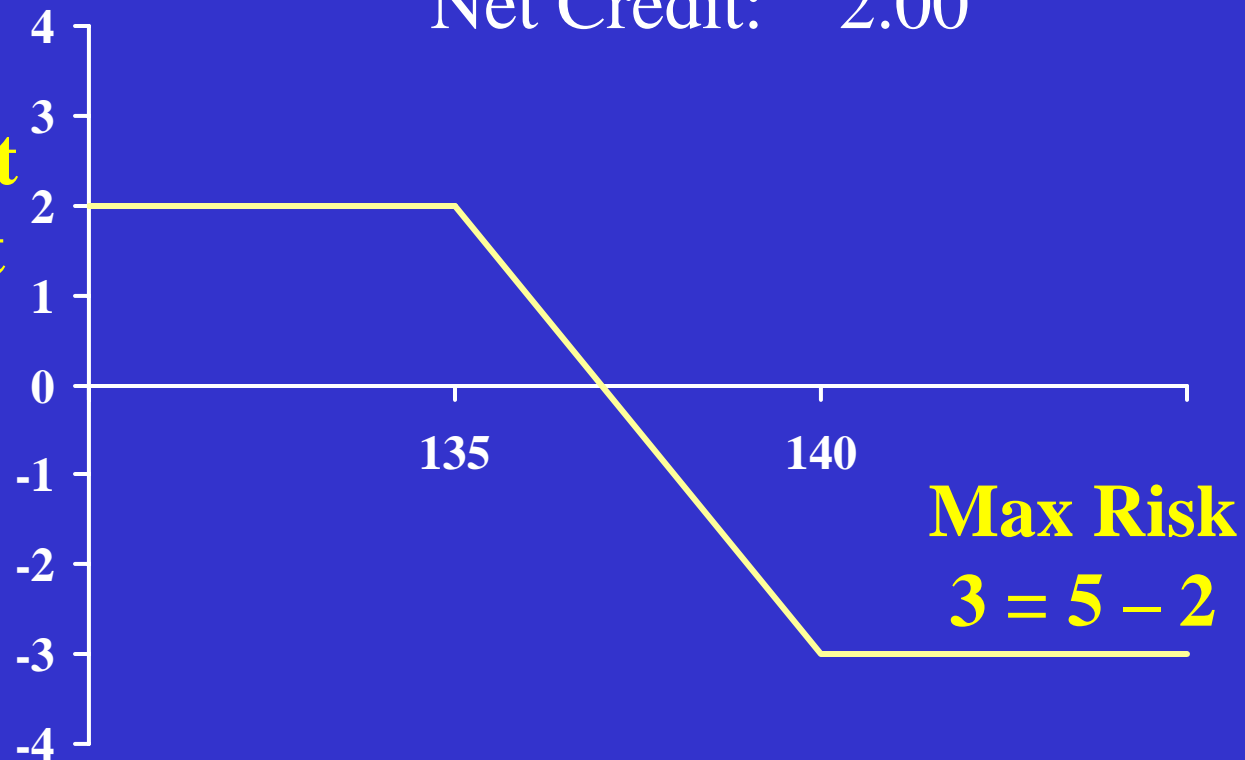
Bear Call Spread Review

Sell XSP 135 Call 5.00

Buy XSP 140 Call 3.00

Net Credit: 2.00

Max Profit
2 = Credit

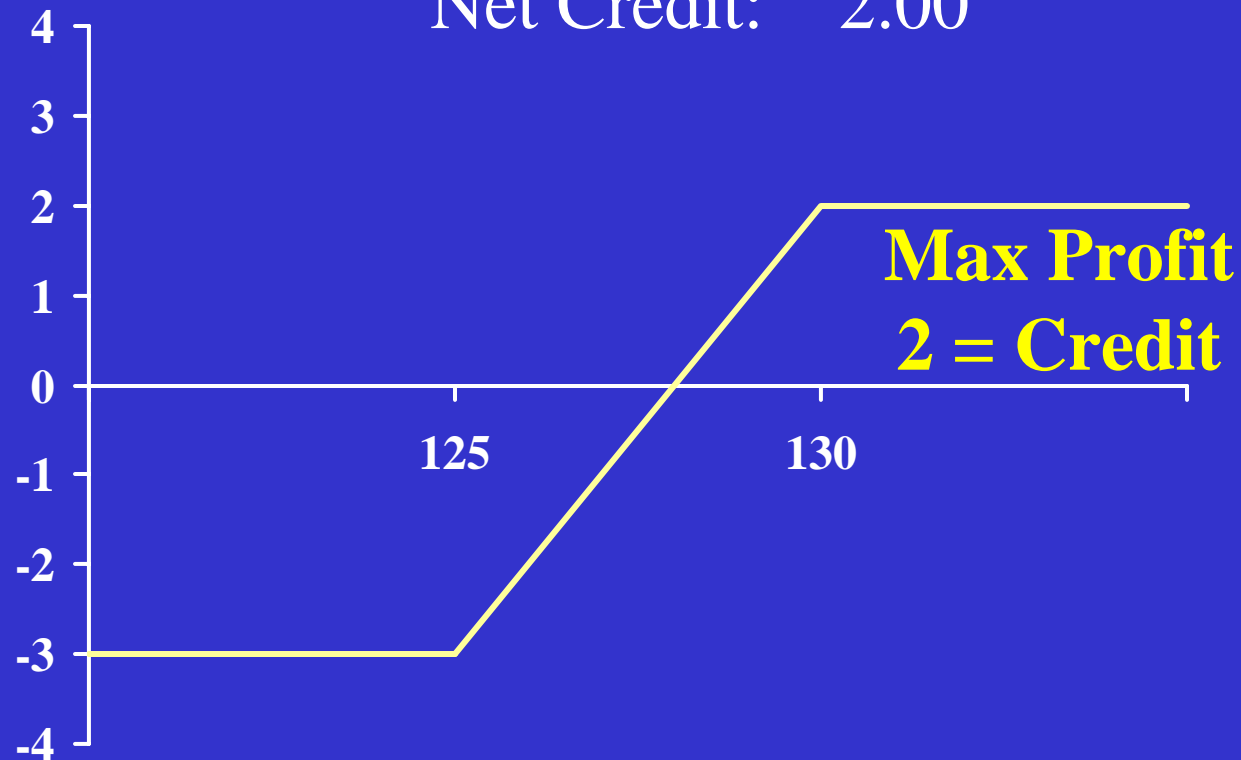


Bull Put Spread Review

Sell XSP 130 Put 4.50

Buy XSP 125 Put 2.50

Net Credit: 2.00



Max Risk
3 = 5 - 2

Max Profit
2 = Credit

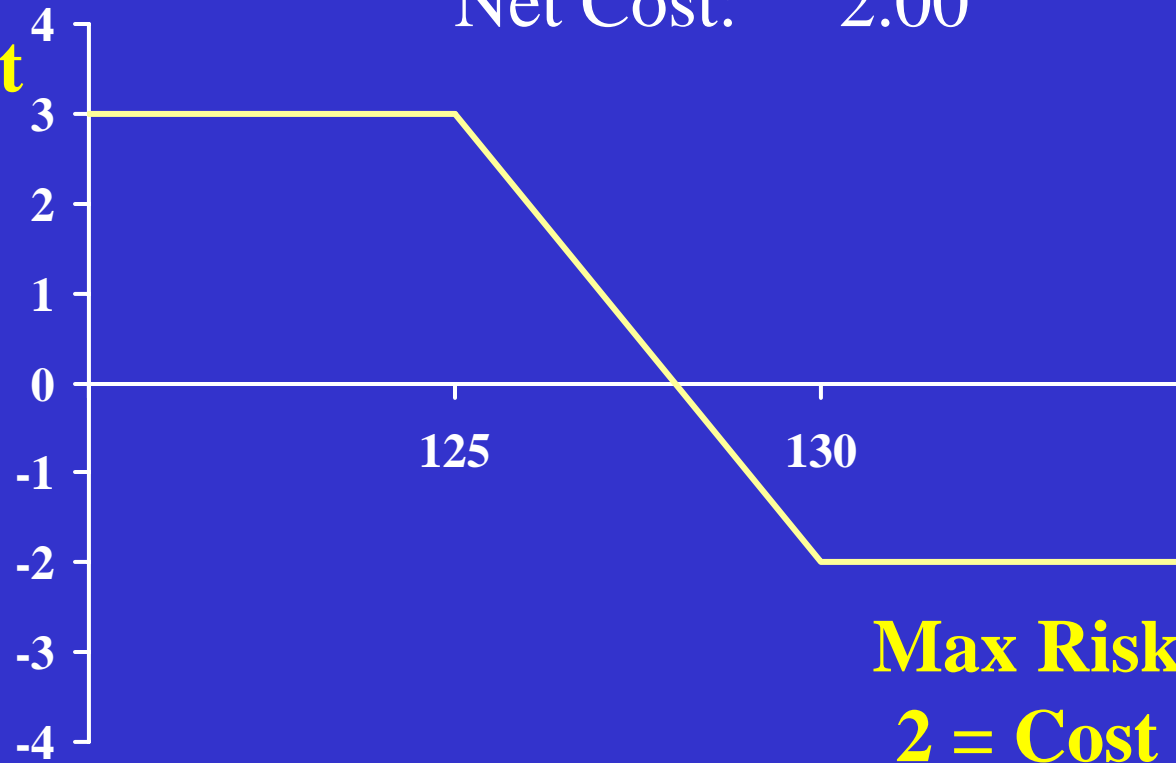
Bear Put Spread Review

Buy XSP 130 Put 4.50

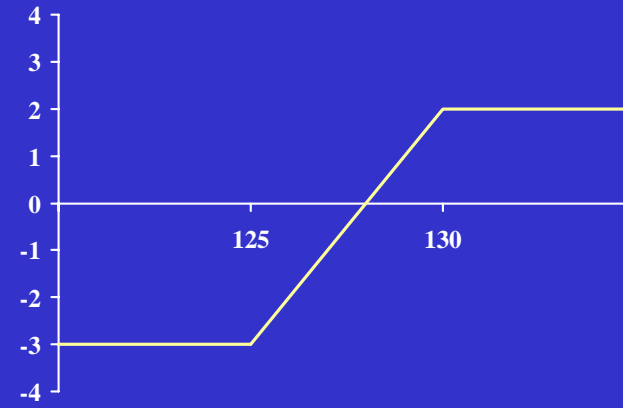
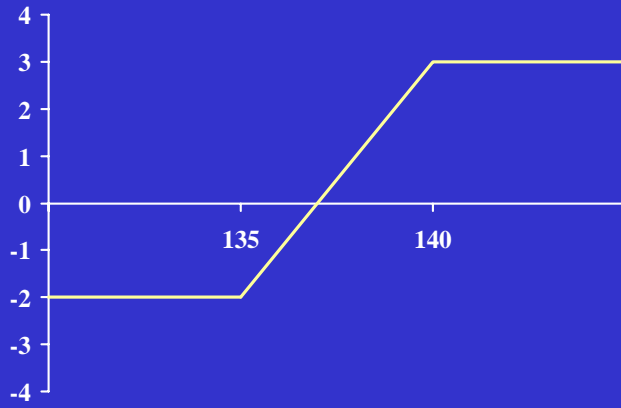
Sell XSP 125 Put 2.50

Net Cost: 2.00

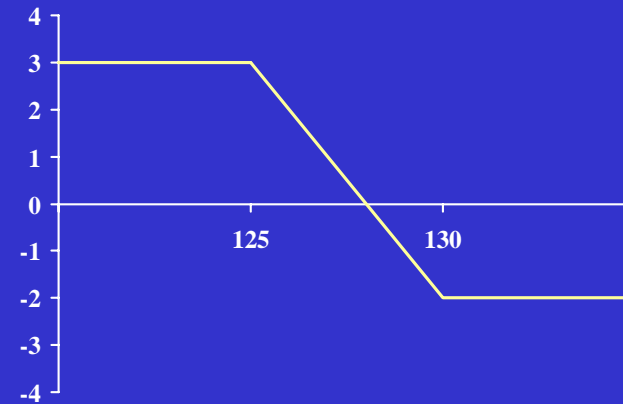
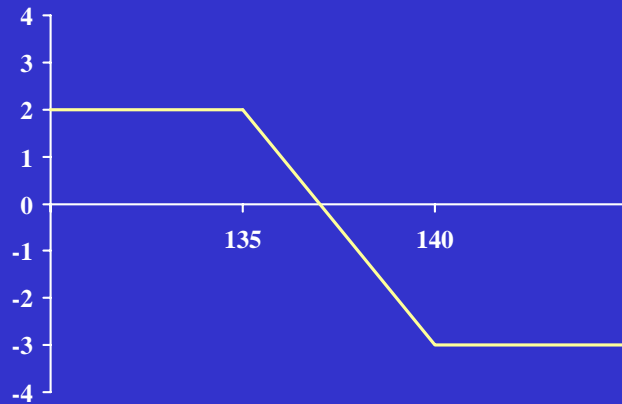
Max Profit
 $3 = 5 - 2$



Bull Call Spread = Bull Put Spread



Bear Call Spread = Bear Put Spread



Cross-Index Spread #1

Bull Call Spread A-T-M on Index A
plus

Bear Call Spread A-T-M on Index B

Goals: - profit from bullish opinion
- increase percentage return
with same or less risk

The SPX A-T-M Bull Call Spread

3/25/08

Bull Call Spread on SPX

$1,350 + 5\% = 1,418$

Buy April 1350 Call (34.00)

Sell April 1410 Call 7.00

Net Cost: (27.00)

Risk

27.00

Max Profit

33.00

+122%

The OEX A-T-M Bear Call Spread

3/25/08

Bear Call Spread on OEX

$$626 + 5\% = 657$$

Sell April 620 Call 27.00

Buy April 650 Call (11.00)

Net Credit: 16.00

Risk

14.00

Max Profit

16.00

+114%

Cross-Index Spread #1

- Buy the SPX bull call spread (27)
 - Sell the OEX bear call spread 16
- Net Cost: (11)

Cross-Index #1 – Market Up 5%

4/18 SPX > 1,410 OEX > 650

	<u>Initial</u>	<u>Value</u>	<u>P / (L)</u>
SPX Bull Spd	(27)	60	+33
OEX Bear Spd	<u>16</u>	<u>(30)</u>	<u>-14</u>
Net	(11)	30	+19

Cost 11.00 Max Profit 19 +172%

Maximum Risk > 11.00

Cross-Index Spreads – More Risks

- If indexes do not move together the risk can be greater than the net debit paid.
- If the market moves sideways, time decay can affect the spreads differently.
- Extra commissions.
- Not a trading strategy.

Cross-Index – What to Look For

- Different index levels
 - SPX @ 1,350 OEX @ 620
 - RUT @ 705 NDX @ 1,830
- Same percent spread between strikes;
but different point values
 - SPX 1,350 – 1,410 = price 27; max val 60
 - OEX 620 – 650 = price 16; max val 30

Cross-Index Spread #1 Variation

Bull Call Spread A-T-M on Index A

plus

Bear Call Spread O-O-M on Index B

- Goals:
- profit from bullish opinion
 - reduce cost of vertical spread
 - increase percentage profit

The OEX A-T-M Bull Call Spread

3/25/08 **626 → 650 +3.8%**

Bull Call Spread **A-T-M** on OEX

$$626 + 5\% = 657$$

Buy April 620 Call (27.00)

Sell April 650 Call 11.00

Net Cost: (16.00)

Risk

16.00

Max Profit

14.00

+87%

The SPX O-O-M Bear Call Spread

3/25/08

1400 Strike +3.7% O-O-M

Bear Call Spread **O-O-M** on SPX

1,350

Risk

23.00

Sell April 1400 Call 12.00

Max Profit

Buy April 1430 Call (5.00)

7.00

Net Credit: 7.00

Cross-Index #1 – Variation

- Sell the O-O-M SPX bear spread 7
 - Buy the A-T-M OEX bull spread (16)
- Net Cost: (9)

#1 Variation – Market Up < 3.8%

4/18 SPX 1,350 $\leq 1,400$ OEX > 650

	<u>Initial</u>	<u>Value</u>	<u>P / (L)</u>
OEX Bull Spd	(16)	30	+14
SPX Bear Spd	<u>7</u>	<u>0</u>	<u>+ 7</u>
Net	(9)	30	+21

Invest 9.00 Max Profit 21 +233%

#1 Variation – Market Up 8%

4/18 SPX > 1,430 OEX > 650

	<u>Initial</u>	<u>Value</u>	<u>P / (L)</u>
OEX Bull Spd	(16)	30	+14
SPX Bear Spd	<u>7</u>	<u>30</u>	<u>-23</u>
Net	(9)	0	- 9

Invest 9.00 Lose 9 -100%

Cross-Index Spread #2

Bull Call Spread A-T-M on Index A
plus

Bear Call Spread A-T-M on Index B

Goals: - profit from bearish opinion
- reduce absolute risk

Cross-Index Spread #2

3/25/08

Bear Call Spread A-T-M on SPX

1,350

Risk

33.00

Sell April 1350 Call 34.00

Max Profit

Buy April 1410 Call (7.00)

27.00

Net Credit: 27.00

+80%

Cross-Index Spread #2

3/25/08

Bull Call Spread A-T-M on OEX

626

Buy April 620 Call (27.00)

Sell April 650 Call 11.00

Net Cost: (16.00)

Risk

16.00

Max Profit

14.00

Cross-Index Spread #2

- Sell the SPX bear call spread 27
 - Buy the OEX bull call spread (16)
- Net Credit: 11

Cross-Index #2 – Market Down

4/18	<u>SPX < 1,350</u>	<u>OEX < 620</u>		
		<u>Initial</u>	<u>Value</u>	<u>P / (L)</u>
SPX Bear C Spd	27	0	+27	
OEX Bull C Spd	(16)	0	(16)	
Net	11	0	+11	

Max Profit 11 Risk 19

Cross-Index Spread #3

Bull Call Spread on Index A

plus

Bull Put Spread on Index B

Goals: - profit from bullish opinion
- lower net cost
- bigger % downside break-even

RUT Only – Bull Call + Bull Put

3/25/08 RUT **703** + 5% = 738

Buy April 700-740 Call Spd 17.00 Dr

Sell April **670**-640 Put Spd 5.50 Cr

Net Cost: 11.50 Dr

Short Put is 4.7% O-O-M

Risk = 41.50 Max Profit = 28.50

RUT Bull Call + NDX Bull Put 1

3/25/08 RUT 703 NDX 1,815

+Apr RUT 700-740 Call Spd 17.00 Dr

-Apr NDX 1675-1625 Put Spd 5.00 Cr

Net Cost: 12.00 Dr

Short Put is 7.8% O-O-M (50-Pt Spd)

Risk = 62.00 Max Profit = 28.00

RUT Bull Call + NDX Bull Put 2

3/25/08 RUT 703 NDX 1,815

+Apr RUT 700-740 Call Spd 17.00 Dr

-Apr NDX 1750-1725 Put Spd 5.00 Cr

Net Cost: 12.00 Dr

25-Pt Spd – Short Put is 3.5% O-O-M

Risk = 37.00 Max Profit = 28.00

Bull Call / Bull Put – More Risks

- The biggest concern:
 - an immediate adverse move
 - time decay helps if move is gradual
- 4 bid-ask spreads
- Extra commissions

May Options on April 7

NDX 1882

OEX 639

1875 Call 65.00

640 Call 18.00

3.6% 1950 Call 30.00 **4.7%** 670 Call 4.00

NDX Bull Call Spd: risk 35 to make 40

OEX Bear Call Spd: risk 16 to make 14

NDX Bull / OEX Bear: pay 21 to make 24

May Options on April 7

OEX 639

RUT 719

A-T-M 640 Call 18.00 **2.9%** 740 Call 14.00

4.8% 670 Call 4.00 **5.7%** 760 Call 7.00

OEX Bull Call Spd: risk 14 to make 16

RUT Bear Call Spd: risk 13 to make 7

OEX Bull / RUT Bear: pay 7 to make 10+

Big up move – still make 3 Max = 23

May Options on April 7

OEX 639

SPX 1,383

A-T-M 640 Call 18.00 **3.4%** 1430 Call 16.00

3.3% 660 Call 7.00 **4.8%** 1450 Call 9.00

OEX Bull Call Spd: risk 11 to make 9

SPX Bear Call Spd: risk 13 to make 7

OEX Bull / SPX Bear: pay 4 to make 16

Big up move – lose 4

May Options on April 7

OEX 639

NDX 1,882

A-T-M 640 Call 18.00 **4.9%** 1975 Call 21.00
3.3% 660 Call 7.00 **6.3%** 2000 Call 14.00

OEX Bull Call Spd: risk 11 to make 9

NDX Bear Call Spd: risk 18 to make 7

OEX Bull / NDX Bear: pay 4 to make 16

Big up move – lose 9

Buy ATM Call Spd – Sell O-O-M Put Spd

May Options on April 7

OEX 639 **O-O-M** NDX 1,882
 -4.8%

640 Call 18.00 1775 Put 24.00

670 Call 4.00 **1800** Put 31.00

OEX Bull Call Spd: risk 14 to make 16

NDX Bull Put Spd: risk 18 to make 7

OEX Call / NDX Put: pay 7 to make 23

Big down move – lose 32

Before You Go

Compare the Cross-Index Spread to:

- a Butterfly Spread
- a Vertical Credit Spread?

The Butterfly Spread

Long a Debit Spread

and

Short a Credit Spread

Similar to but different than

a Cross Index Spread

The Butterfly

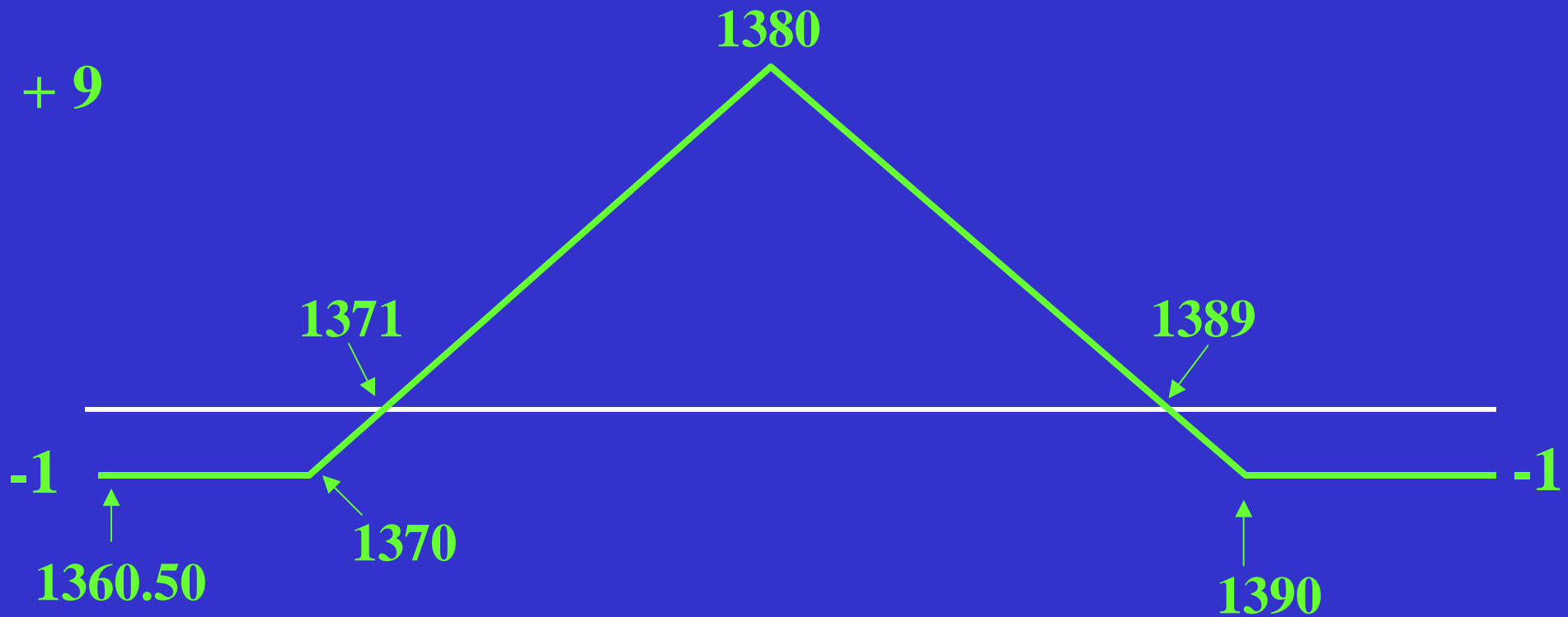
SPX at 1,360 – 2 week target 1,380

Buy 1	Apr	1370 Call	at	13.60
Sell 2	Apr	1380 Calls	at 9.30 ea.	(18.60)
Buy 1	Apr	1390 Call	at	<u>6.00</u>
			Net Debit	1.00

Prices as of 4/9/08 Excludes transaction costs

1370 – 1380 – 1390 Butterfly

SPX at 1,360 – Target 1,380



If the SPX rises more than ~ 2.2%, you lose \$1

The Credit Spread (with Calls)

SPX at 1,360 – 2 week target < 1390

Sell 1 April 1390 Call at 6.00

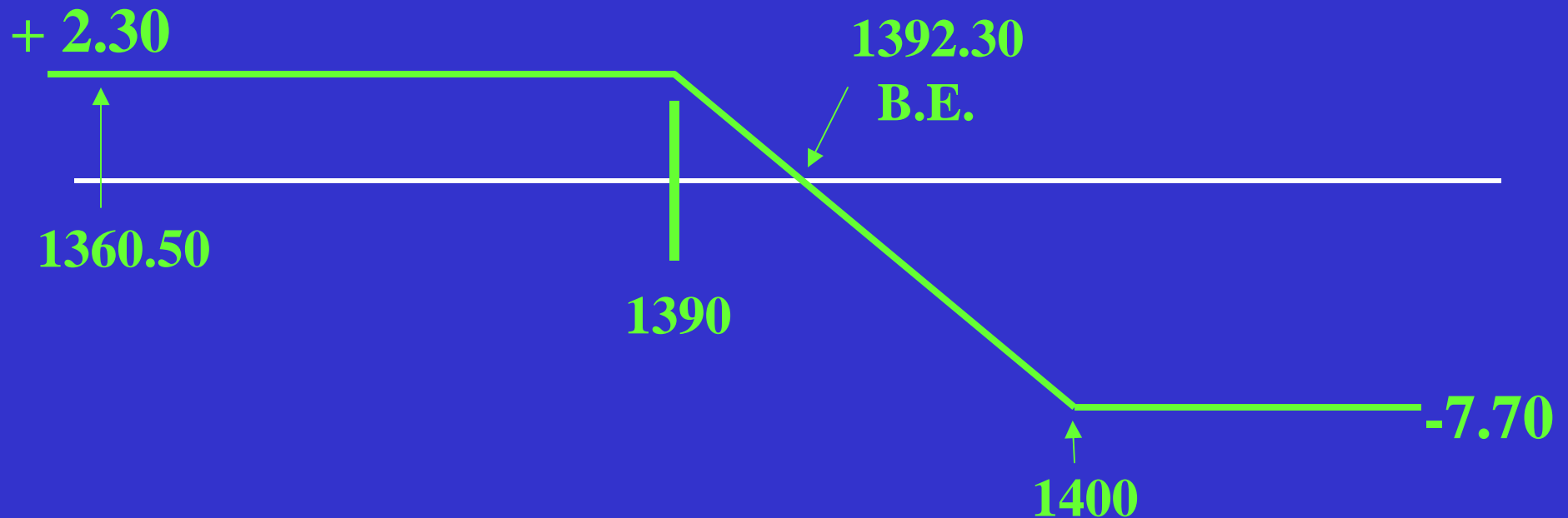
Buy 1 April 1400 Call at (3.70)

2.30 Credit

Prices as of 4/9/08 Excludes transaction costs

1390 – 1400 Call Credit Spread

SPX at 1,360.50 – Target – less than 1390



If the SPX rises more than 2.4%, you lose \$7.70

All Three Are Different

Credit Spread

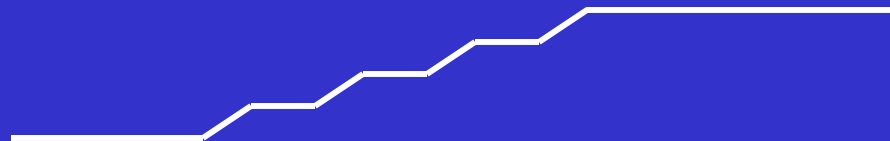


Butterfly



Cross Index

(assuming index correlation)



Summary

- Cross-Index Spread opportunities
 - Increase % profits
 - Increase protection (i.e., increase downside distance to break-even point)
- Risks
 - Indexes may not move together
 - Extra commissions and bid-ask spreads
 - Maximum risk exceeds cost of spread

Thank You for Attending

- Visit us at: www.cboe.com
- Options Institute courses:

<http://www.cboe.com/LearnCenter/Seminars.asp>

<http://www.cboe.com/oxevent>

The logo for the Chicago Board Options Exchange (CBOE) features the letters 'CBOE' in a large, bold, white, sans-serif font. The letters are set against a solid red rectangular background. The 'C' and 'O' are slightly larger than the 'B' and 'E'. The letters have a subtle drop shadow effect.

CHICAGO BOARD OPTIONS EXCHANGE