CBOE OPTIONS INSTITUTE

Interactive Brokers Webcast

Calendar and Diagonal Spreads

October 18, 2017

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Calendar and Diagonal Spreads

Outline

- Review of Time Spreads
- A Look at Weeklys
- Earnings Oriented Calendar Spreads

Time Spreads

Defined

Two Types –

Calendar Spread
Same Strike Price
Different Expiration Dates

Diagonal Spread
Different Strike Prices
Different Expiration Dates

Time Spreads

Calendar Spread

XSP @ 190.00

28 Days to October Expiration

56 Days to November Expiration

Outlook is for neutral price action

Sell 1 XSP Oct 190 Call @ 4.25

Buy 1 XSP Nov 190 Call @ 6.10

Net Cost = 1.85

Time Spreads

Calendar Spread

Outlook –

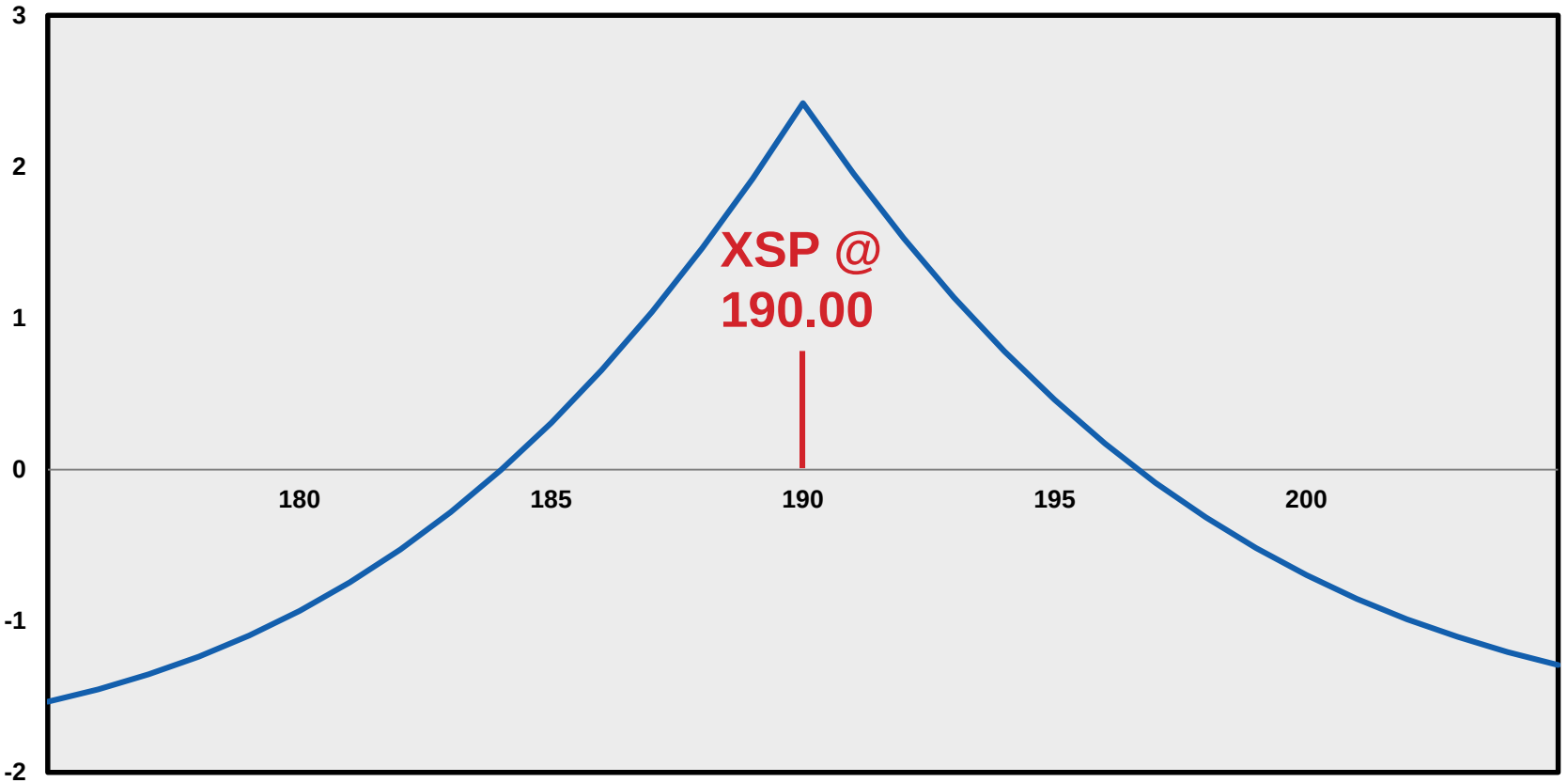
	28 Days to Oct Exp	Oct Exp	Profit / Loss
XSP	190.00	190.00	
Long Nov 190 Call	-6.10	4.25	-1.85
Short Oct 190 Call	4.25	0.00	4.25
Spread	-1.85	4.25	**2.40**

Expectation is for a profit of 2.40

Time Spreads

Calendar Spread

Payoff Diagram –



Time Spreads

Calendar Spread

XSP @ 190.00

28 Days to October Expiration

56 Days to November Expiration

Outlook is for Bullish price action

Sell 1 XSP Oct 195 Call @ 2.25

Buy 1 XSP Nov 195 Call @ 3.95

Net Cost = 1.70

Time Spreads

Calendar Spread

Outlook –

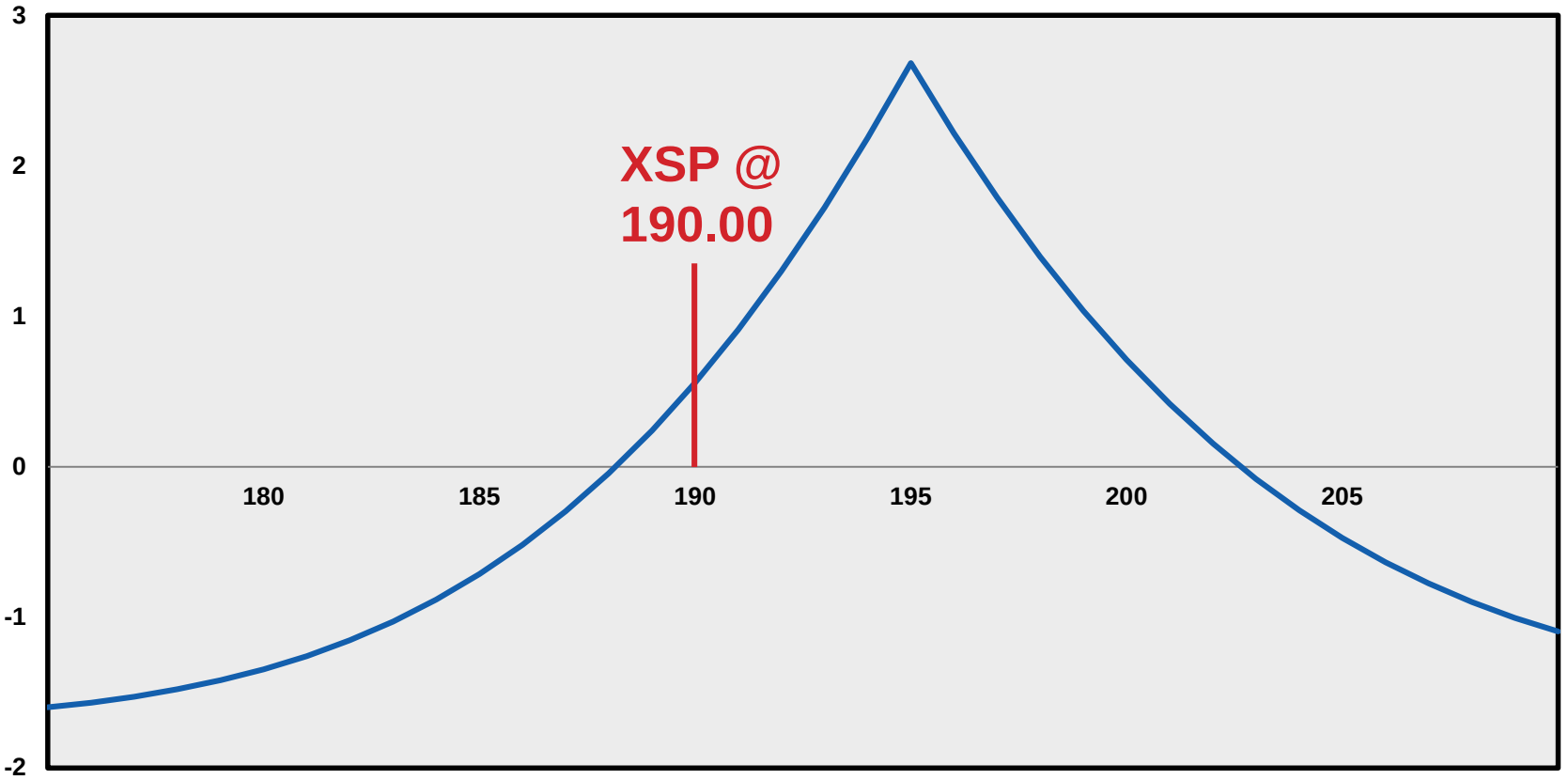
	28 Days to Oct Exp	Oct Exp	Profit / Loss
XSP	190.00	195.00	
Long Nov 195 Call	-3.95	4.35	0.40
Short Oct 195 Call	2.25	0.00	2.25
Spread	-1.70	4.35	**2.65**

Expectation is for a profit of 2.65

Time Spreads

Calendar Spread

Payoff Diagram –



Time Spreads

Diagonal Spread

XSP @ 190.00

28 Days to October Expiration

56 Days to November Expiration

Outlook is for Bullish price action

Sell 1 XSP Oct 195 Call @ 2.25

Buy 1 XSP Nov 190 Call @ 6.10

Net Cost = 3.85

Time Spreads

Diagonal Spread

Outlook –

	28 Days to Oct Exp	Oct Exp	Profit / Loss
XSP	190.00	195.00	
Long Nov 190 Call	-6.10	7.30	1.20
Short Oct 195 Call	2.25	0.00	2.25
Spread	-3.85	7.30	**3.45**

Expectation is for a profit of 3.45

Time Spreads

Diagonal Spread

Payoff Diagram –

Time Spreads

Calendar Spread

XSP @ 190.00

28 Days to October Expiration
56 Days to November Expiration
Outlook is for high volatility

Buy 1 XSP Oct 190 Call @ 4.25
Sell 1 XSP Nov 190 Call @ 6.10
Net Credit = 1.85

Time Spreads

Calendar Spread

High Volatility Outlook –

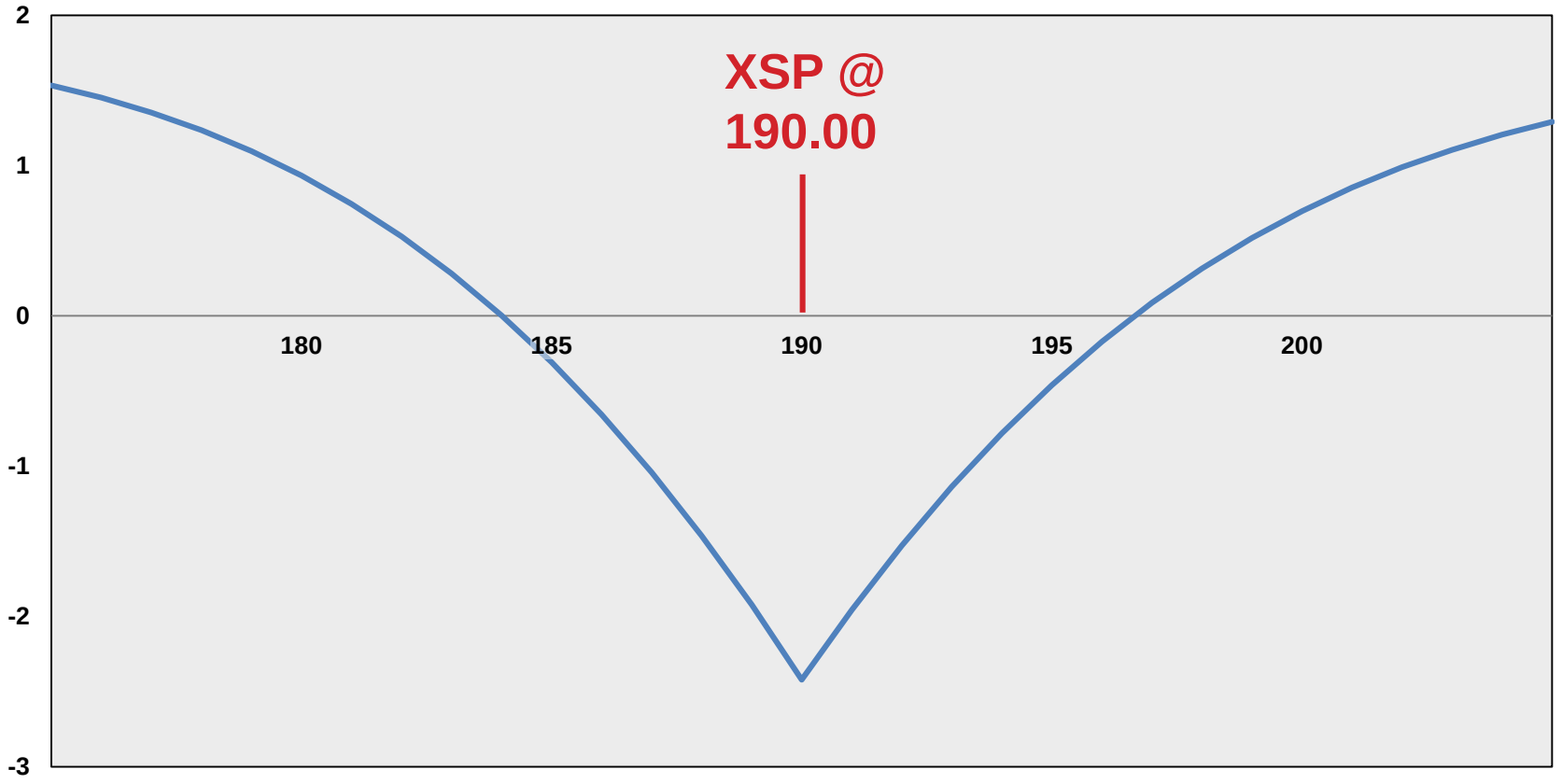
	28 Days to Oct Exp	Oct Exp	Profit / Loss
XSP	190.00	180.00	
Long Oct 190 Call	-4.25	0.00	-4.25
Short Nov 190 Call	6.10	0.90	5.20
Spread	1.85	0.90	**0.95**

Expectation is for a profit of 0.95

Time Spreads

Calendar Spread

Payoff Diagram –



Time Spreads

The Theory

Neutral Market Outlook –

Long an at the money time spread

Directional Market Outlook –

Buy an out of the money time spread
Buy a diagonal spread

Volatile Market Outlook –

Sell an at the money time spread

Time Spreads

The Reality

Time decay may be less than expected

There are two bid-ask spreads when entering orders

Implied Volatility is a consideration

Best to buy when front month IV > back month IV
Best to sell when front month IV < back month IV

Trading Earnings Reports

Calendar Spread

- For stocks with short dated options available there are always options expiring just a few days after an earnings report
- We have seen that those contracts that expire just after earnings often have high implied volatility
- To help pay for the more expensive option an option that expires just before the report may be sold as well

Trading Earnings Reports

Calendar Spread

- NKE is trading at 98.60 and reports earnings in nine days
- There are options expiring in five days and ten days available for trading
- A trader has a bullish outlook on NKE and expects the stock to trade over 102.00 post earnings
- The trader also believes NKE shares will not move much until the earnings report

Sell 1 NKE 5 Day 100 Call at 0.40

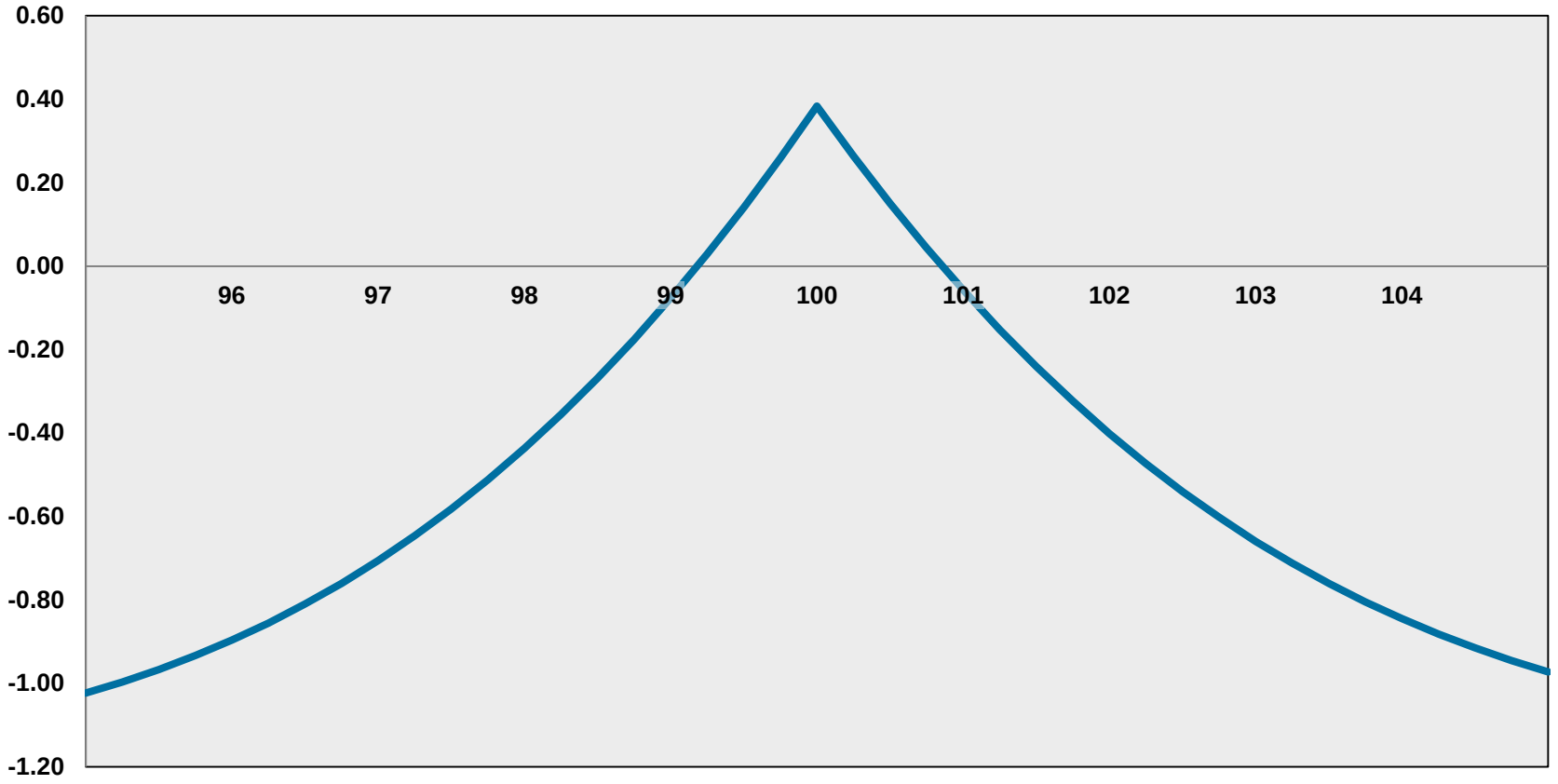
Buy 1 NKE 10 Day 100 Call at 1.60

Net Cost 1.20

Trading Earnings Reports

Calendar Spread

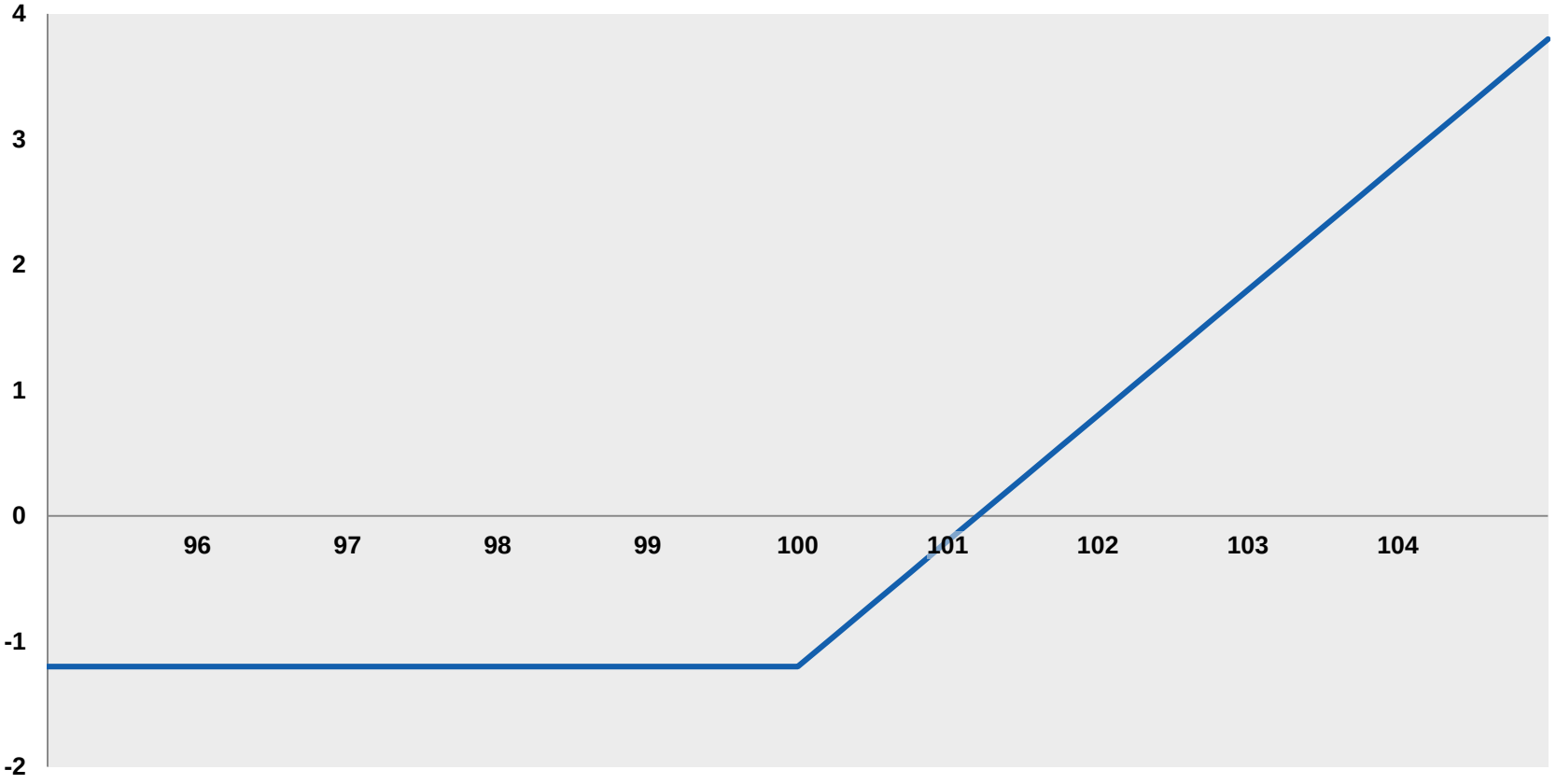
Payoff at Five Day Expiration –



Trading Earnings Reports

Calendar Spread

Payoff at Ten Day Expiration –



Trading Earnings Reports

Calendar Spread

- If a trader has an opinion about the direction and magnitude of a price move they may consider a calendar spread
- Selling an option that expires before earnings (and hopefully out of the money) may help pay for a long option position
- Stocks with serial options are great candidates for this sort of trade

Short Term SPX Trading

Diagonal Spread

- **Thursday March 27, 2014 – S&P 500 at 1850**
- **Trader with a bullish outlook for the S&P 500 initiates the following trade**

Buy 1 SPX Apr 11th 1845 Call @ 20.90

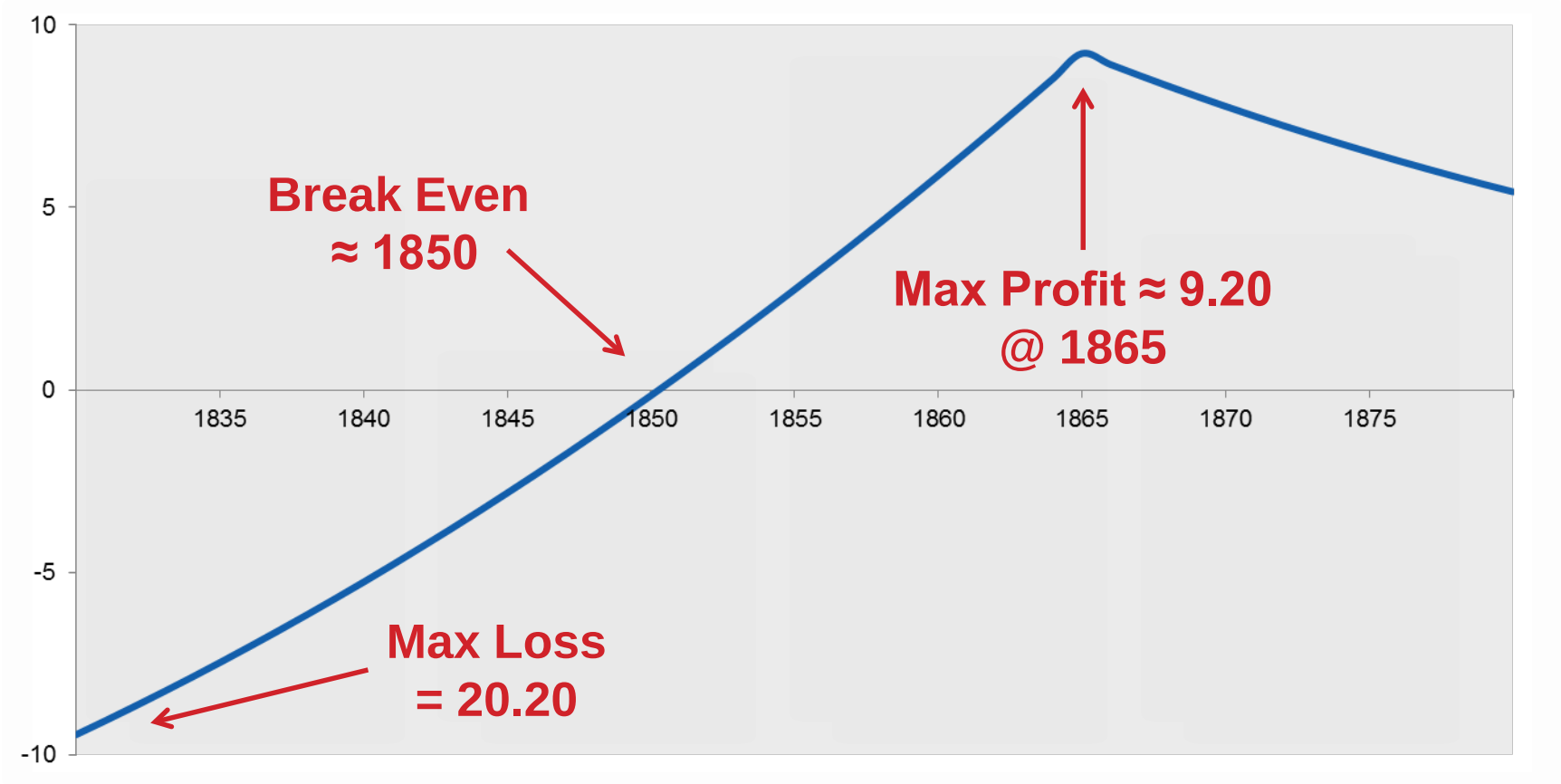
Sell 1 SPX Mar 28th 1865 Call @ 0.70

Net Cost = 20.20

Short Term SPX Trading

Diagonal Spread Payoff

On March 28th Expiration –



Short Term SPX Trading

Diagonal Spread

- April 11th option has 11 trading days while the Mar 28th option has 1 trading day remaining until expiration
- On March 28 the S&P 500 closed at 1857.62 so the March 28th Call expired with no value and the April 11th Call was bid at 24.70 on the close – unrealized profit of 4.50
- Trader may choose to sell another short dated call option, leave the position on, or close out the position

Let's take a look at the April 4th Calls…

Short Term SPX Trading

Diagonal Spread

March 28, 2014 – SPX @ 1857.62

	Bid	Ask
SPX Apr 4th 1860 Call	11.20	12.20
SPX Apr 4th 1865 Call	8.60	9.50
SPX Apr 4th 1870 Call	6.40	7.10
SPX Apr 4th 1875 Call	4.60	5.20

Sell 1 SPX Apr 4th 1865 Call @ 8.60

Short Term SPX Trading

Diagonal Spread

Current Position –

Long 1 Apr 11th 1845 Call @ 24.70

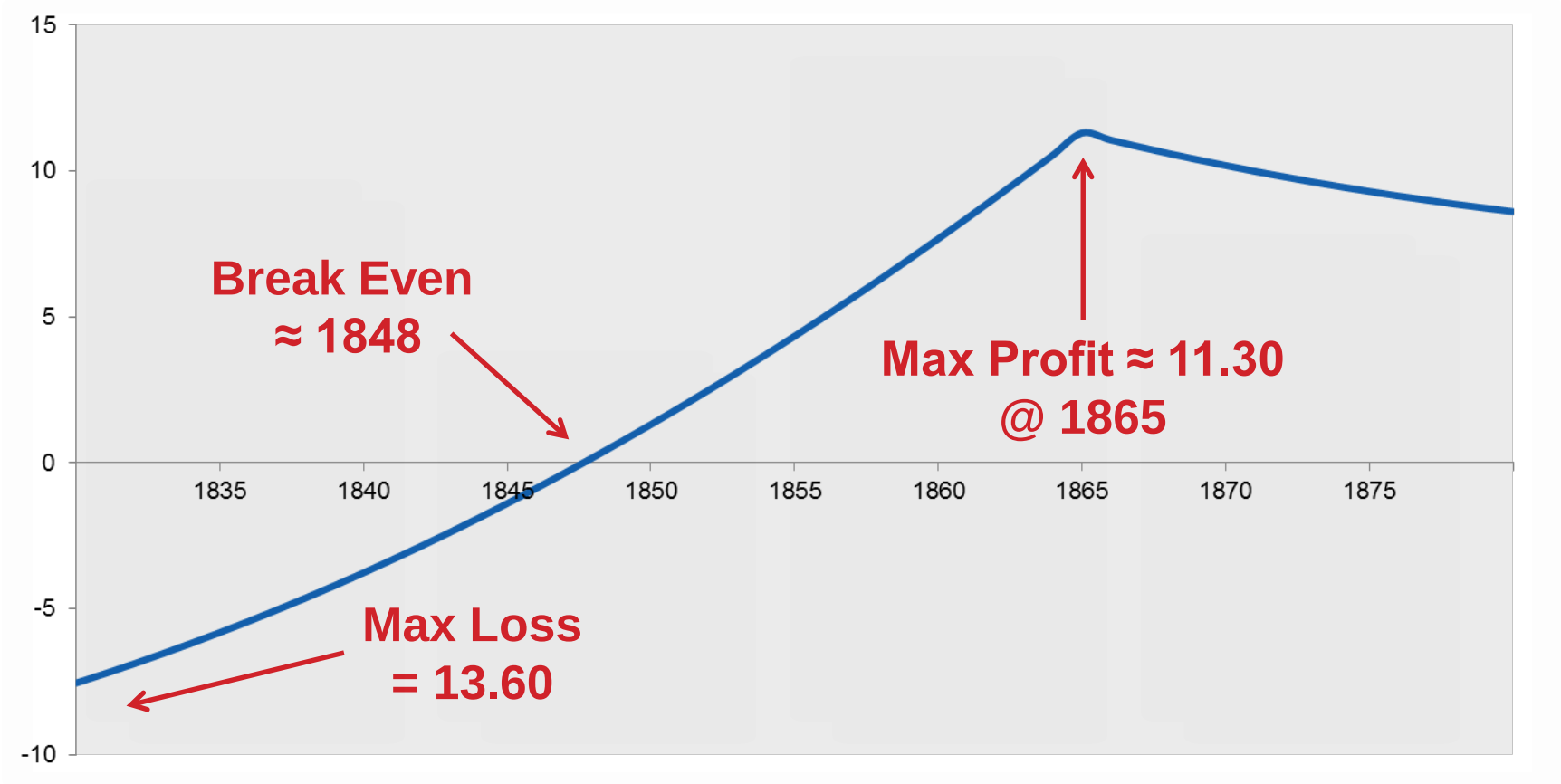
Short 1 Apr 4th 1865 Call @ 8.60

Net Running Cost = 13.60

Short Term SPX Trading

Diagonal Spread Payoff

On April 4th Expiration –



Short Term SPX Trading

Diagonal Spread

- S&P 500 closed at 1865.09 – Short SPX 1865 Call was in the money
- The result was a debit of $9 (0.09 x $100) based on short call position
- Trader still long a SPX Apr 11th 1845 Call at 24.90
- They can choose to sell that option, just hold it, or sell another call option

Let's take a look at the April 11th Calls…

Short Term SPX Trading

Diagonal Spread

April 4, 2014 – SPX @ 1865.09

	Bid	Ask
SPX Apr 11th 1865 Call	15.20	16.70
SPX Apr 11th 1870 Call	9.40	10.70
SPX Apr 11th 1875 Call	7.30	8.00
SPX Apr 11th 1880 Call	5.30	5.80

Sell 1 SPX Apr 11th 1865 Call @ 15.20

Short Term SPX Trading

Diagonal Spread

Current Position –

Long 1 Apr 11th 1845 Call @ 24.90

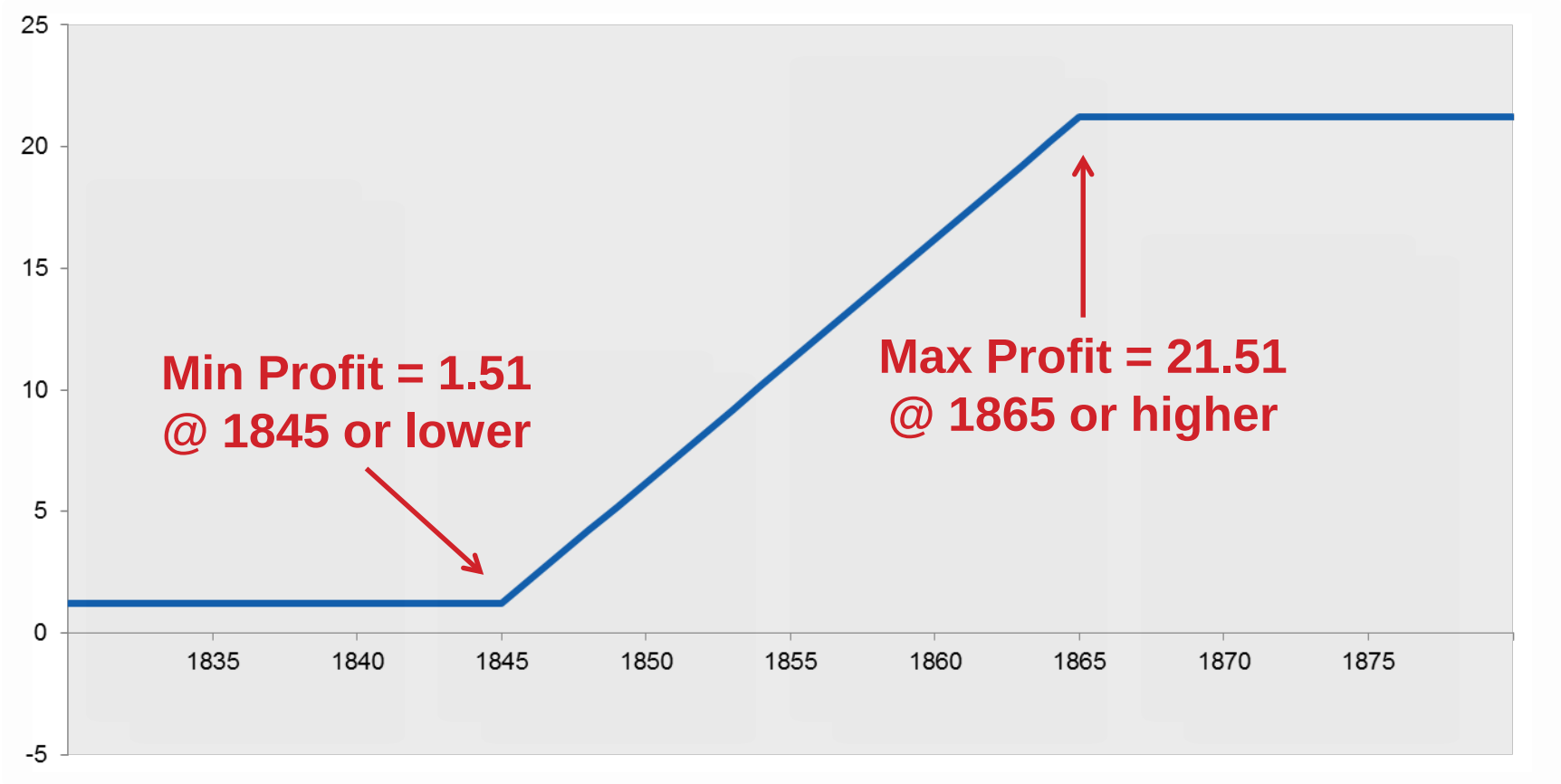
Short 1 Apr 11th 1865 Call @ 15.20

Net Running Income = 1.60

Short Term SPX Trading

Diagonal Spread Payoff

On April 11th Expiration –



Short Term SPX Trading

Diagonal Spread

- Rolling trade consisted of long in the money call combined with at or out of the money calls
- Net result was four trades that resulted in a credit of 1.60
- One of the short calls was slightly in the money and resulted in a cash settlement debit for the trader

EBAY Earnings

Diagonal Spread

- **EBAY reported earnings Thursday July 16 before the open**
- **With EBAY trading at 63.43 a Diagonal Spread was executed at the end of the trading day on 7/15**

Max	Min	Abs Avg.	Last Q
5.69%	-2.43%	3.13%	3.98%

Buy 1 EBAY Aug 14th 55.00 Call at 8.70

Sell 1 EBAY Jul 17th 65.00 Call at 0.60

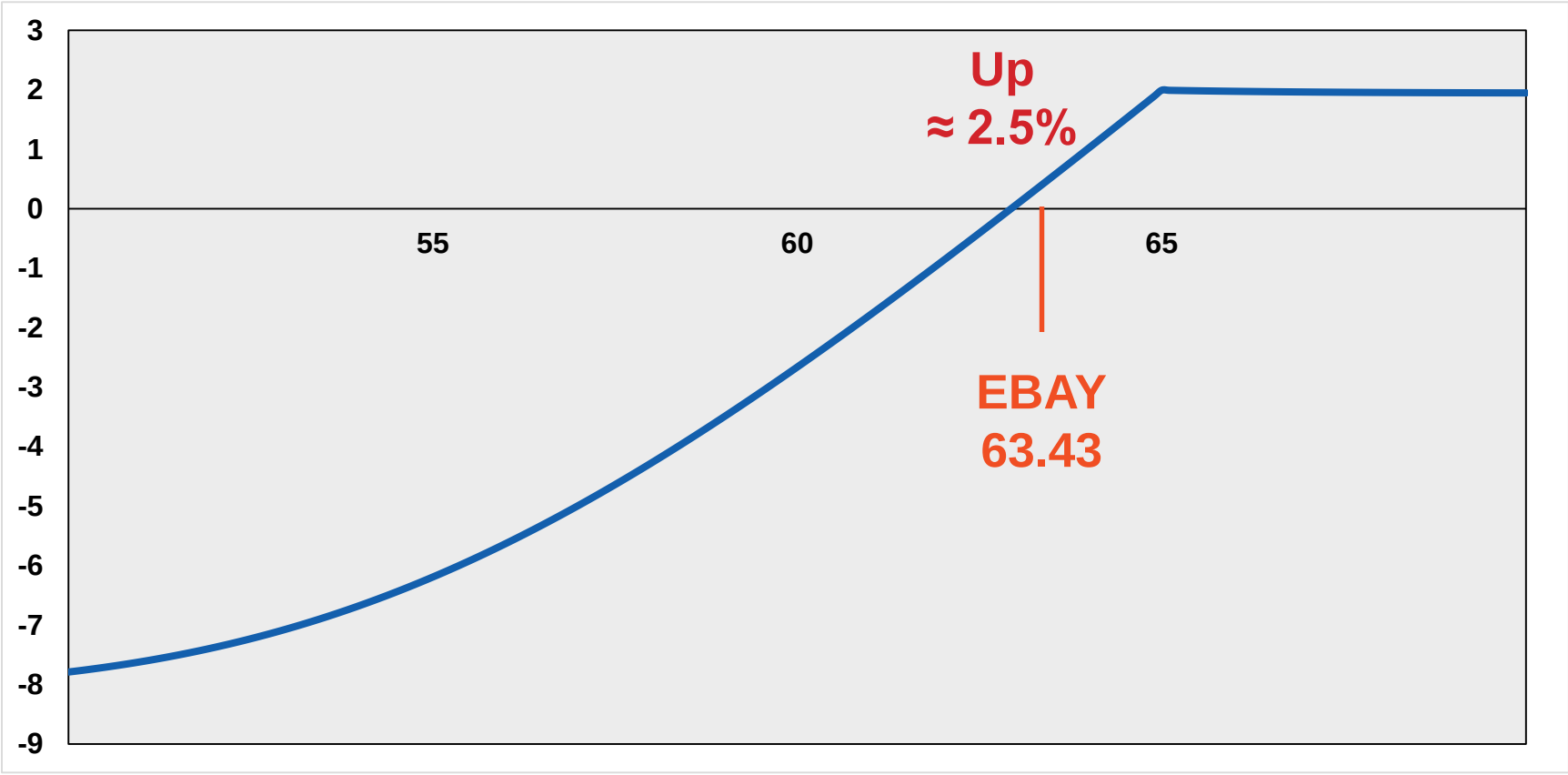
Net Cost = 8.10

Data Source: Bloomberg

EBAY Earnings

Payoff Diagram

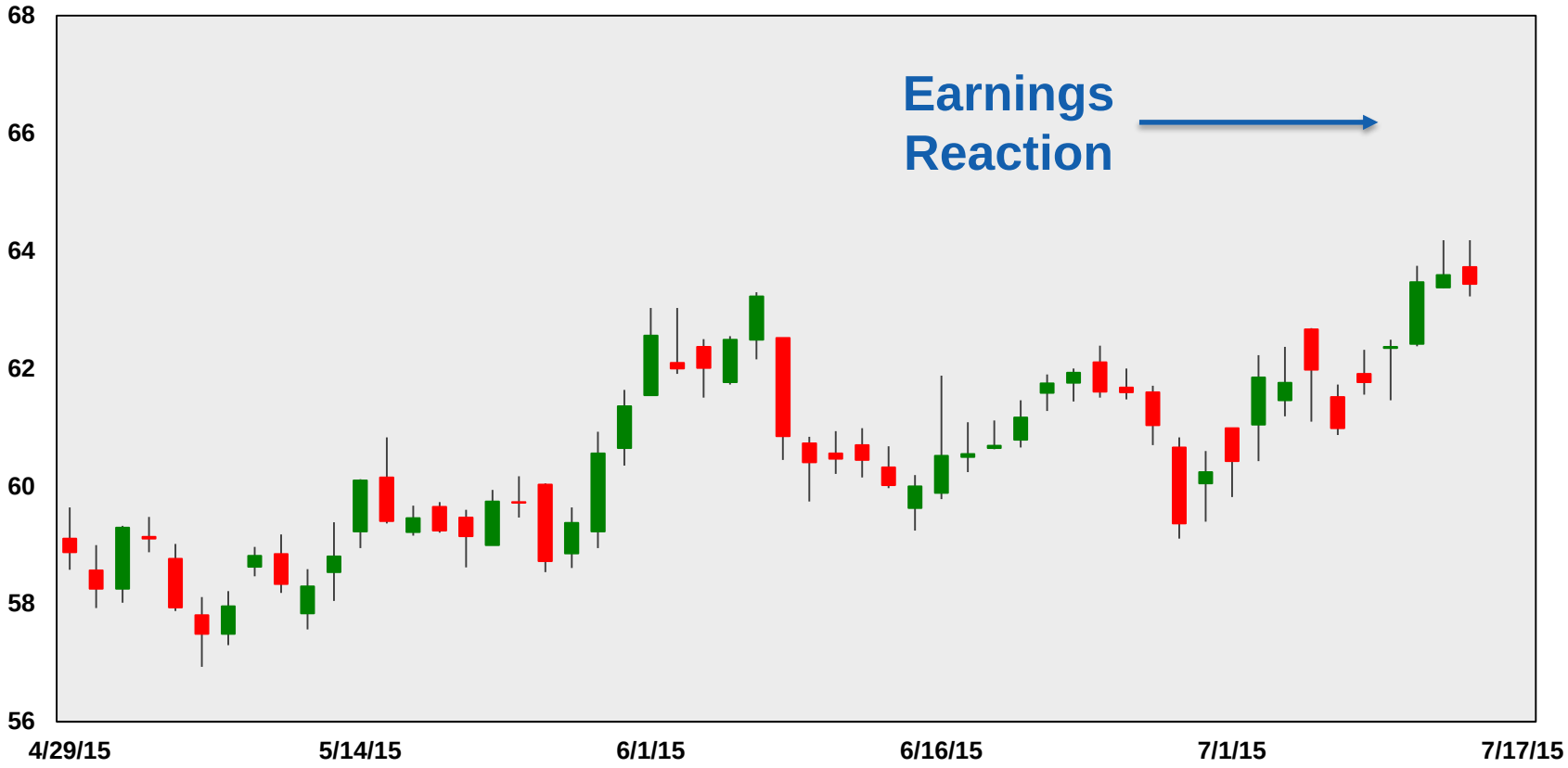
EBAY Long Aug 14th 55 Call – Short Jul 17th 65 Call



EBAY Earnings

Price Reaction

EBAY Daily Prices –



Data Source: Bloomberg

Diagonal Spreads

Summary

- Diagonal Spreads may be bullish or bearish in nature
- A long dated long call or put position may act as a substitute for a long or short position in the underlying market
- Shorter dated options may be sold against the position to generate income or lower the time value cost associated with the long option contract