

[Interactive Brokers Webcast](#)

---

# Methods for Getting Long Volatility

---

September 17, 2014  
Presented by Russell Rhoads, CFA

# Disclosure Statement

Options involve risks and are not suitable for all investors. Prior to buying or selling an option, an investor must receive a copy of Characteristics and Risks of Standardized Options. Copies are available from your broker, by calling 1-888-OPTIONS, or from The Options Clearing Corporation at [www.theocc.com](http://www.theocc.com). Futures trading is not suitable for all investors and involves risk of loss. The information in this presentation is provided solely for general education and information purposes. No statement within this presentation should be construed as a recommendation to buy or sell a security or future or to provide investment advice. Any strategies discussed, including examples using actual securities or futures price data, are strictly for illustrative and educational purposes only. In order to simplify the computations, commissions, fees, margin interest and taxes have not been included in the examples used in this presentation. These costs will impact the outcome of all transactions and must be considered prior to entering into any transactions. Multiple leg strategies involve multiple commission charges. Investors should consult with their tax advisors to determine how the profit and loss on any particular option strategy will be taxed. Past performance does not guarantee future results. Supporting documentation for any claims, comparisons, statistics or other technical data in this presentation is available from CBOE upon request. The CBOE Volatility Index® (VIX® index) methodology is the property of Chicago Board Options Exchange, Incorporated (CBOE). CBOE, Chicago Board Options Exchange, CBOE Volatility Index, Execute Success and VIX are registered trademarks and The Options Institute is a service mark of CBOE. S&P 500® is a registered trademark of Standard & Poor's Financial Services, LLC and has been licensed for use by CBOE and CBOE Futures Exchange, LLC (CFE). Financial products based on S&P indices are not sponsored, endorsed, sold or promoted by S&P and S&P makes no representation regarding the advisability of investing in such products. CBOE is not affiliated with Interactive Brokers. This presentation should not be construed as an endorsement or an indication by CBOE of the value of any non-CBOE product or service described in this presentation.

Copyright © 2014 CBOE. All rights reserved.

# Methods for Getting Long Volatility

## Outline

- **Volatility Index Review**
- **VIX<sup>®</sup> Index Price Behavior**
- **Review of VIX Options**
- **Trading Examples**
- **Resources**

# Volatility Index Review

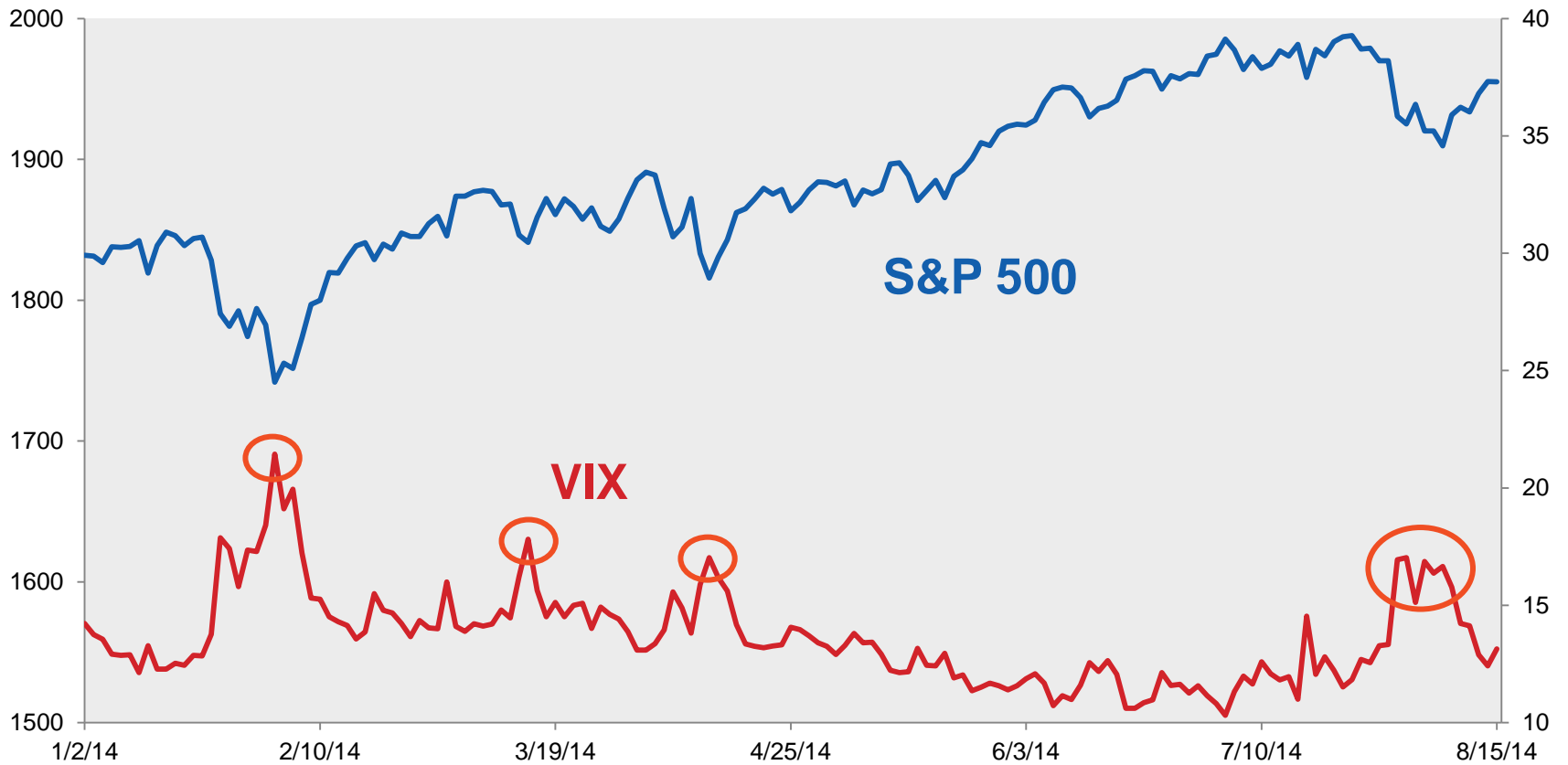
## Review

- **A volatility index – such as VIX<sup>®</sup> – is a consistent measure of implied volatility as indicated by option pricing**
- **VIX is a consistent 30 day measure of implied volatility based on S&P 500<sup>®</sup> Index option pricing**
- **Volatility indexes that are based on broad based equity market option trading have consistently exhibited an inverse relationship with the underlying market**

# VIX Price Behavior

## CBOE Volatility Index® vs. S&P 500

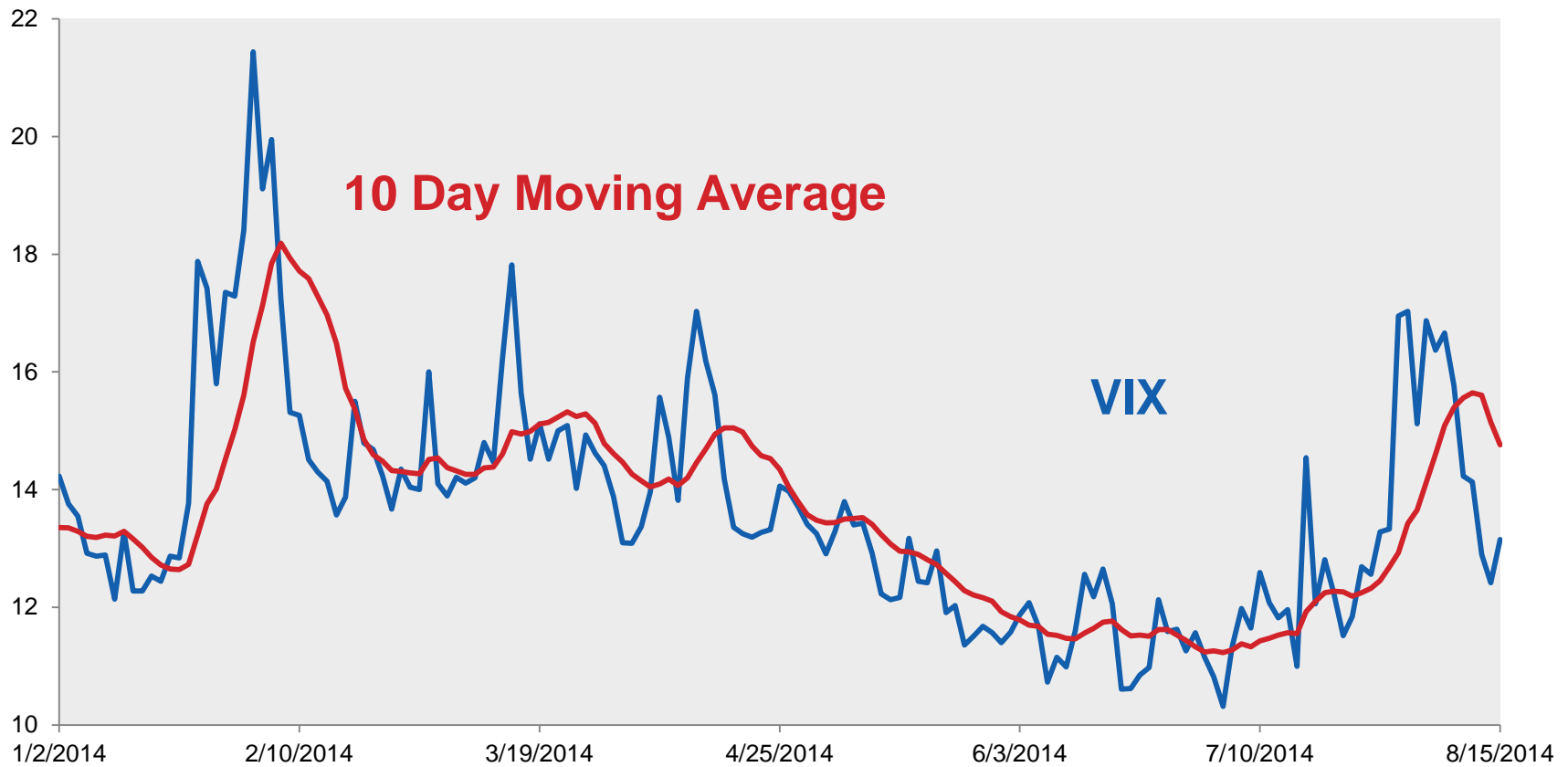
January 2, 2014 – August 15, 2014



# VIX Price Behavior

## Mean Reversion

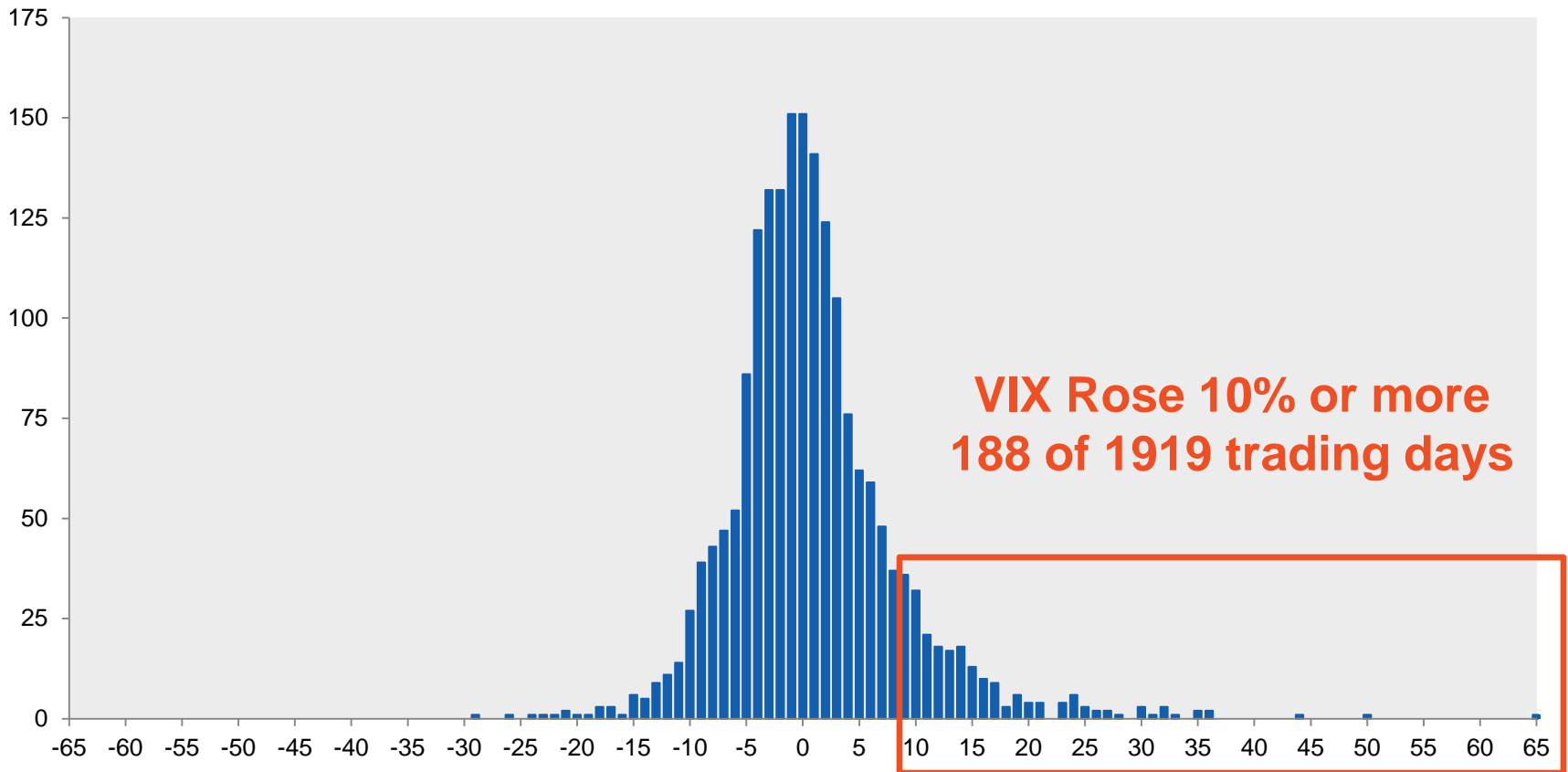
**VIX vs. 10 Day Average – January 1, 2014 – August 15, 2014**



# VIX Price Behavior

## VIX Daily Changes by Percent

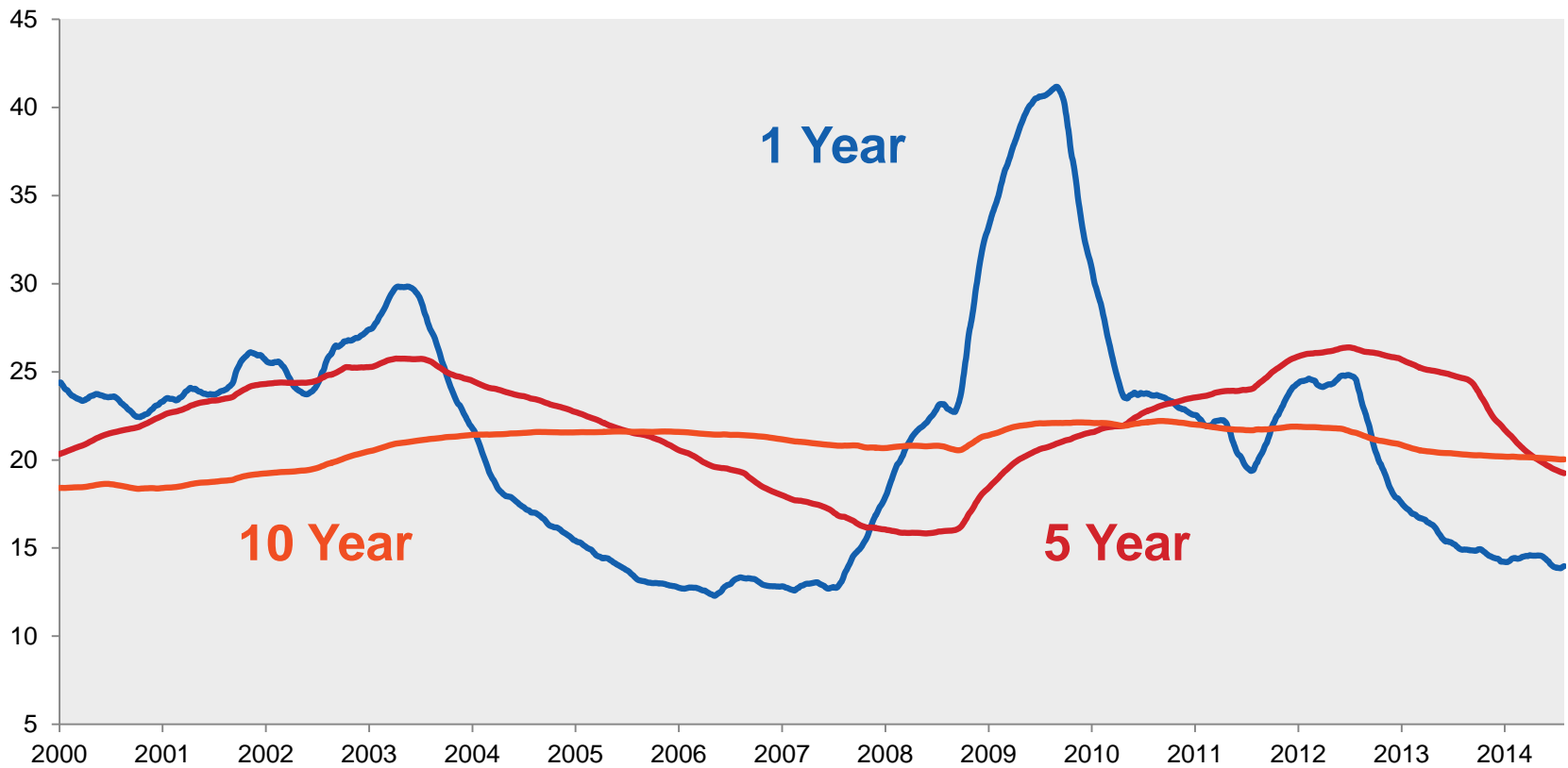
January 2, 2007 – August 15, 2014



# VIX Price Behavior

## Is VIX Low?

### Historical Perspective on Average VIX –





# Behavior of Volatility

## Mean Reversion

- **Implied volatility is a range bound measure**
- **At times there may be some extreme moves**
- **But generally implied volatility oscillates around a mean**

## In time...

**Historically a move up in VIX is usually followed by a drop**

**In the past, periods of complacency in VIX  
have tended to be followed by a spike**

# VIX Option Pricing

## Overview

### VIX Option Pricing Example –

VIX at 10.90

VIX Aug 15 Put @ 2.40

$$15.00 - 2.40 = 12.60$$

Aug VIX Futures @ 13.60

**Best underlying pricing vehicle for VIX options  
is the corresponding VIX futures contract**

# VIX Option Pricing

## Overview

### VIX Call Option Pricing Example –

**VIX at 10.90**

**VIX Aug 15 Call @ 1.05**

**Aug VIX Futures @ 13.60**

**Break-even buying the 15 Call is 16.05**

# Trading Examples

## Long Call

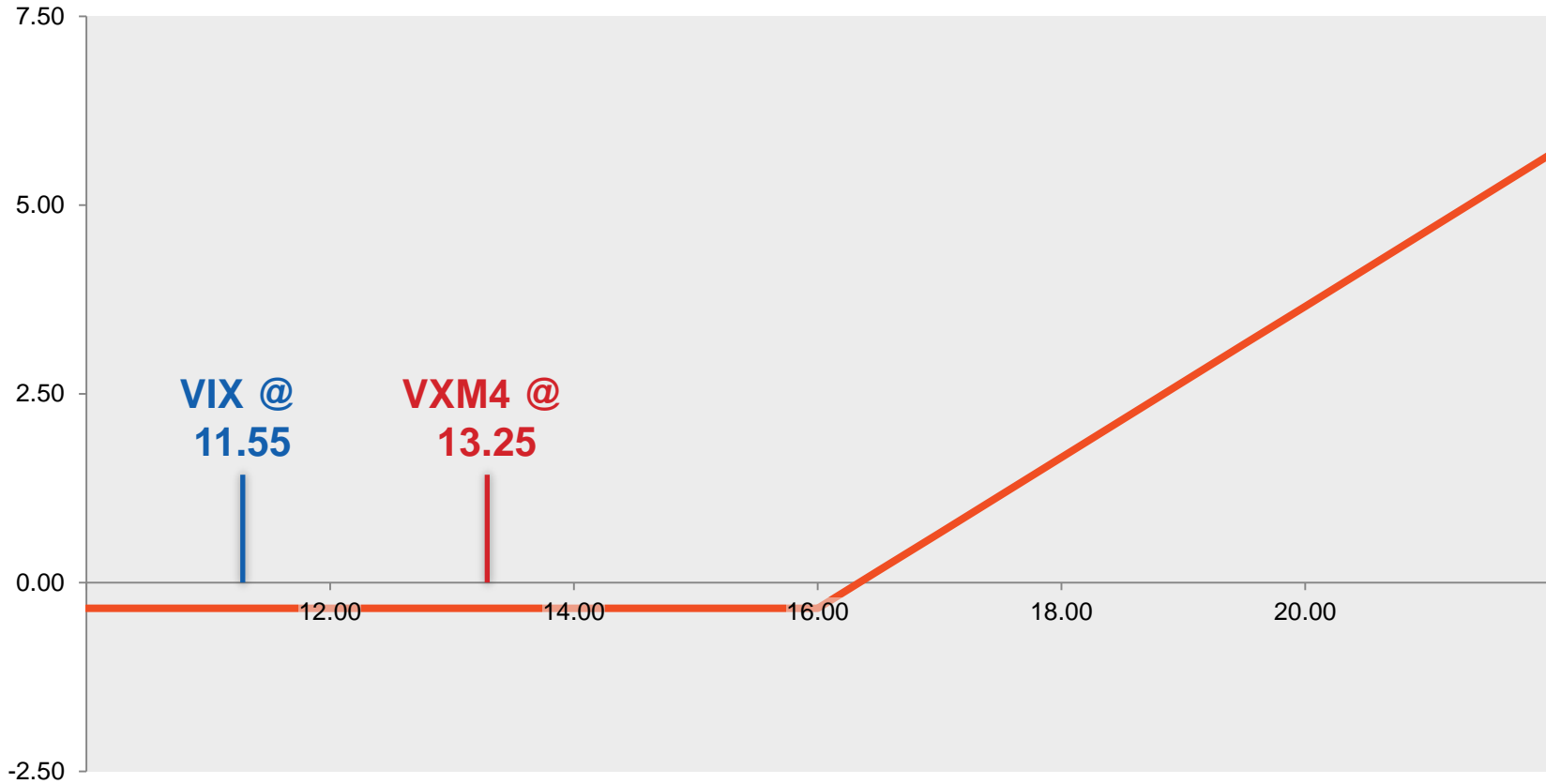
**13 Trading Days to June Expiration**  
**VIX at 11.55**  
**June VIX Futures at 13.25**

**Buy 1 VIX Jun 16 Call @ 0.35**

# Trading Examples

## Long Call

### Payoff Diagram –



# Trading Examples

## Long Call Spread

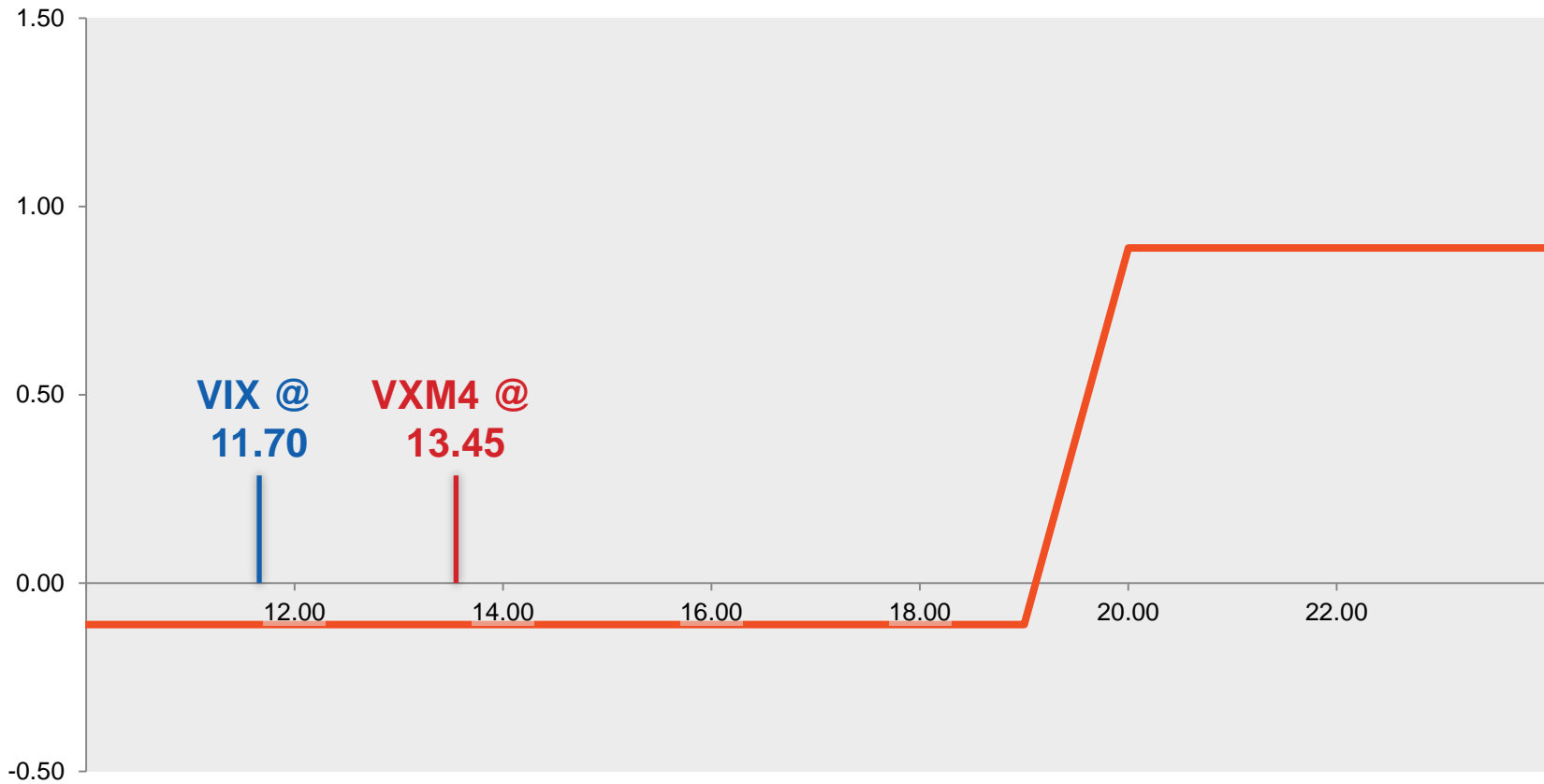
**14 Trading Days to June Expiration**  
**VIX at 11.70**  
**June VIX Futures at 13.45**

**Buy 1 VIX Jun 19 Call @ 0.50**  
**Sell 1 VIX Jun 20 Call @ 0.40**  
**Net Cost = 0.10**

# Trading Examples

## Long Call Spread

### Payoff Diagram –



# Trading Examples

## Employment Number Trade

**8 Trading Days to February Expiration**

**VIX at 12.90**

**Feb VIX Futures at 14.55**

**Sell 1 VIX Feb 13 Put @ 0.30**

**Buy 1 VIX Jun 16 Call @ 0.50**

**Sell 1 VIX Jun 20 Call @ 0.05**

**Net Cost = 0.15**

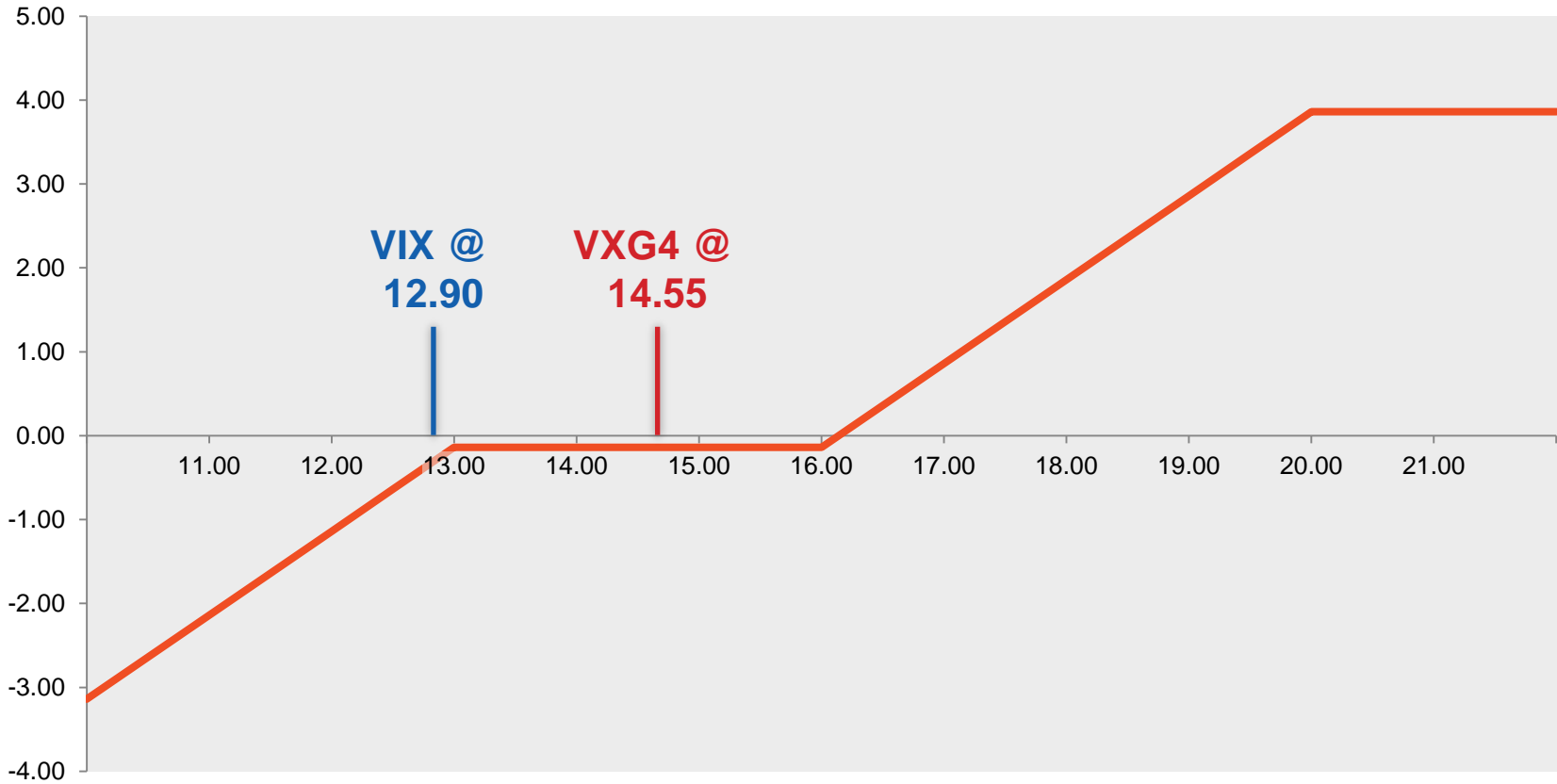
**\*VIX Feb 10 Put was offered at 0.05**



# Trading Examples

## Employment Number Trade

### Payoff Diagram –



# Trading Examples

## Short Straddle + Long Call

**21 Trading Day to March Expiration**  
**VIX at 13.60**  
**March VIX Futures at 14.70**

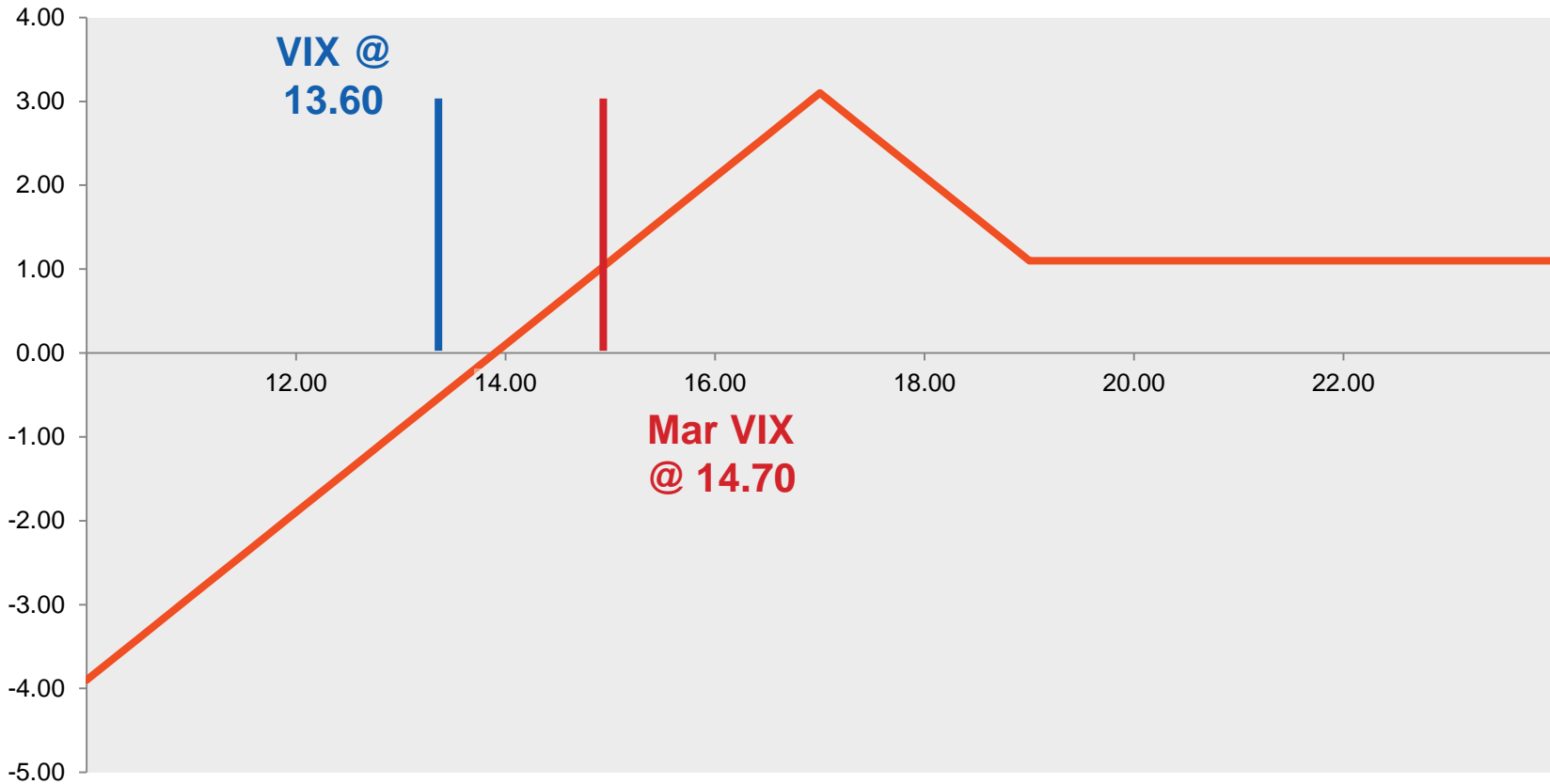
**Sell 1 VIX Mar 17 Call @ 0.95**  
**Sell 1 VIX Mar 17 Put @ 2.70**  
**Buy 1 VIX Mar 19 Call @ 0.55**

**Net Credit = 3.10**

# Trading Examples

## Short Straddle + Long Call

### Short VIX Mar 17 Straddle + Long VIX Mar 19 Call –



# Trading Examples

## Summary

- Typically VIX futures are priced at a premium relative to the underlying index
- This results in VIX call options appearing very expensive when considering the level of the spot index
- Spread trades have become more common where traders are getting upside exposure to VIX at a low cost

# Getting Long Volatility

## Resources

**CBOE – Volatility Indexes Home Page**

[www.cboe.com/volatility](http://www.cboe.com/volatility)

**CBOE Futures Exchange**

[www.cfe.cboe.com](http://www.cfe.cboe.com)

**CBOE Blog Site**

[www.cboeoptionshub.com](http://www.cboeoptionshub.com)

**Russell Rhoads, CFA**

[rhoads@cboe.com](mailto:rhoads@cboe.com)

**Twitter – @russellrhoads**