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VIX Option Calendar Spreads

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- VIX[®] Review
- Term Structure of VIX Futures
- Calendar Spread With Futures
- VIX Option Calendar Spreads
- Future vs. Option Spread
- Summary / Q&A

The VIX –

CBOE Volatility Index[®].

Measures S&P 500[®] implied volatility.

Based on S&P 500 Option bid/ask quotes.

Uses the nearby options with at least 8 days until expiration.

Has been promoted as a ‘fear index’ by the business media.

VIX Futures –

- Value is \$1000 x the level of the VIX Index.
- Trade the next 8 months of expiration.
- Expire on Wednesday 30 days before corresponding S&P 500 option expiration.
- Have very unique characteristics relative to other financial futures.

Unique Futures Pricing –

- Pricing is anticipatory
- No 'fair value' relationship between index and future
- Based on market outlook futures may be at a discount or premium to the index

VIX Options –

- Introduced in 2006
- Have gained wide acceptance among individual and institutional traders
- \$100 times VIX Index
- Cash settled based on VIX Index
- Pricing based on VIX Futures

Options - Unusual Pricing –

VIX Index @ 22.00

VIX August 20.00 Call @ 1.25

$$22.00 - 20.00 = 2.00$$

VIX August Future @ 20.50

Options - Unusual Pricing –

VIX Index @ 22.50

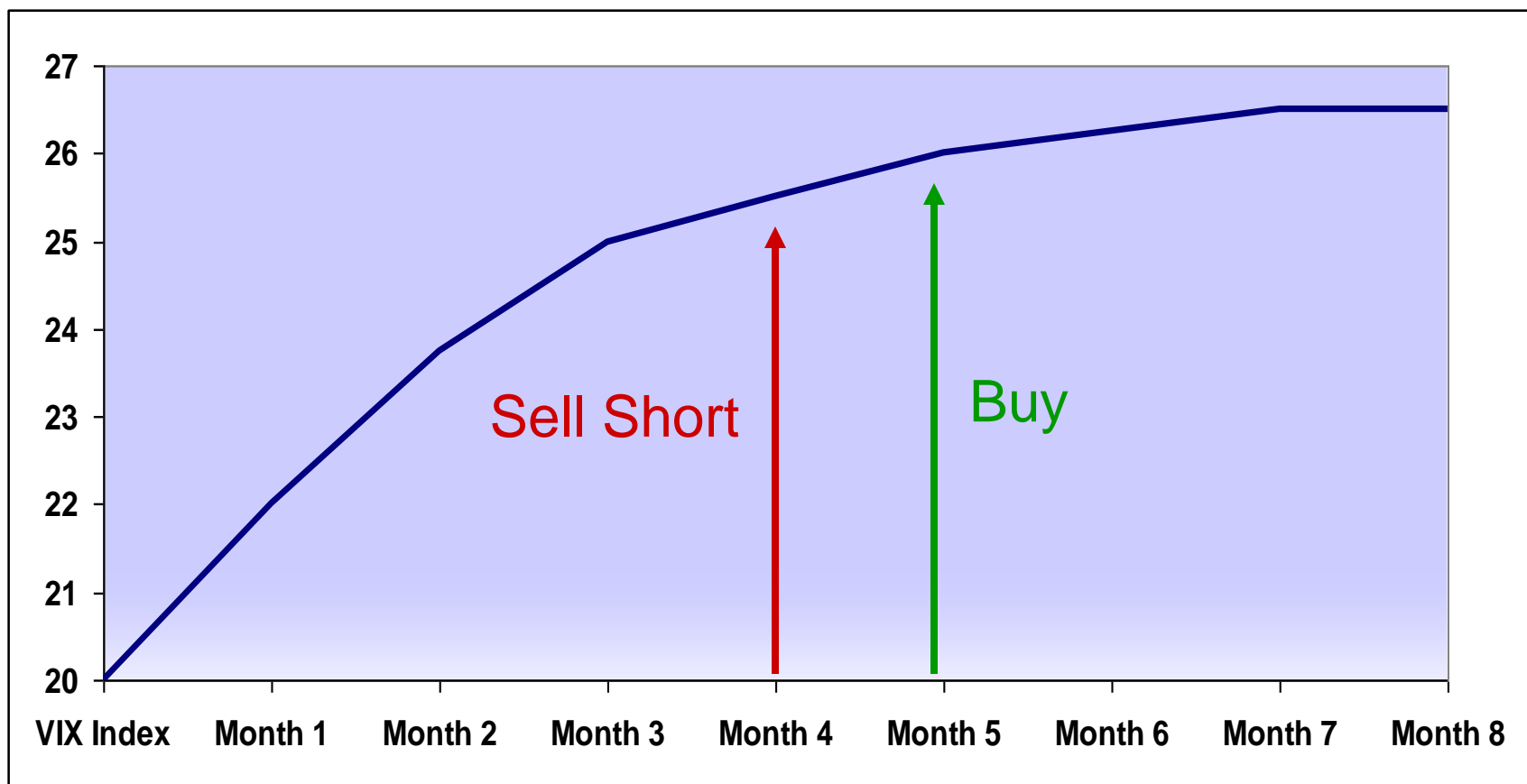
VIX September 25.00 Put @ 1.50

$$25.00 - 22.50 = 2.50$$

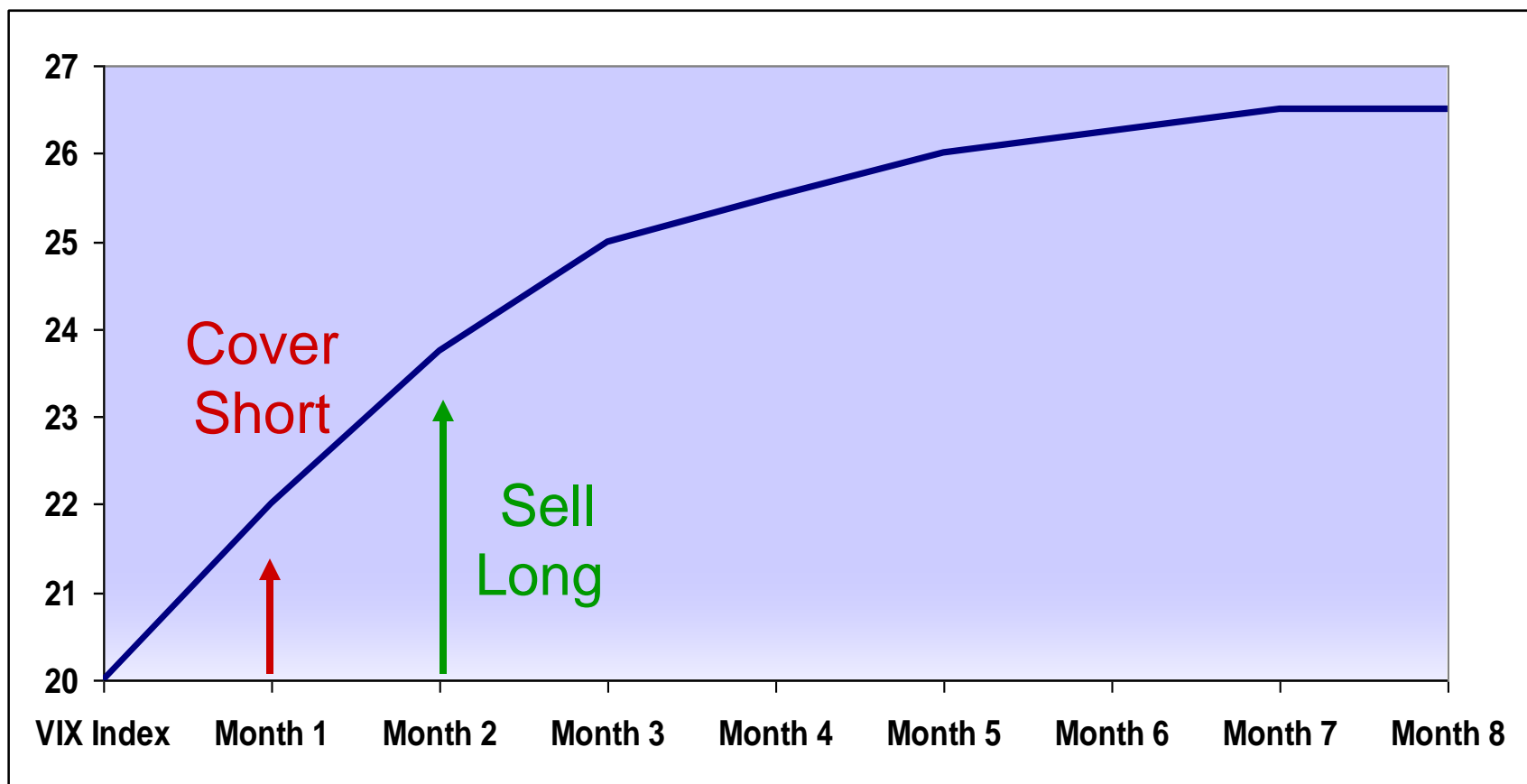
VIX September Future @ 24.00

- There is a typical shape to the curve that may be created using VIX futures pricing
- In a calm market environment, the index is usually at a discount to the futures contracts
- The curve rises with near term contracts
- Farther dated contracts often have prices in a narrow range

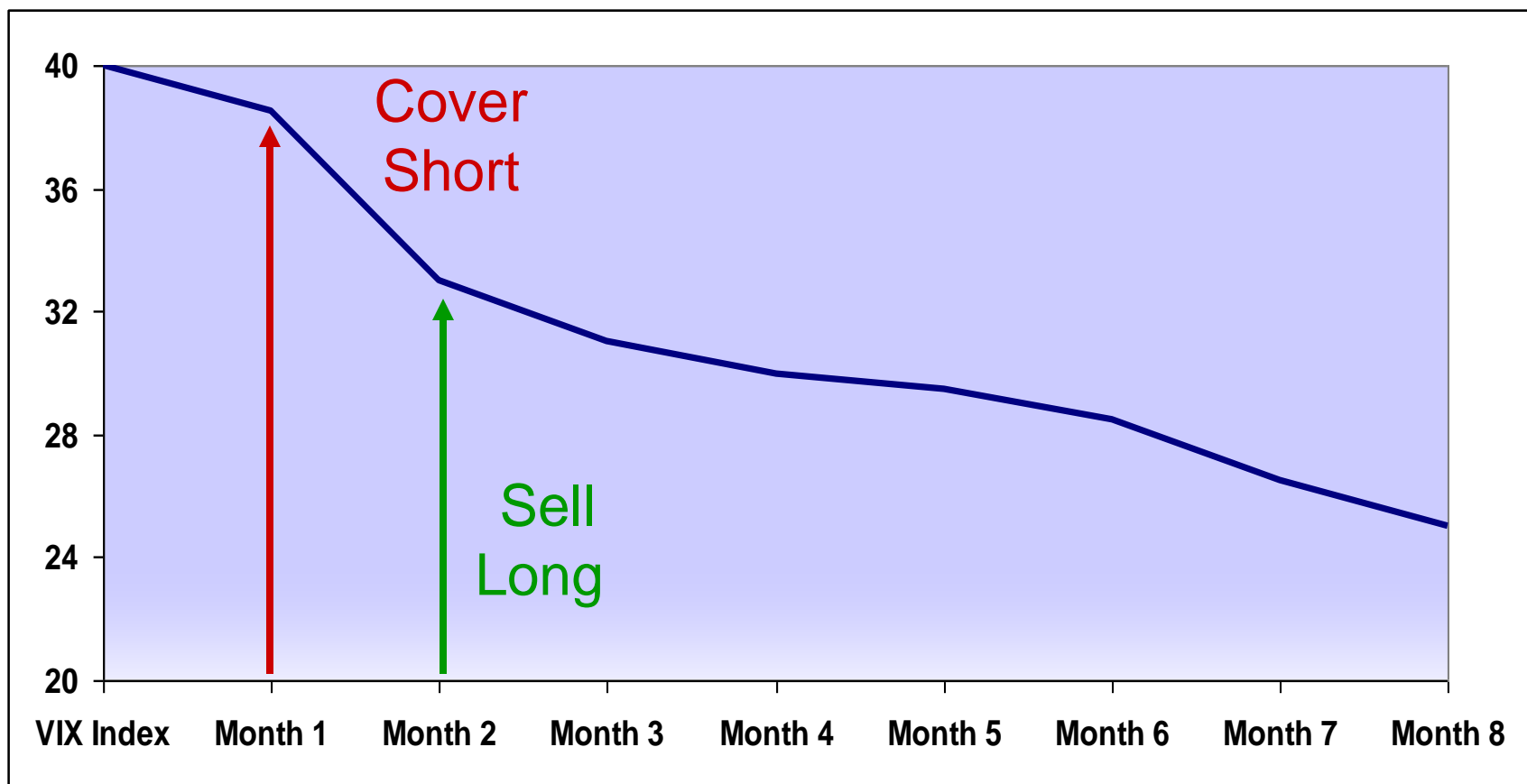
Trading the Typical Curve –



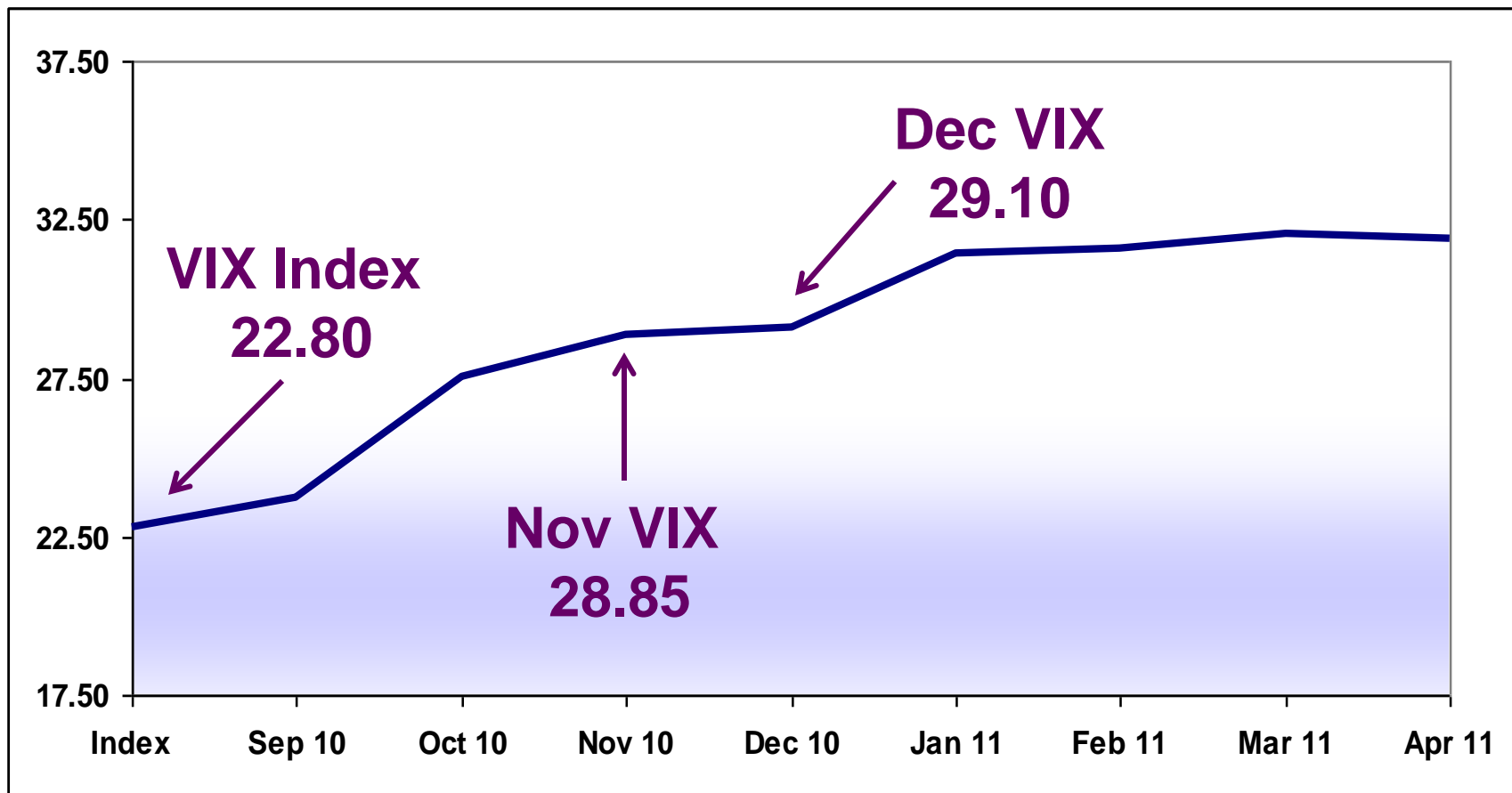
Three Months Later – Normal Curve



Three Months Later – Volatility Spike



September 9, 2010 VIX Curve –



September 9, 2010 –

- Expect VIX Index to be steady into mid-November
- Result would be Nov VIX @ 22.80
- Dec VIX @ 25.80 (3 point premium)
- Outlook consistent with Sep / Oct pricing

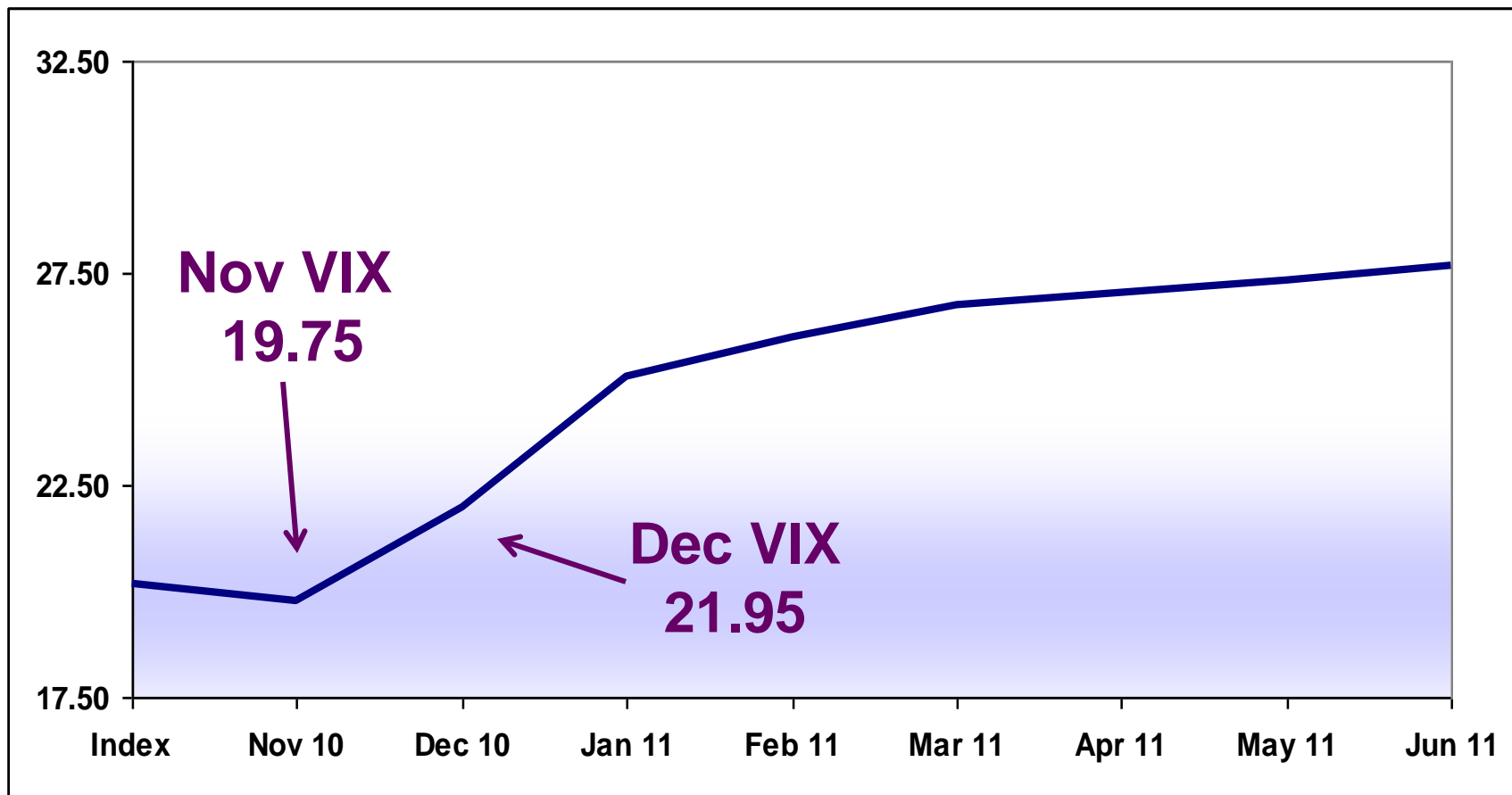
Sell 1 Nov VIX @ 28.85

Buy 1 Dec VIX @ 29.10

Forecast Outcome –

	9/9/2010	11/15/2010	Profit / Loss
Sell Nov VIX	28.85	22.80	6.05
Buy Dec VIX	29.10	25.80	(3.30)
		Spread	2.75

November 15, 2010 VIX Curve –



Actual Outcome –

	9/9/2010	11/15/2010	Profit / Loss
Sell Nov VIX	28.85	19.75	9.10
Buy Dec VIX	29.10	21.95	(7.05)
		Spread	1.95

VIX Options –

- VIX Options may also be used to trade based on a time oriented spread
- The risk profile of a trade may be more favorable when using VIX Options

Time Straddle –

- Same outlook for Nov / Dec VIX Futures
- Buy 1 Nov Put – substitute for short future
- Buy 1 Dec Call – substitute for long future
- Both options have same strike price

Time Straddle –

Nov VIX Future @ 28.85

VIX Nov 30 Put @ 4.10

Dec VIX Future @ 29.10

VIX Dec 30 Call @ 3.30

Buy 1 Nov 30 Put @ 4.10

Buy 1 Dec 30 Call @ 3.30

Forecast Outcome –

	9/9/2010	11/15/2010	Profit / Loss
Nov 30 Put	4.10	7.20	3.10
Dec 30 Call	3.30	1.10	(2.20)
		Spread	0.90

Actual Outcome –

	9/9/2010	11/15/2010	Profit / Loss
Nov 30 Put	4.10	10.25	6.15
Dec 30 Call	3.30	0.70	(2.60)
		Spread	3.55

Time Strangle –

- Same outlook for Nov / Dec VIX Futures
- Buy 1 Nov Put – substitute for short future
- Buy 1 Dec Call – substitute for long future
- Options have different strike prices

Time Strangle –

Nov VIX Future @ 28.85

VIX Nov 40 Put @ 12.20

Dec VIX Future @ 29.10

VIX Dec 30 Call @ 3.30

Buy 1 Nov 40 Put @ 12.20

Buy 1 Dec 30 Call @ 3.30

Calendar Spread with Options

Forecast Outcome –

	9/9/2010	11/15/2010	Profit / Loss
Nov 40 Put	12.20	17.20	5.00
Dec 30 Call	3.30	1.10	(2.20)
		Spread	2.80

Actual Outcome –

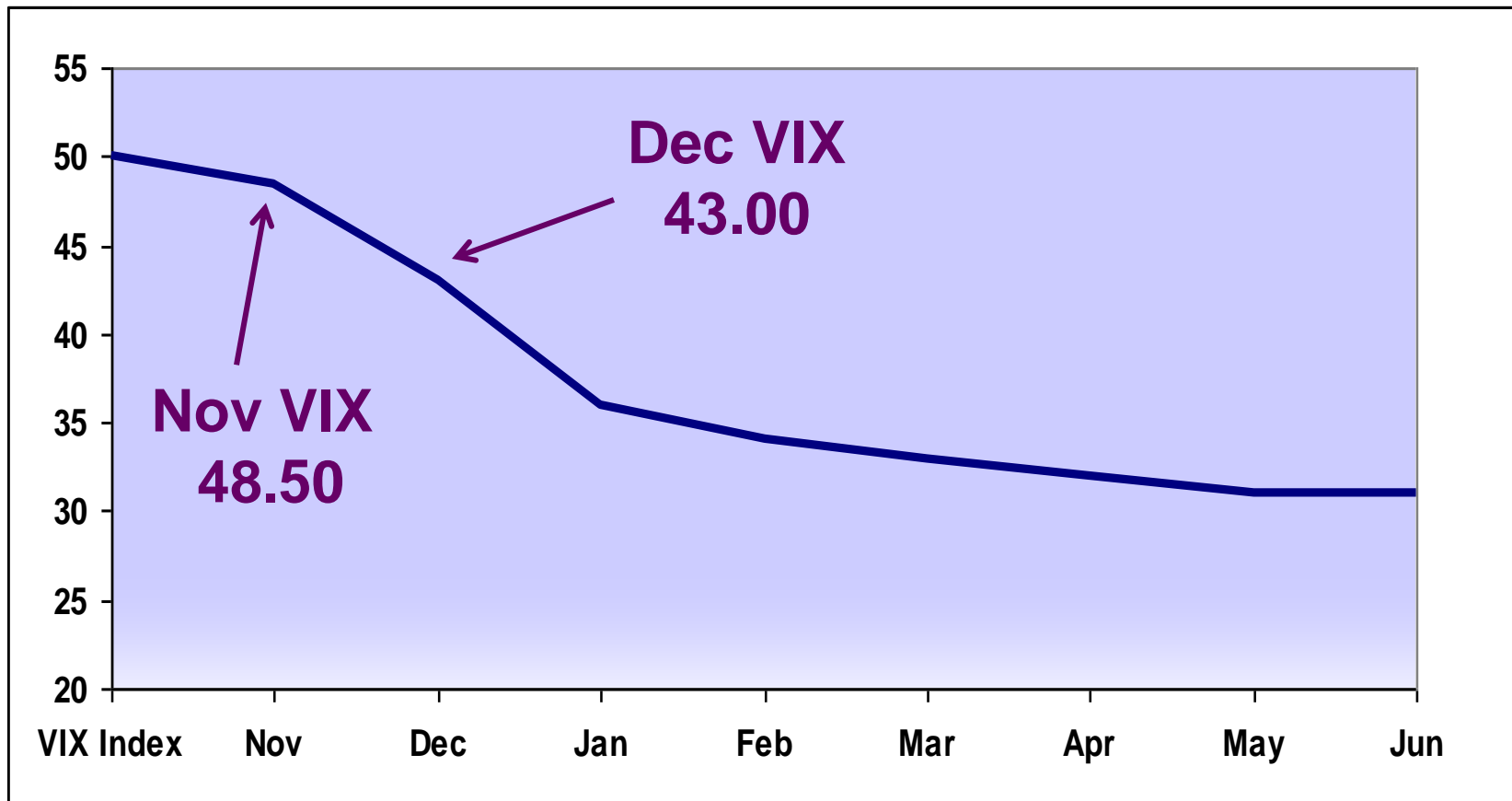
	9/9/2010	11/15/2010	Profit / Loss
Nov 40 Put	12.20	20.25	10.05
Dec 30 Call	3.30	0.70	(2.60)
		Spread	7.45

Future vs. Option Spread –

	Nov Future Dec Future	Nov 30 Put Dec 30 Call	Nov 40 Put Dec 30 Call
Forecast	2.75	0.90	2.80
Actual	2.05	3.55	7.45

So...why consider the option spread?

Volatility Spike



Futures vs. Options

Volatility Spike Outcome –

	9/9/2010	11/15/2010	Profit / Loss
Sell Nov VIX	28.85	48.50	(19.65)
Buy Dec VIX	29.10	43.00	13.90
		Spread	(5.75)

Futures vs. Options

Volatility Spike Outcome –

	9/9/2010	11/15/2010	Profit / Loss
Nov 30 Put	4.10	0.00	(4.10)
Dec 30 Call	3.30	13.20	9.90
		Spread	5.80

Futures vs. Options

Volatility Spike Outcome –

	9/9/2010	11/15/2010	Profit / Loss
Nov 40 Put	12.20	0.00	(12.20)
Dec 30 Call	3.30	13.20	9.90
		Spread	(2.30)

Future vs. Option Spread –

	Nov Future Dec Future	Nov 30 Put Dec 30 Call	Nov 40 Put Dec 30 Call
Forecast	2.75	0.90	2.80
Actual	1.95	3.55	7.45
Vol Spike	(5.75)	5.80	(2.30)

Risk associated with Volatility Spike

- Many traders speculate on the relative price change of VIX futures contracts
- Futures are a common vehicle for this trade
- Option contracts may also be used to trade in this manner

Questions / Comments?

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