

Should You Speculate Or Hedge?

Presented by

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“The Option Strategist”

Options Trading Forum

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General Outline

Speculation:

Call Buying

Naked Option Writing

Stock Ownership

Futures Trading

Hedging:

Calendar Spreads, Straddle Buys

Credit Spreads

Volatility Futures Hedge

The “Tools”

An Option Model: Black-Scholes

A Probability Calculator:

“ever” vs. “end-point” probability

Expected Return: for comparisons

OPTION PRICING MODELS

Online platform supplies Basic One

Hooked to Data Feed: Gets data from source

- **useful for a quick check of IV and delta**
- **generally insufficient for “what-if” analyses**

Stand-Alone: Enter Data Manually

(CBOE, McMillan, Options Laboratory, Trester)

Better for “what-if” analyses

McMillan's Option Calculator 2.0

Option Calculator 2.0 File Dividend Implied Help

Underlying Price: 32 Underlying Price Incr.: 1 Strike Price: 20 Strike Price Incr.: 5 Rate: 2 Volatility: 30 Volatility Incr.: 0

Exercise: American European Multiplier: 1 Start Date: 5/28/02 Expiry Date: 1/17/03 Expiry Days: 234.0 Calculate

Underlying Price	Strike Price	Rate	Volatility	Dividend	Put Delta	Amer / Euro	Start Date	Expiry Date
32.00	25.00	2.00	30.00	0.00	-11.48	American	5/28/2002	1/17/2003

Stck\Strk	CALL						PUT					
	20.0	25.0	30.0	35.0	40.0	45.0	20.0	25.0	30.0	35.0	40.0	45.0
32.0	12.30	7.80	4.29	2.06	0.89	0.36	0.05	0.48	1.91	4.62	8.39	13.00
33.0	13.29	8.69	4.98	2.51	1.14	0.47	0.04	0.38	1.60	4.07	7.63	12.00
34.0	14.28	9.61	5.72	3.01	1.42	0.62	0.03	0.30	1.34	3.56	6.92	11.05
35.0	15.27	10.55	6.49	3.55	1.75	0.80	0.02	0.23	1.11	3.11	6.25	10.23
36.0	16.27	11.50	7.30	4.14	2.13	1.00	0.02	0.18	0.92	2.70	5.62	9.44
37.0	17.26	12.46	8.14	4.78	2.54	1.25	0.01	0.14	0.76	2.34	5.04	8.68
38.0	18.26	13.42	9.00	5.46	3.01	1.53	0.01	0.11	0.63	2.02	4.50	7.96
39.0	19.26	14.40	9.89	6.17	3.51	1.84	0.01	0.08	0.51	1.73	4.01	7.28

Call Option Greeks

Delta: 88.52 Rho: 13.17 Gamma: 2.52 Vega: 5.06 Theta: -0.43 Gamm(Gamma): -44.26

The Monte Carlo Simulation

Monte Carlo Probability Calculator 2000

MacMillan Analysis Corp. in association with
Genesis Financial Data Services

Enter values:

Number of trials to conduct:

Current stock price: -- Upside price
 -- Downside price

Number of TRADING days left:

Volatility:

Calculated probabilities:

closes beyond upside	<input type="text" value="25.41"/>	ever exceeds upside	<input type="text" value="47.99"/>
closes beyond downside	<input type="text" value="32.89"/>	ever exceeds downside	<input type="text" value="63.12"/>
closes beyond EITHER limit	<input type="text" value="58.30"/>	SUM of ever exceeding limits	<input type="text" value="111.11"/>
		ever exceeds BOTH limits	<input type="text" value="14.66"/>
		ever exceeds EITHER limit (SUM - BOTH)	<input type="text" value="96.45"/>

Helpful hints:
Overview & Index
What to do next?
Where to get numbers?
What does it mean?
How does it do it?
www.optionstrategist.com
www.gfds.com

Speculating With Options: A “Reasonable Approach” Defined

- **Buying options**
- **Which Option to Buy?**
 - **How Many to Buy
(Managing your risk)**

Which Option To Buy?

- *“The shorter term your horizon, the higher the delta should be”*
- **Day traders**: use the underlying
- **Short-term** position traders: buy in-the-money, short-term
- **Intermediate-term** position traders (3 months or more): buy at the money.
- **Long-term**: can consider LEAPS, at- or out-of-money

Always Use a Model

(know what to expect)

- **Using a model allows you to perform a “what- if” analysis**
 - **Can estimate outcomes at various stock prices**
 - **...and for various time horizons**

Always Use a Model (for your sanity)

- **Eliminates frustration when things go “wrong”**
 - **For example, “I’m always losing money even when the underlying stock makes a quick 3- or 4-point move in my favor”**

The “frustration” problem: Part I, the bid-asked spread

- **XYZ = 115 in July;**
- **Sept 130 call: 8 bid, 9 asked**
Delta: 0.46
- **Stock must rise nearly 2.25 to overcome bid-asked spread:**

$$\frac{\textit{spread}}{\textit{delta}} = \text{distance to overcome “the vig”}$$

The “frustration” problem: Part II, Implied Vol changes

- **XYZ = 115 in July;**
- **Sept 130 call: 8 bid - 9 asked**
Implied Volatility: 95%

Black-Scholes model:

**exposure is 16 cents per percentage
point change in implied volatility**

The “frustration” problem:

Suppose XYZ stock rises 4 points, but your option is only bid at 8-1/4!! What happened?

(implied volatility dropped to 85%)

Delta: option gains +1.84 (4 x 0.46)

Volatility: option loses -1.60 (-10 x 0.16)

Bid-asked spread: -1.00

Net: a loss of -0.76

is what the model “predicted”

(Maybe you bought that call because it was the lowest strike you could ‘afford’; in-the-money would be better)

How Many Options Should I Buy?

Risk Management

Risk a fixed percent of your account on each trade (3%, e.g.)

Automatically increases when you win and decreases when you lose

How Many Options Should I Buy?

Risk Management

*Risk a fixed percent of your account on each trade
(3%, e.g.)*

*Automatically increases when you win
and decreases when you lose*

*Example: Account size = \$100,000
You plan to risk 5 points on a stock trade*

Therefore, buy 600 shares of stock (3% risk)

How Many Options Should I Buy?

You could figure your risk = premium,
but that's unrealistic.

Option costs 10 points (\$1000)

So buy 3,

if your account size is \$100,000

(3% risk)

How Many Options Should I Buy?

More likely scenario: you see XYZ break out at 100, and want to buy calls. But if it falls back to 95, the breakout is negated and you want to be out.

What is the call buyer's risk in this case?

How Many Options Should I Buy?

Using the model to estimate risk.

Oct 100 call costs 10 today (\$1000).

**What would it be worth if XYZ fell to 95
in a week? A month?**

Black-Scholes model says:

In 1 week, if XYZ = 95, Oct 100 call = 7

Therefore, risk = 3 points (\$300)

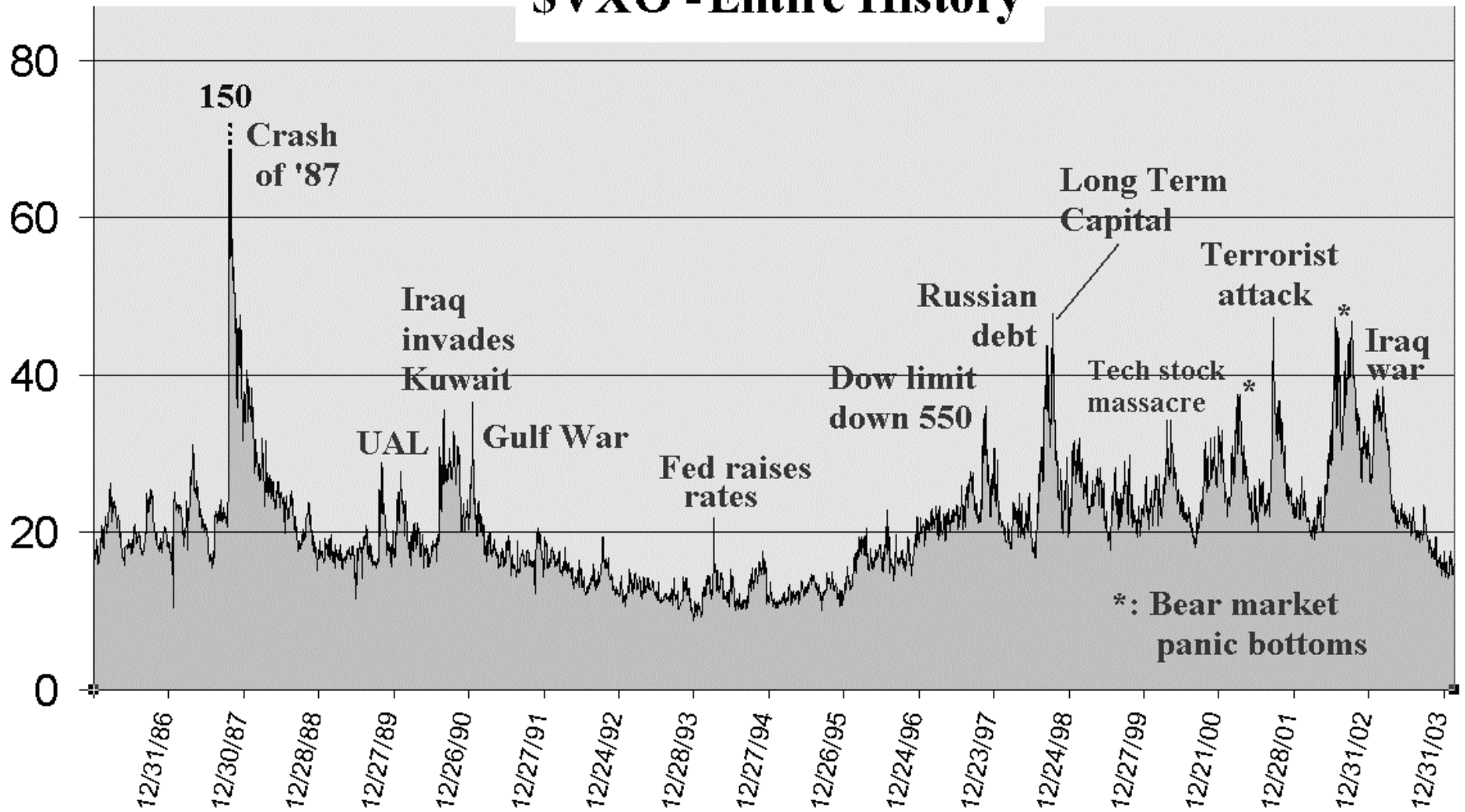
so you can buy 10 calls, *not* 3!

Speculating on Volatility

- **Now possible**
- **New VIX futures**
- **Easier to Predict?**

History of \$VIX

SVXO - Entire History



Speculating on Volatility: The New VIX Futures

- **Listed on the CBOE *Futures* Exchange (CFE) – a new exchange**
- **Began trading 3/26/04**
- **Quotes available on Bloomberg, ILX, Reuters, and at www.cboe.com***
- **Electronic trading available***

***: not available on all platforms yet**

VIX Futures: Details

- **Underlying: VXB Index = 10 x VIX**
- **One point move in VIX = \$1000 move in futures**
- **Margin: \$3750 initial (\$3000 maintenance)**
- **Last trading day: Tuesday before 3rd Friday**
- **Settlement: “a.m.” settlement on Wednesday**
- **Contracts: Feb, May, Aug, Nov plus two front months**

VIX Trading: important points

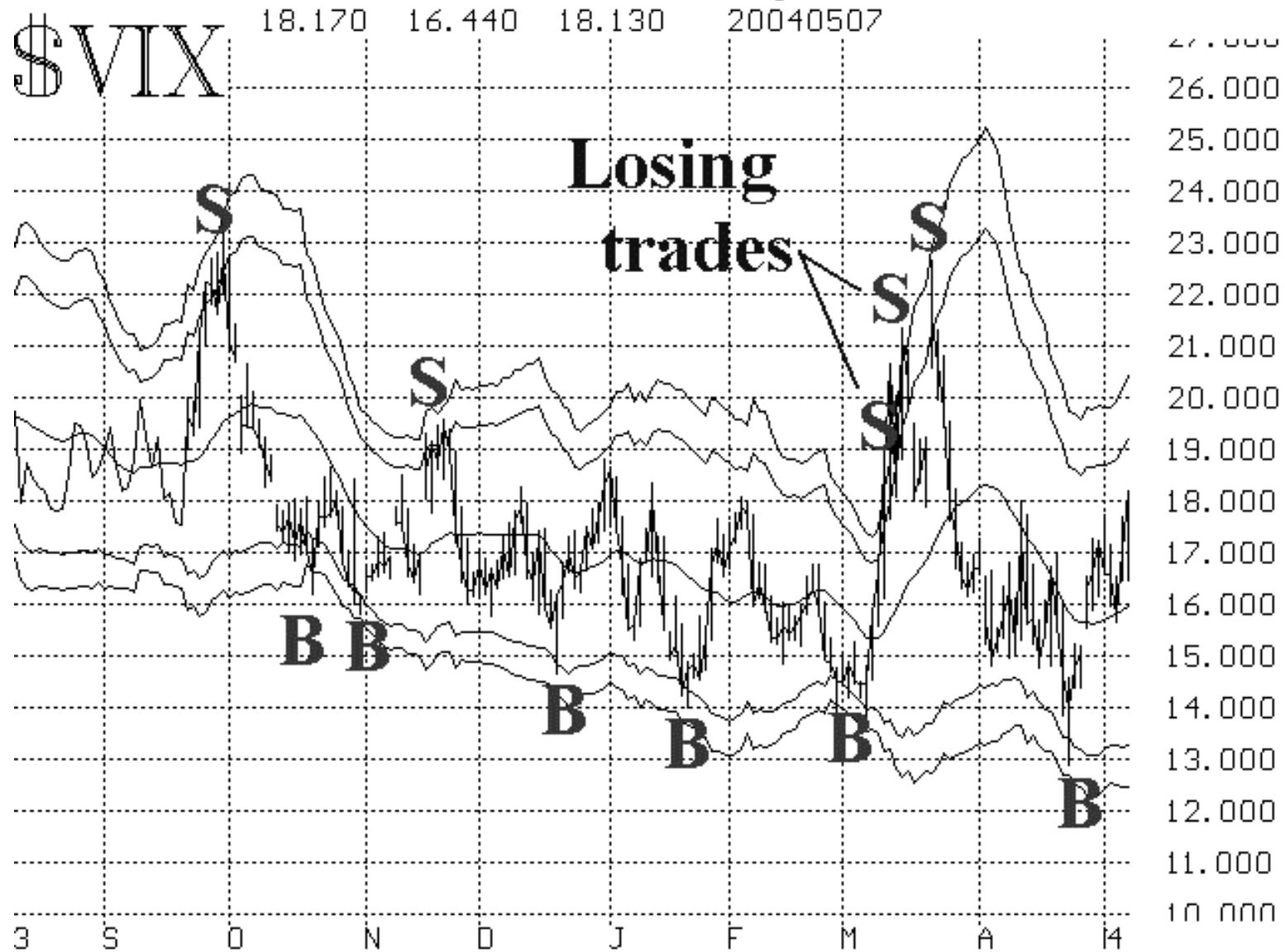
- **VIX has ranged between 10 and 50**
 - **Expect buyers near the lows and sellers near the highs**
 - **Restated: expect VIX futures to have a premium when they are near the lows and to trade at a discount when they are near the highs**

A Simple Strategy:

When the VIX chart hits the 2-standard deviation Bollinger Band, take a position.

Exit when it closes beyond the 20-day moving average.

VIX and Bollinger Bands



Speculative Option Selling: Writing Naked Options

**When approached as a “business,”
The strategy can make fairly consistent money
For those who are “suitable.”**

Benefits of Naked Writing

- **Time decay works in your favor**
- **Out-of-the-money options are often over-priced**
- **Existing equity can be used to fund this strategy**

Risks of Naked Option Writing

- **Risk is large, even unlimited**
- **Chaotic moves occur with surprising frequency**
- **Most options do *not* expire worthless!**

The Philosophy of Naked Writing

- **Can you psychologically handle it?**
- **Do you have the financial resources to margin it “properly”?**
- **Do you have the trading experience to adhere to your stops and the time to monitor your positions constantly?**
- **If so, you are “suitable” for selling naked options.**

The Strategy of Naked Writing

- **Use index or futures options, not stock**
 - **Only sell “expensive” options**
 - **Use a probability calculator**
 - ...over-estimate volatility
 - ...require 20% or less “ever” probability
- **Allow enough margin to reach your stop price**
 - **Have somewhere to roll to**

Allow Enough Margin to Reach Your Stop Price

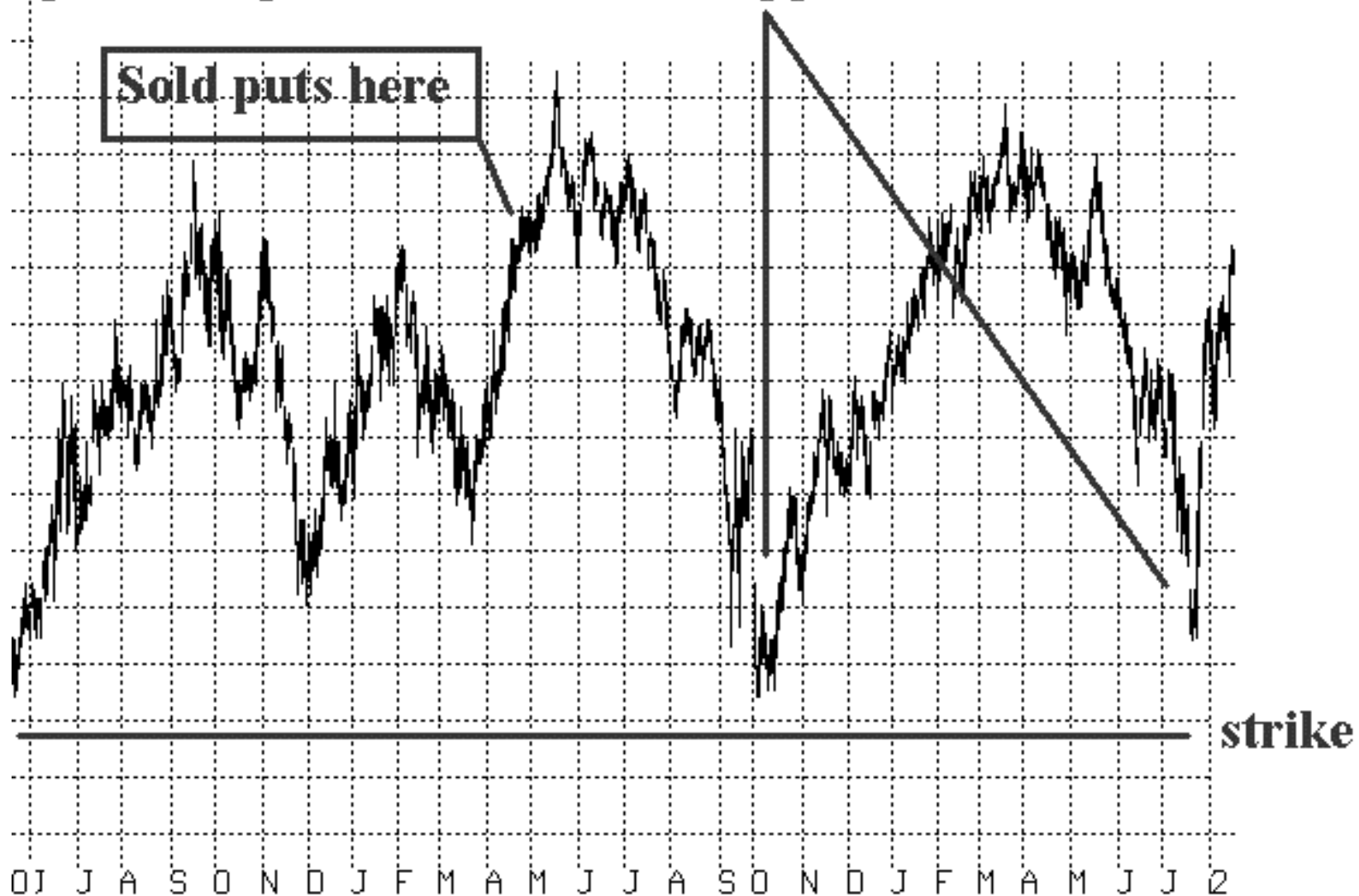
\$SPX: 908

Sept 750 put: 5

**Initial Margin: $(15\% \times 908 + 5 - 158) \times 100$
= $-\$1680$, but min = \$9080**

**Margin at 750: $(15\% \times 750 + ?30!?! - 0) \times 100$
 $\geq \$14,250$**

If you allow margin to reach strike, then you never get a margin call when these happen



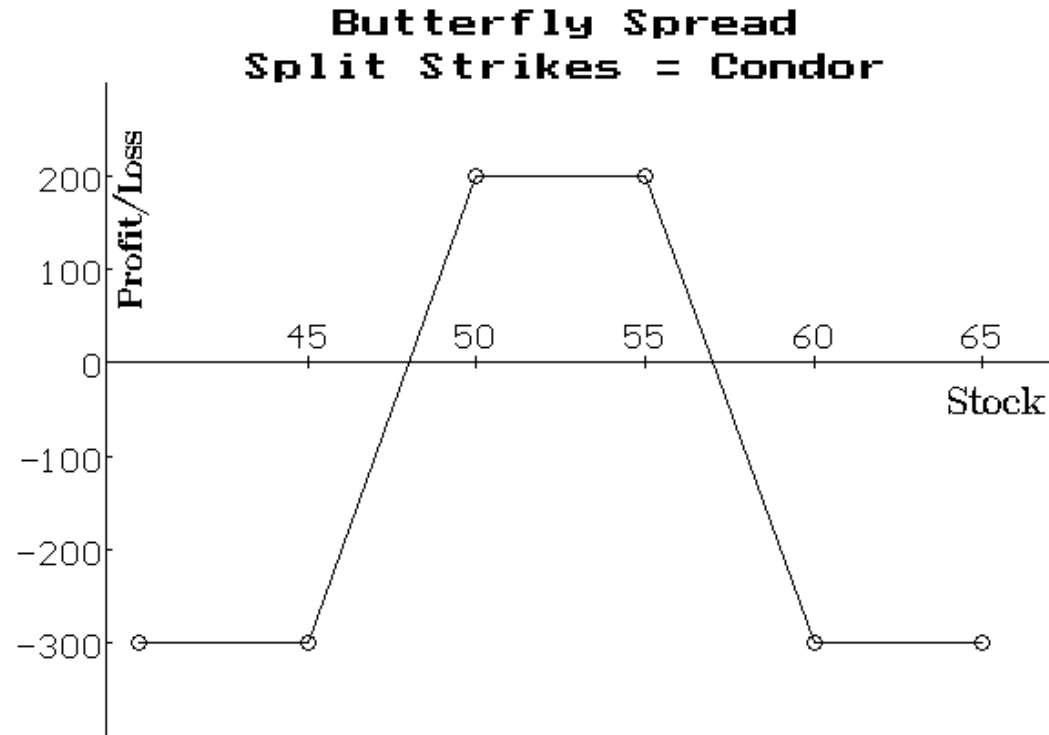
Hedging: Credit Spreads

- **Using puts, a bull spread, in essence:
buy lower strike, sell higher strike**
- **Profit potential = credit received**
- **Breakeven = high strike - credit rcvd**
- **Risk = distance between strikes minus
credit received = margin required**
- **Usually establish out-of-money**

Adding a Call Credit Spread: the Condor

**Credit spreads
can be established
with calls, too.**

**Combine both a
put and a call
credit spread:**



Credit Spreads

- **Deeply out-of-money spreads: Usually the strategy referred to when you see “96% winners!”**
- **In reality, overall expected return is small: high probability of making a little, small probability of losing much more.**
- **You are buying an expensive option to protect an expensive option: spinning your wheels?**
- *Probably not necessary if you follow the “rules” of naked writing.*

Alternative: Use Credit Spreads to Reduce Margin

Sell Sept 750 @ 5, as before

Buy Sept 700 @ 2 to hedge

Max gain: \$300

Max risk: \$4700

Margin: \$4700 vs. \$9080

Potential return is *higher*:

$$300/4700 > 500/9080$$

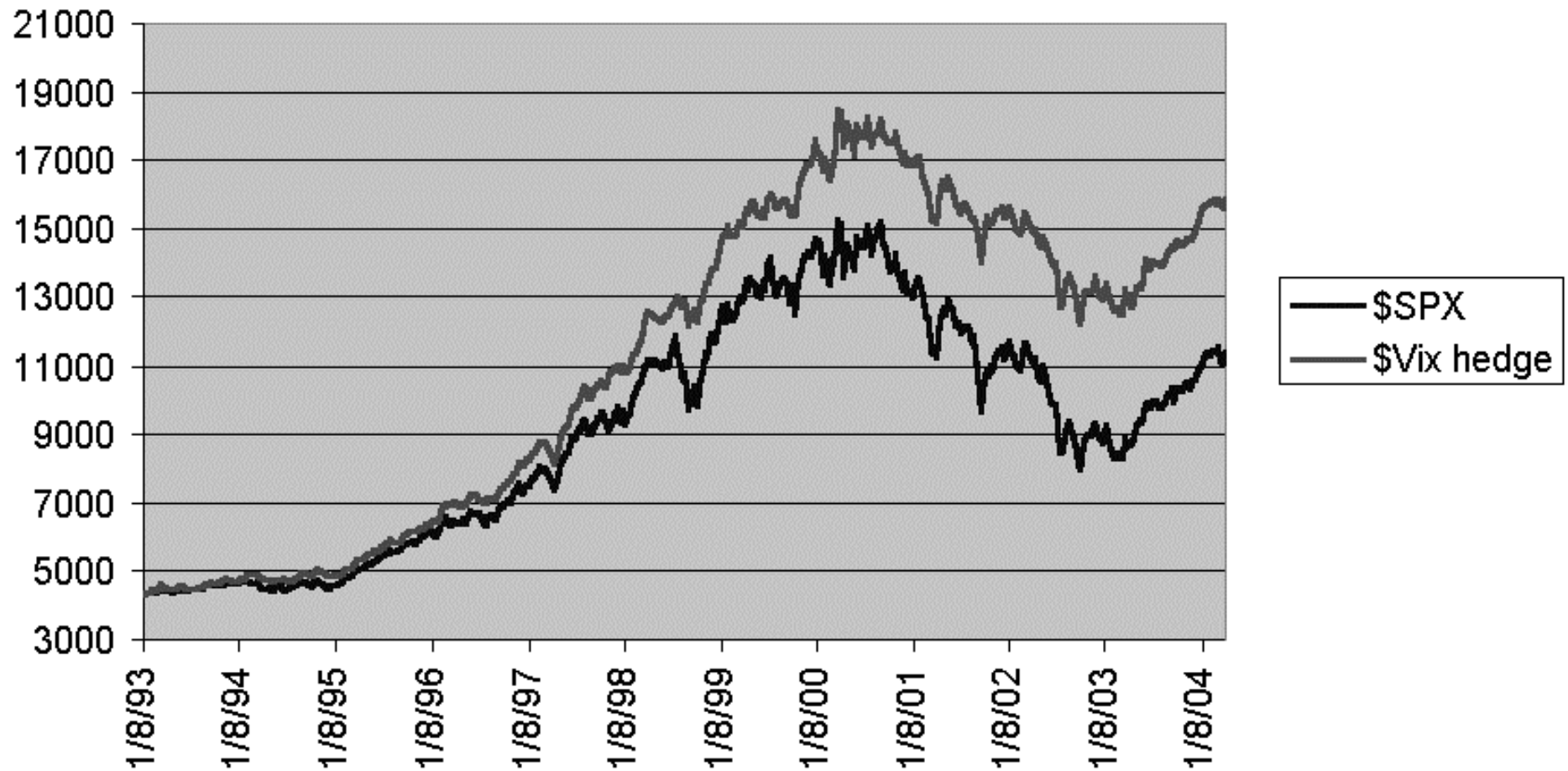
Hedging A Stock Portfolio with the new Volatility Futures

**A Merrill study shows that a portfolio that is
long 90% \$SPX and long 10% volatility
futures will outperform with less risk!**

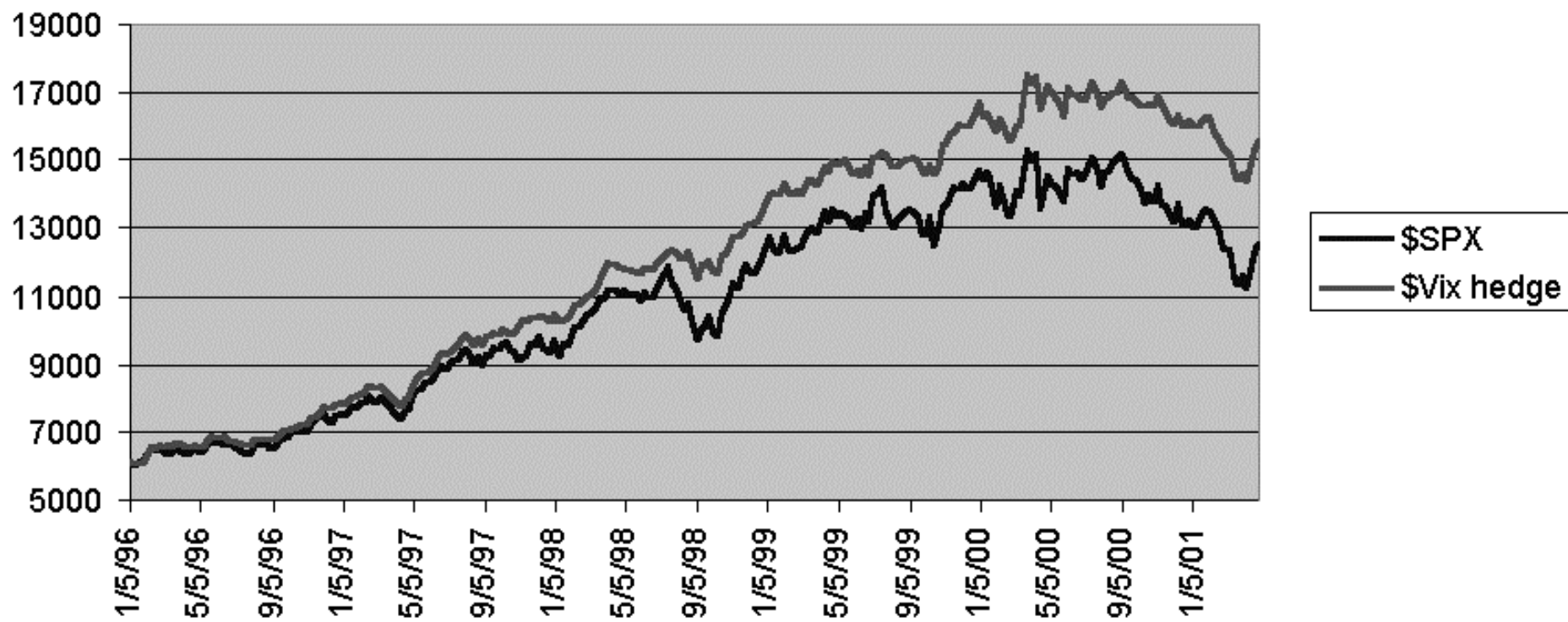
This is much better than buying put options

The hedge is dynamic, not static

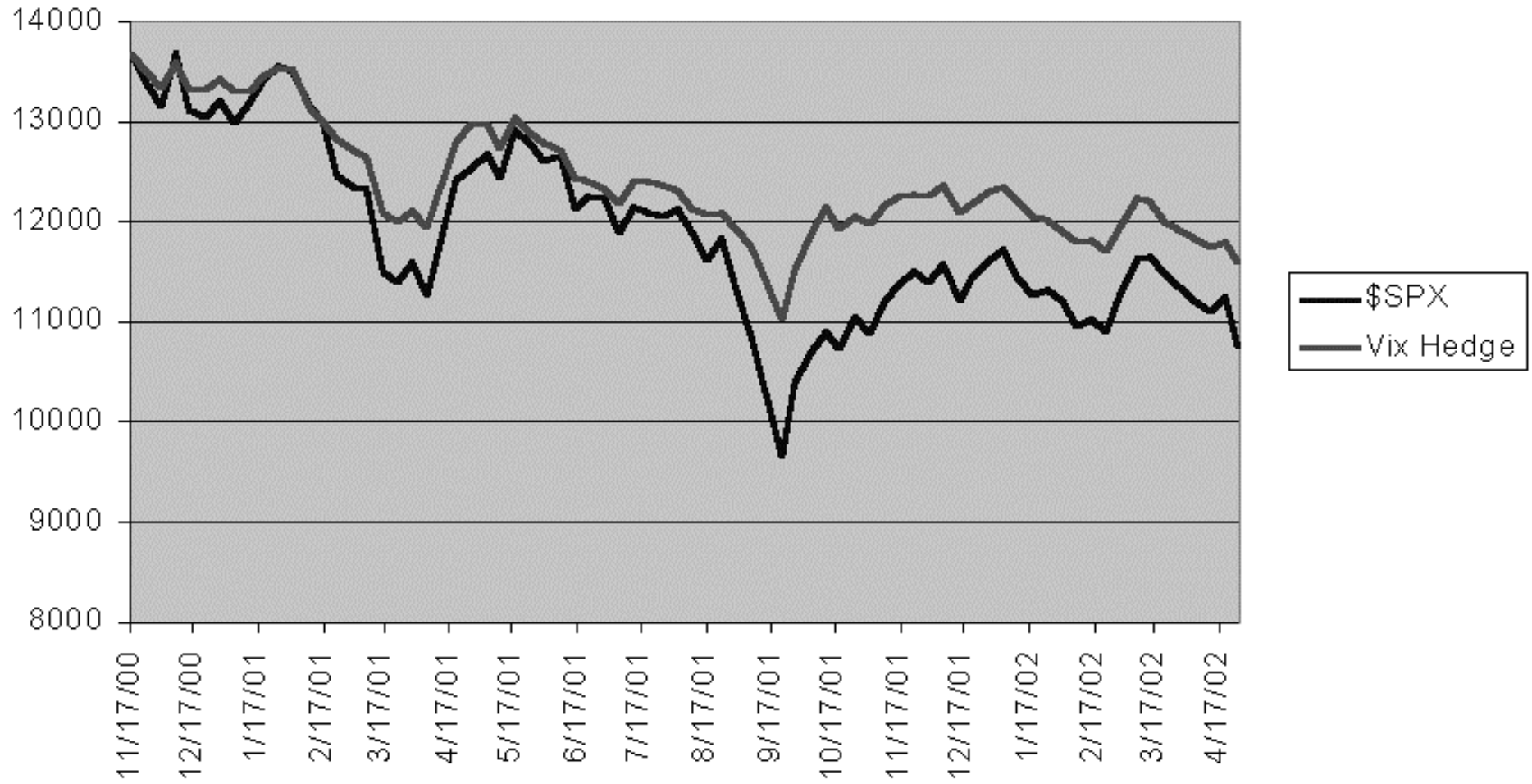
\$SPX vs. VIX Hedge 1993-2004



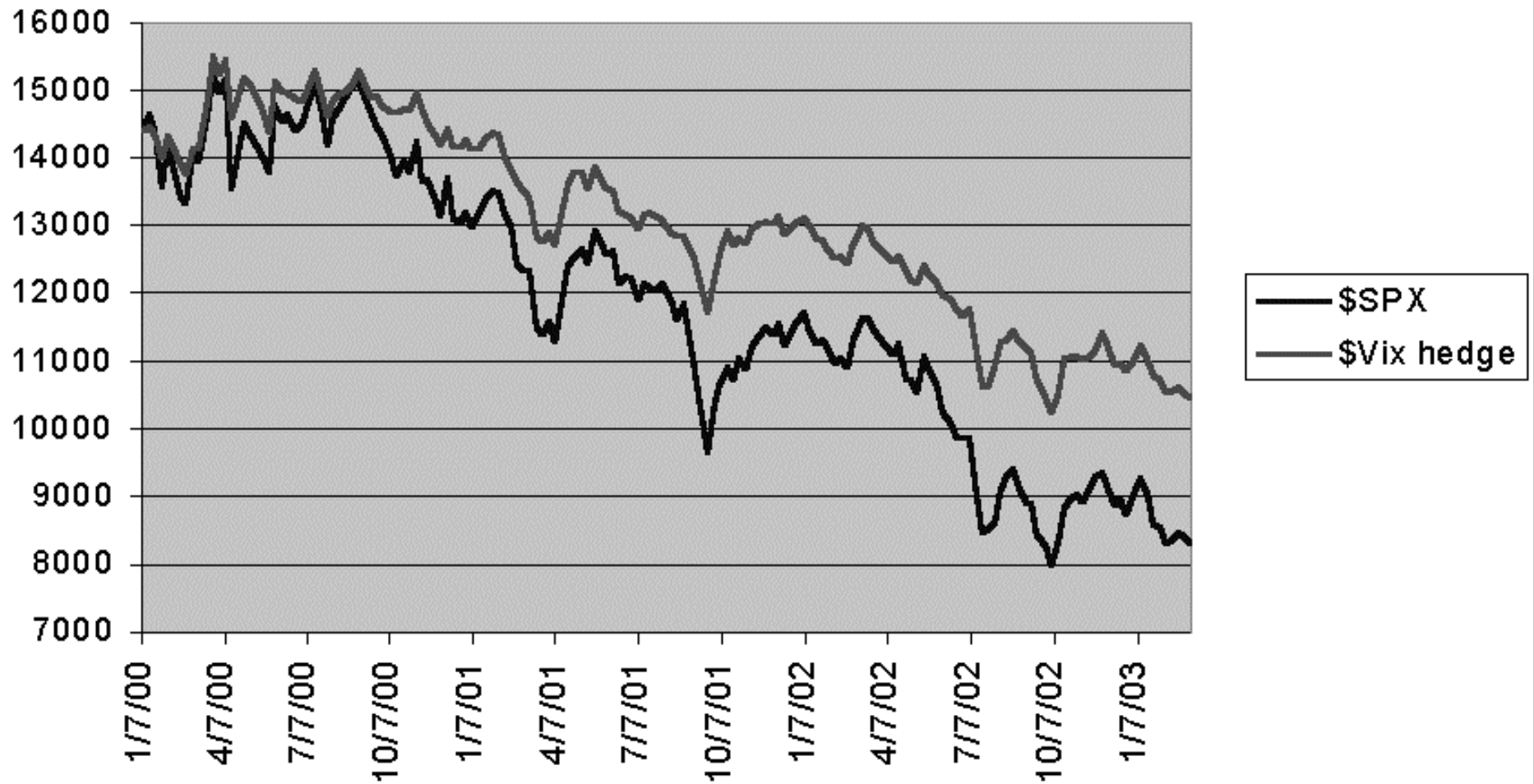
\$SPX vx. VIX Hedge 1996-2000



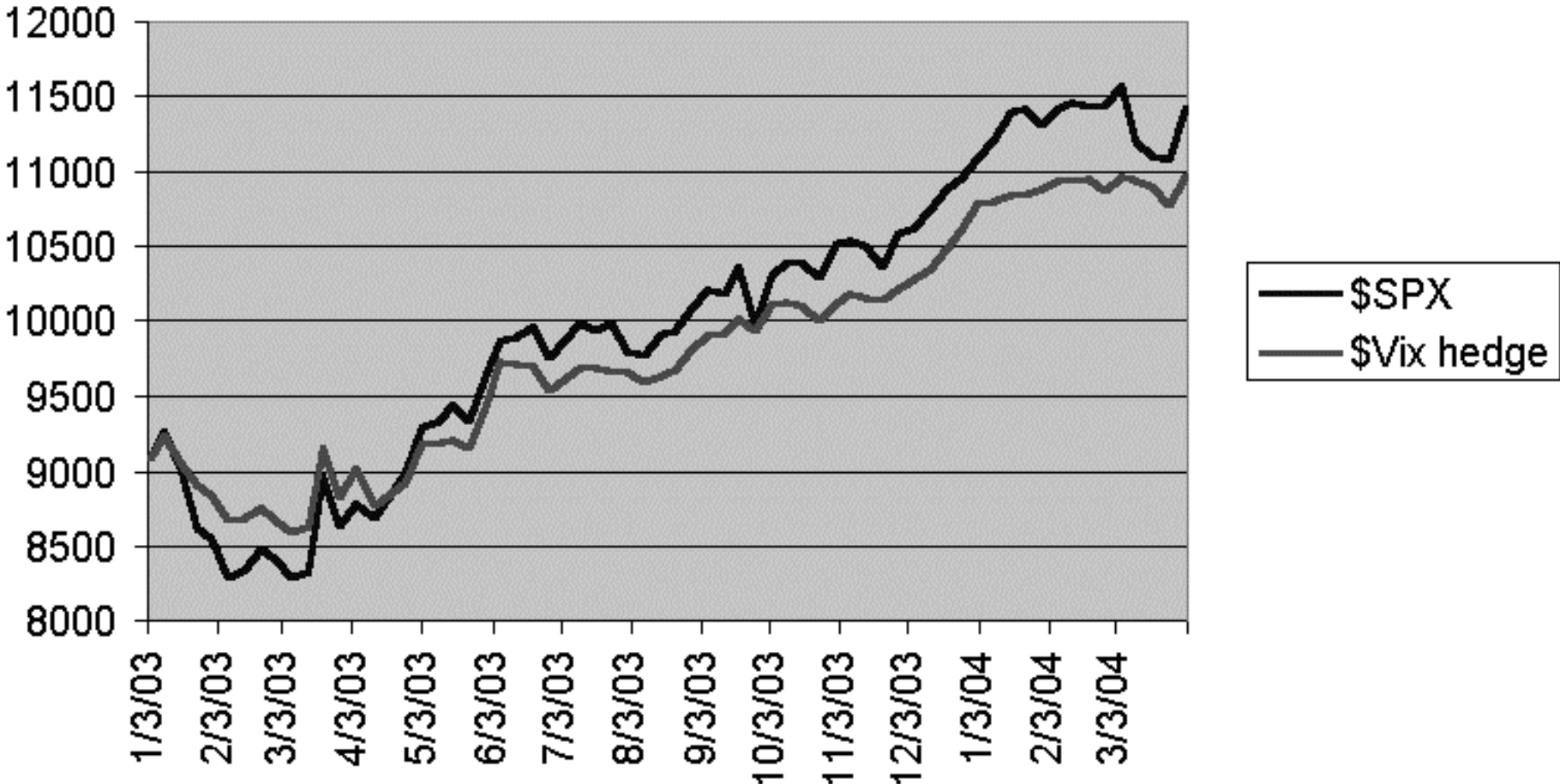
\$SPX vs. VIX Hedge 2001



\$SPX vs. VIX Hedge during 2000-2002 Bear Market



SPX vs. VIX Hedge 2003



VX Futures Reduce Portfolio Volatility

From 1993 through 1Q 2004:

\$SPX: 6-month Standard Deviation of 10.9%

With a futures hedge, it fell to 9.2%

Is there a cost? Yes, the futures premium.

Other Hedged Strategies

Calendar Spreads

Straddle Buys

Covered Call Writing

Calendar Spread

- **Can use puts *or* calls**
- **An attempt to capture time decay**
- **Limited risk and limited profit potential**
- **Best established when:**
 - **Stock is near strike**
 - **Options are “cheap”**

Calendar Profitability

In order to treat it like a spread:

- 1) You evaluate the position as if it will be removed when the near-term option expires**
- 2) You want the stock to be near the striking price at near-term expiration, so you position the strike with respect to where you think the stock will go (often nowhere)**

Call calendar spread example

XYZ: 50

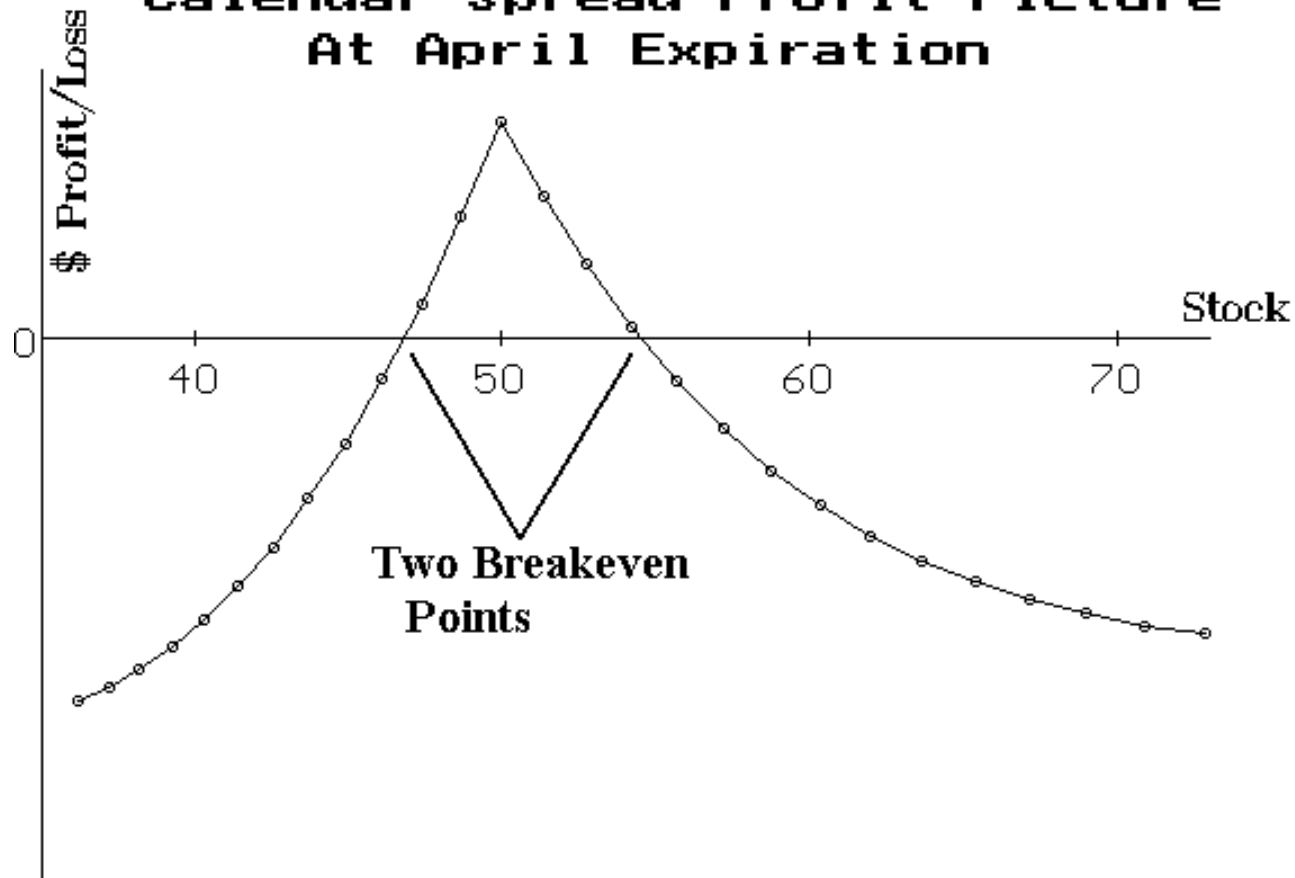
April 50 call: 5

July 50 call: 8

- **Buy July 50 call, Sell April 50 call: 3 db**
- **Max. Risk = debit = 3 points**
- **Max. Profit Potential: depends on implied volatility at April expiration**
- **Can increase potential by using out-of-money options**

Calendar Profit Graph

**Calendar Spread Profit Picture
At April Expiration**



My Calendar Spread Criteria

- Options no more than 4 months apart
- Near-term option has at least one month of life
- Implied volatility in 50th percentile or lower
(preferably quite a bit lower)
- Implied volatility of option being sold is at least 10% and three percentage points higher than implied volatility of option being bought
(i.e., a *horizontal skew exists*)

Calendar Spreads by Expected Return on The Strategy Zone

Symb	PrDBE	PrUBE	p (pft)	Maxpft	p (max)	ERTN	AERTN	Invt	IVF	Sleftyr	bdIV	Lleftyr	asIV	CompIV
NFI	46	2	71	3.87	13	17.7	170.3	2.60	34	0.10	72.5	0.43	58.4	69.0
TASR	33	19	71	6.44	17	17.7	169.8	3.10	0	0.10	95.6	0.18	88.6	89.4
ALTH	49	6	54	1.67	4	43.7	169.5	0.41	17	0.26	172.5	0.51	142.5	195.0
TASR	34	9	77	9.47	18	17.6	169.3	8.10	0	0.10	94.5	0.43	75.6	89.4
VISG	19	26	74	0.93	17	17.6	168.8	0.60	37	0.10	111.3	0.26	83.8	90.5
NFI	44	2	73	4.39	16	17.2	164.7	3.60	34	0.10	72.5	0.78	49.4	69.0
NFI	49	1	60	5.77	11	29.6	163.7	2.54	24	0.18	66.9	0.78	49.4	69.0
TASR	29	12	79	9.09	16	16.9	162.4	8.10	0	0.10	95.6	0.43	76.3	89.4
OSIP	13	25	76	3.17	14	16.7	160.2	3.35	21	0.10	114.4	0.78	68.8	104.6
FFIV	54	2	63	2.08	19	16.6	159.6	0.91	5	0.10	61.3	0.26	51.3	57.8
OSIP	45	1	73	6.39	12	16.6	159.2	5.60	5	0.10	99.4	1.77	52.3	104.6
TASR	24	17	75	8.73	19	16.4	157.7	7.97	0	0.10	97.2	0.43	77.1	89.4
ASKJ	53	7	58	2.55	18	16.3	156.1	0.85	18	0.10	76.9	0.18	68.8	76.2
APPX	58	1	59	3.29	14	16.2	155.2	1.23	8	0.10	62.5	0.26	54.1	57.5
NFI	53	0	63	5.72	11	16.1	154.8	3.22	31	0.10	70.6	0.78	49.4	69.0
APPX	44	6	67	2.64	21	16.0	153.7	1.60	8	0.10	62.8	0.26	56.3	57.5
GGP	44	2	73	1.03	27	15.9	152.4	0.85	73	0.10	37.5	0.51	24.1	26.8
Symb	PrDBE	PrUBE	p (pft)	Maxpft	p (max)	ERTN	AERTN	Invt	IVF	Sleftyr	bdIV	Lleftyr	asIV	CompIV

While any one trade can have random results, a policy of investing in trades with high expected returns should produce a superior return, over time.

Straddle Buy

- “Neutral” strategy
- Buy both a put and a call
with the same terms
- Risk = debit paid
- Profit potential unlimited
- You want to stock to move!

Straddle Buy Example

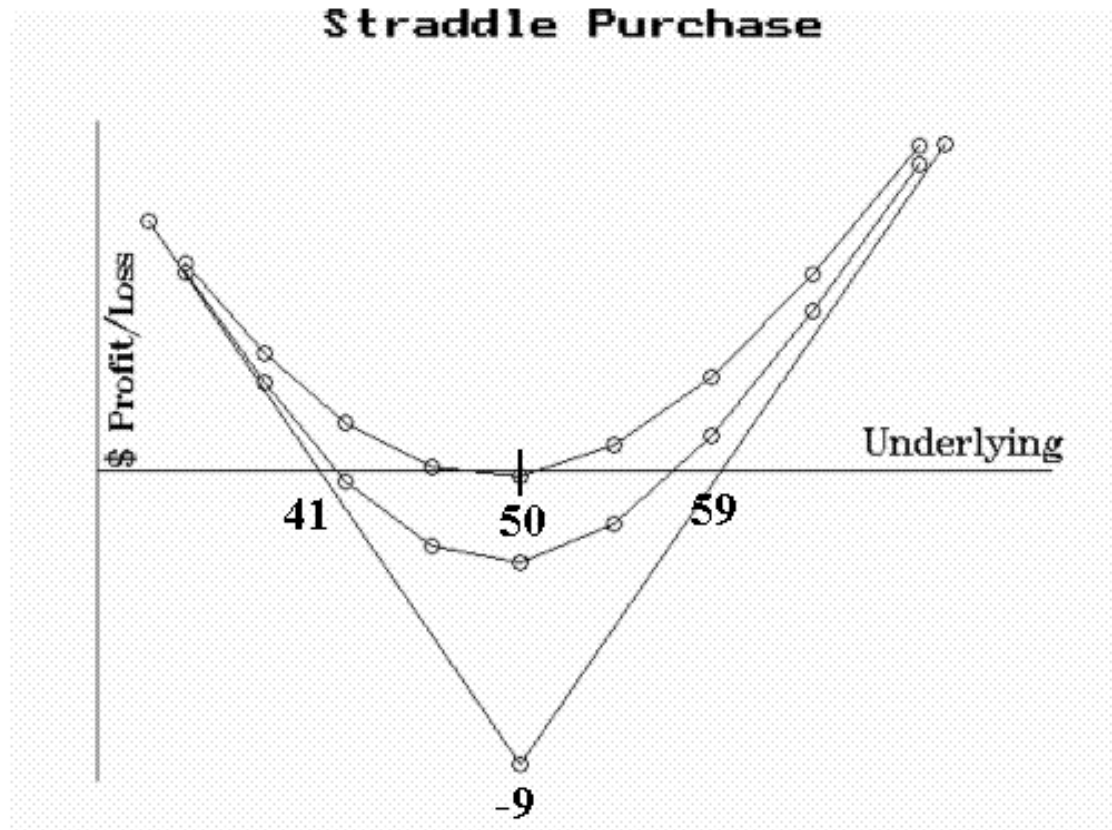
XYZ: 50

Jan 50 call: 5

Jan 50 put: 4

- **Buy Jan 50 call *and buy* Jan 50 put: 9 db**
- **Max. Risk = debit = 9 points**
- **Breakevens: strike + debit = 50 + 9 = 59**
strike - debit = 50 - 9 = 41

Straddle Buy Profit Graph



Straddle Buy: Further Comments

- **One of the best strategies: easy to understand, easy to implement, easy to follow**
- **Buy cheap options on a stock that can move**
- **Equivalences:**
 - **Buy 100 stock, buy 2 puts**
 - **Short 100 stock, buy 2 calls**

Strangle Buy: Example

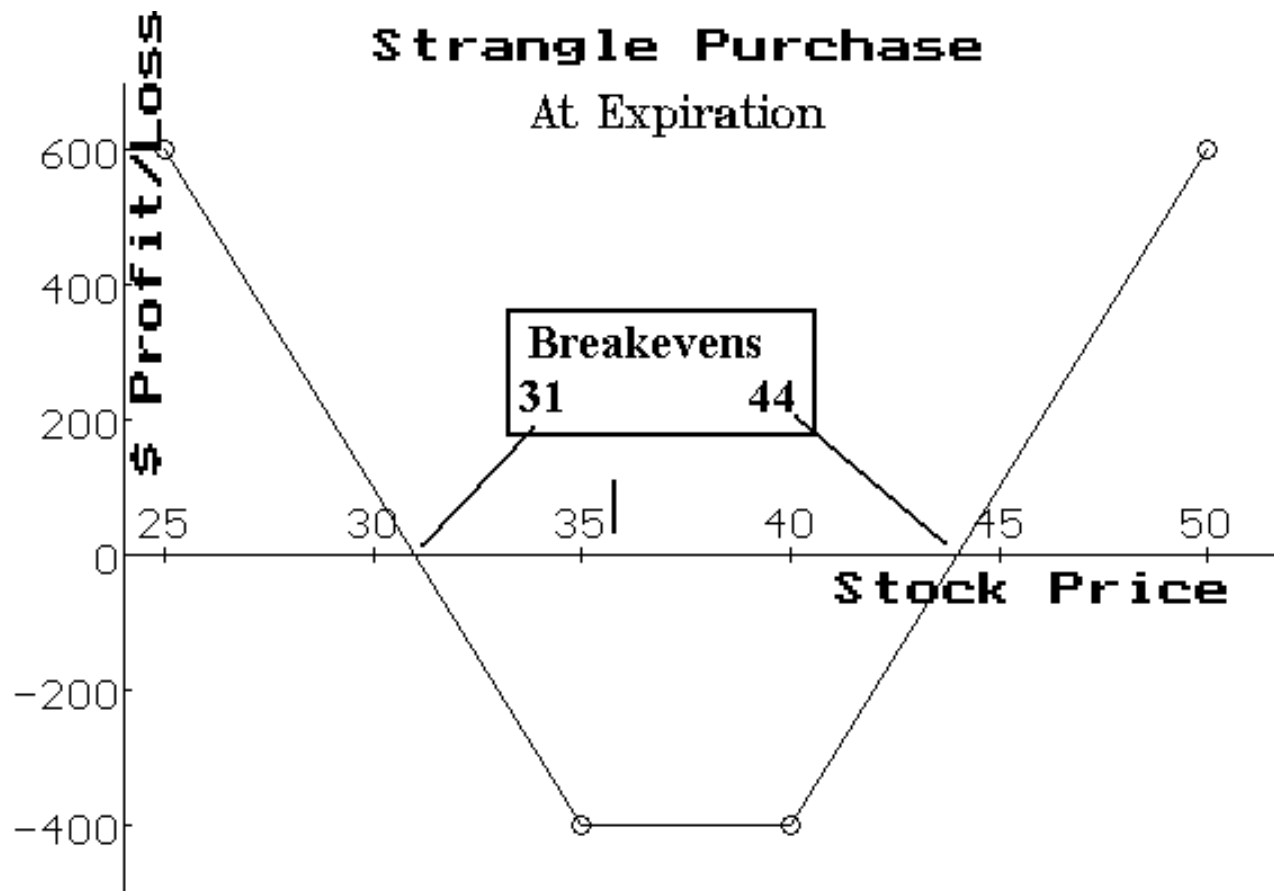
XYZ: 37

July 40 call: 2

July 35 put: 2

- **Buy July 40 call *and* July 35 put: 4 db**
- **Risk = debit = 4 points**
- **Max. Profit Potential: unlimited**
- **Breakevens: high strike + db = 40 + 4 = 44**
low strike - db = 35 - 4 = 31

Strangle Buy Profit Graph



Straddle Buying Procedures

- 1. Implied Volatility < 10th Percentile**
- 2. Probability Calculations A Must**
- 3. Verify That Historical Movement Is Reasonable (visual inspection)**
 - a. Actual Movement**
 - b. Percentage Movement**
- 4. Check The Fundamentals**

Straddles on The Strategy Zone

20030523

Symb	Price	Strad	50	Days	Strike	Vty	%ile	Prob	Visual	Visual*1.2	
\$RUT	418.40	47.12	19	150	420.00L	0.16	2	78%	98%/100%	93%/95%	
\$SML	204.70	17.38	23	85	200.00I	0.16	3	77%	97%/98%	93%/92%	
\$TXX	402.30	79.82	29	170	400.00A	0.26	0	76%	94%/100%	88%/92%	
\$TXX	402.30	62.82	23	105	400.00J	0.26	0	75%	92%/91%	84%/87%	
\$XNG	194.14	28.01	25	170	195.00A	0.19	1	78%	98%/98%	95%/97%	
@CLJ	25.53	4.97	18	213	25.00	0.43	7	100%	92%/97%	88%/90%	
@EDU	98.90	0.24	303	85	99.00	0.01	8	97%	100%/100%	100%/100%	
@EDZ	98.83	0.32	540	150	98.75	0.01	1	100%	100%/100%	100%/100%	
@HOJ	70.66	13.78	31	220	71.00	0.51	2	100%	89%/94%	85%/89%	
@JYZ	86.04	4.46	17	140	86.00	0.09	2	89%	91%/92%	77%/82%	
@SBH	72.10	13.50	22	190	70.00	0.30	5	92%	98%/99%	85%/91%	
AA	23.88	4.82	12	170	25.00A	0.27	0	82%	98%/95%	95%/86%	
AA	23.88	3.69	11	105	25.00J	0.27	0	85%	98%/86%	88%/78%	
AAP	60.50	7.69	26	85	60.00I	0.35	4	97%	90%/95%	80%/90%	
AAP	60.50	10.32	33	150	60.00L	0.35	4	97%	96%/100%	83%/97%*	
AAPL	18.38	2.01	190	170	17.50A	0.37	3	100%	98%/100%	95%/98%	AAQ
ABC	59.00	10.31	6	130	60.00K	0.27	4	83%	96%/94%	89%/78%	
ABM	13.50	2.50	2	170	12.50A	0.26	7	82%	98%/98%	96%/85%	
ABV	20.75	4.51	4	170	20.00A	0.32	3	85%	89%/99%	76%/91%	ABV
ADBE	34.63	9.81	38	170	35.00A	0.42	2	86%	96%/100%	81%/92%	AEQ
ADBE	34.63	7.94	29	105	35.00J	0.42	2	84%	90%/94%	76%/86%	AEQ
ADI	34.88	9.26	35	150	35.00L	0.40	0	84%	85%/91%	76%/77%	
ADRX	18.13	4.25	-2	85	17.50I	0.48	9	82%	100%/80%	99%/77%	QAX

The Strategy Zone

Subscriber area on McMillan web site

Lots of volatility information

Information by strategy, as well

-- including covered call writing:

\$24.95/month; \$195/year

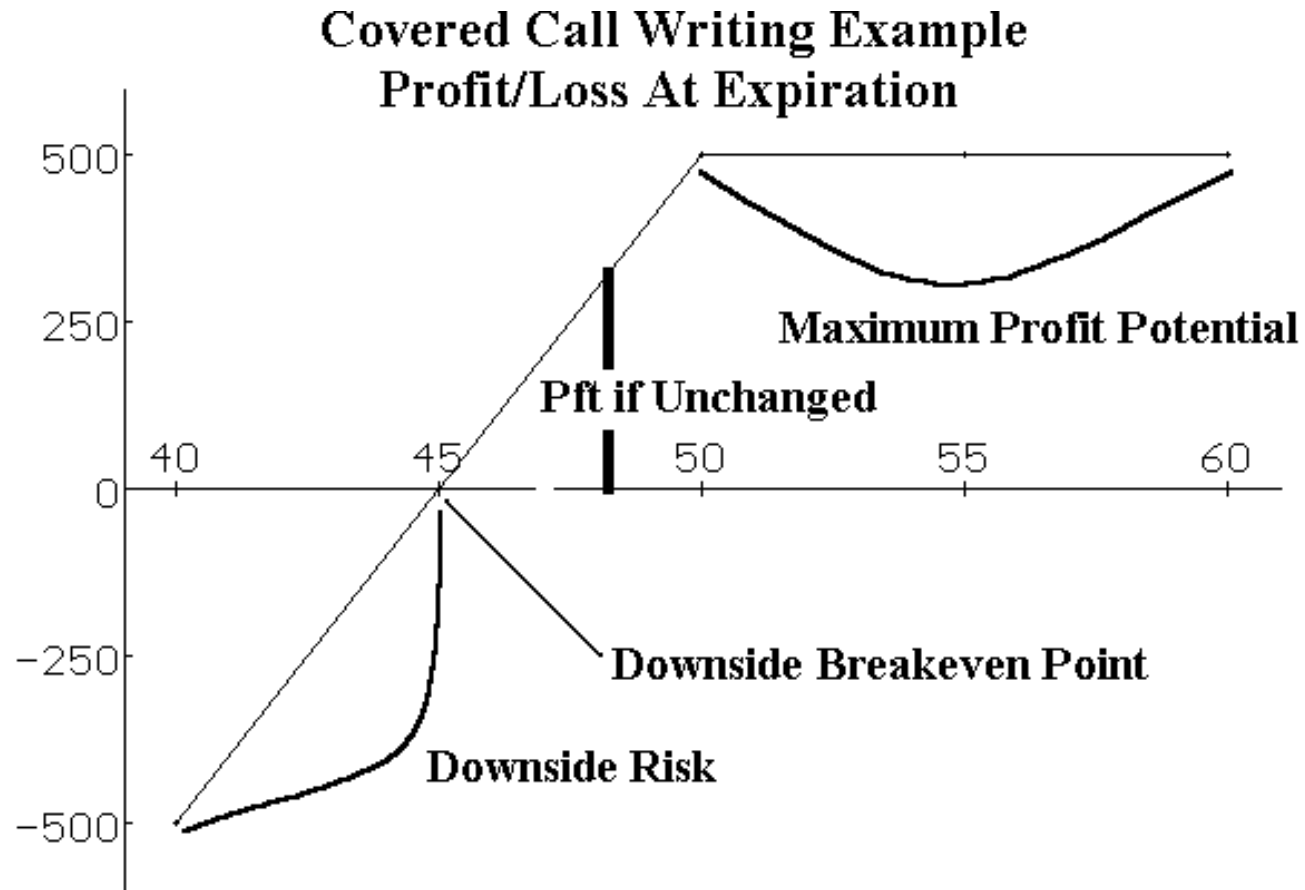
Covered Call Writing Positives

- **Increased income from stock**
- **Profits even if stock unchanged**
- **Less risky than stock ownership
(downside protection for stock)**

Covered Call Writing Negatives

- **Limited Profit Potential**
- **Large downside risk potential**

Profit Graph At Expiration



Covered Write Philosophies

Conservative: call well in-the-money
Protection is very important

Aggressive: call fairly far out-of-money
High returns are most important

Moderate: write half in-the-money and
half out-of-the-money

The Strategy Zone – Covered Call Writes by AERTN

Symb	Stk	Opt	StrkMn	Call	RIUM	ARIUM	RIEM	ARIEM	DBEM	UBEM	%DBE	%UBE	PrDBE	PrRIE	PrUBE	ERTN	AERT
MRNT	7.38	QGM	7.5A	3.8199900	0.0999900	0.0999900	0.0999900	0.0	3.55	11.05	0.52	0.50	67	50	40	99900.0	99900
AMT	3.38	ZKC	5.0A	1.9499900	0.0999900	0.0999900	0.0999900	0.0	1.31	6.56	0.61	0.94	71	41	35	99900.0	99900
MRNT	7.38	QGM	7.5J	3.63	2516.7	7232.9	2571.2	7389.7	3.79	10.91	0.49	0.48	70	49	38	1186.7	3410
OPWV	5.25	XPH	5.0A	2.8116663	1.6382.0	1.66663.1	6382.0	6382.0	2.21	7.33	0.58	0.40	72	51	41	6324.1	2422
BRCB	19.38	XNU	20.0A	9.6911092	7.4248.5	1.11859.3	4542.1	4542.1	8.52	28.27	0.56	0.46	72	49	39	4658.8	1784
CLHB	9.63	QPB	12.5F	0.56	10.6	482.3	75.9	3462.4	9.16	12.91	0.05	0.34	55	24	21	11.0	501
CLHB	9.63	QPB	10.0F	1.38	36.1	1649.3	45.4	2071.4	8.34	11.22	0.13	0.17	65	46	34	10.7	486
MRNT	7.38	QGM	10.0G	1.31	48.7	494.2	153.8	1559.8	6.14	11.14	0.17	0.51	61	33	27	42.0	425
CPN	8.13	CPN	5.0A	5.13	308.6	516.7	308.6	516.7	3.02	9.90	0.63	0.22	88	71	41	227.5	381
CPN	8.13	XNP	10.0A	3.13	286.7	480.0	467.0	781.8	4.98	12.85	0.39	0.58	72	40	30	209.7	351
PCLN	4.13	PUZ	5.0A	1.63	285.4	477.8	446.4	747.4	2.54	6.41	0.38	0.55	70	42	32	187.2	313
AES	4.88	LGC	5.0A	2.38	1511.8	948.1	1566.3	982.3	2.40	7.03	0.51	0.44	66	49	42	497.5	312
NITE	4.38	QTN	5.0A	1.69	264.6	443.0	364.6	610.4	2.72	6.47	0.38	0.48	77	42	27	182.2	305
LWIN	1.50	UIN	5.0A	0.31	36.9	61.9	710.1	1189.0	1.26	5.14	0.16	2.43	55	20	19	178.2	298
LWIN	1.50	XAJ	5.0A	0.63	211.9	81.2	1936.9	741.8	0.87	5.37	0.42	2.58	57	34	33	679.3	260
RFMD	9.63	OLM	90.0A	1.38	32.2	53.9	2319.0	3882.8	8.21	91.08	0.15	8.46	58	0	0	148.6	248
CNXT	5.00	XNX	5.0A	2.50	2760.5	1057.3	2693.8	1031.7	2.27	7.02	0.55	0.40	64	50	44	599.6	229
ACRT	10.75	QAC	10.0L	4.63	299.5	575.4	299.5	575.4	6.09	14.34	0.43	0.33	70	53	40	119.1	228
PDII	17.38	PKU	20.0F	0.44	3.9	179.7	34.9	1591.0	17.03	20.28	0.02	0.17	57	10	8	4.8	218
SEPR	9.63	ZQT	10.0A	4.63	1483.2	568.1	1607.0	615.5	4.47	13.84	0.54	0.44	70	49	40	553.6	212
CPN	8.13	XNP	15.0A	1.94	78.0	130.6	388.2	650.0	6.17	16.67	0.24	1.05	63	24	20	119.3	199
RDRT	1.63	RDQ	5.0A	0.25	19.6	32.8	541.2	906.1	1.45	5.07	0.11	2.12	54	17	17	119.1	199
LWIN	1.50	KHW	5.0A	0.44	71.2	44.6	961.5	603.0	1.10	5.23	0.27	2.48	55	30	29	298.4	187
GMST	7.50	QLF	12.5G	0.25	3.7	37.3	142.1	1441.1	7.33	12.58	0.02	0.68	52	16	15	18.4	186

I prefer to use *expected return* as the main selection criterion for the “total return” approach

The Strategy Zone – Covered Call Writes

By Downside Protection

Symb	Stk	Opt	StrkMn	Call	RIUC	ARIUC	RIEC	ARIEC	DBEC	UBEC	%DBE	%UBE	PrDBE	PrRIE	PrUBE	ERTN	AERTN
CNF	35.00	CNF	30.0F	5.31	0.5	24.9	0.5	24.9	29.79	35.16	0.15	0.00	100	100	47	0.5	24
MME	37.25	MME	22.5F	15.00	0.4	20.4	0.4	20.4	22.35	37.35	0.40	0.00	100	100	49	0.4	20
ESA	15.75	ESA	12.5F	3.50	0.8	36.9	0.8	36.9	12.35	15.85	0.22	0.01	100	100	46	0.8	36
MME	37.25	MME	30.0F	7.69	1.0	44.2	1.0	44.2	29.66	37.54	0.20	0.01	100	100	46	1.0	44
CBH	44.63	CBH	40.0F	4.88	0.3	11.4	0.3	11.4	39.85	44.73	0.11	0.00	99	98	48	0.2	10
EMLX	28.00	UML	15.0G	13.31	1.1	11.1	1.1	11.1	14.79	28.16	0.47	0.01	99	98	49	1.0	10
OMC	54.63	OMC	40.0F	15.00	0.6	25.8	0.6	25.8	39.72	54.85	0.27	0.00	98	98	49	0.5	21
MSFT	54.25	MQF	40.0G	14.63	0.6	5.7	0.6	5.7	39.72	54.48	0.27	0.00	98	98	49	0.5	5
MSFT	54.25	MQF	47.5F	7.00	0.2	9.6	0.2	9.6	47.35	54.35	0.13	0.00	98	97	49	0.2	7
CNCT	11.63	UXU	10.0F	1.81	0.4	17.3	0.4	17.3	9.91	11.66	0.15	0.00	97	96	48	0.3	12
DELL	26.00	DLY	20.0G	6.31	0.8	8.3	0.8	8.3	19.79	26.16	0.24	0.01	97	97	48	0.7	6
ESA	15.75	ESA	12.5G	3.50	0.8	8.2	0.8	8.2	12.35	15.85	0.22	0.01	97	96	48	0.7	6
CI	102.50	CI	95.0F	7.81	0.2	7.8	0.2	7.8	94.79	102.66	0.08	0.00	96	96	49	0.1	5
DUK	31.00	DUK	25.0G	6.31	0.7	6.6	0.7	6.6	24.79	31.16	0.20	0.01	96	95	48	0.5	4
BEV	7.63	BEV	5.0H	2.88	2.1	11.8	2.1	11.8	4.85	7.72	0.36	0.01	96	95	48	1.6	9
AZO	81.00	AZO	75.0F	6.38	0.3	13.7	0.3	13.7	74.72	81.22	0.08	0.00	95	94	48	0.2	9
MIR	7.88	MIR	5.0G	3.13	2.1	20.9	2.1	20.9	4.85	7.97	0.38	0.01	95	94	48	1.4	14
BBH	79.13	GBZ	70.0F	9.50	0.3	14.7	0.3	14.7	69.72	79.35	0.12	0.00	95	95	49	0.2	8
EBAY	59.00	QXB	30.0A	30.31	4.0	6.8	4.0	6.8	28.79	60.16	0.51	0.02	95	94	48	3.3	5
EBAY	59.00	QXB	45.0G	14.63	1.1	10.8	1.1	10.8	44.47	59.48	0.25	0.01	95	94	48	0.7	7
DELL	26.00	VDL	15.0A	11.69	3.7	6.2	3.7	6.2	14.41	26.54	0.45	0.02	95	94	48	3.1	5
TYC	13.75	TYC	7.5G	6.81	5.9	59.4	5.9	59.4	7.04	14.16	0.49	0.03	94	92	47	4.7	47
CMS	13.38	CMS	10.0G	3.81	3.0	30.2	3.0	30.2	9.66	13.66	0.28	0.02	94	91	46	2.3	23
NWL	33.38	NWL	30.0G	3.81	1.0	9.8	1.0	9.8	29.66	33.66	0.11	0.01	94	92	46	0.7	7

But others prefer to rank writes by the probability of *not losing*.

VX Futures Reduce Portfolio Volatility

From 1993 through 1Q 2004:

\$SPX: 6-month Standard Deviation of 10.9%

With a futures hedge, it fell to 9.2%

With covered calls, it would be 7.2%*

With futures hedge *and* covered calls, it's 5.7%!

***: using the CBOE's BXM Index**

Is there a cost? Yes, the futures premium.

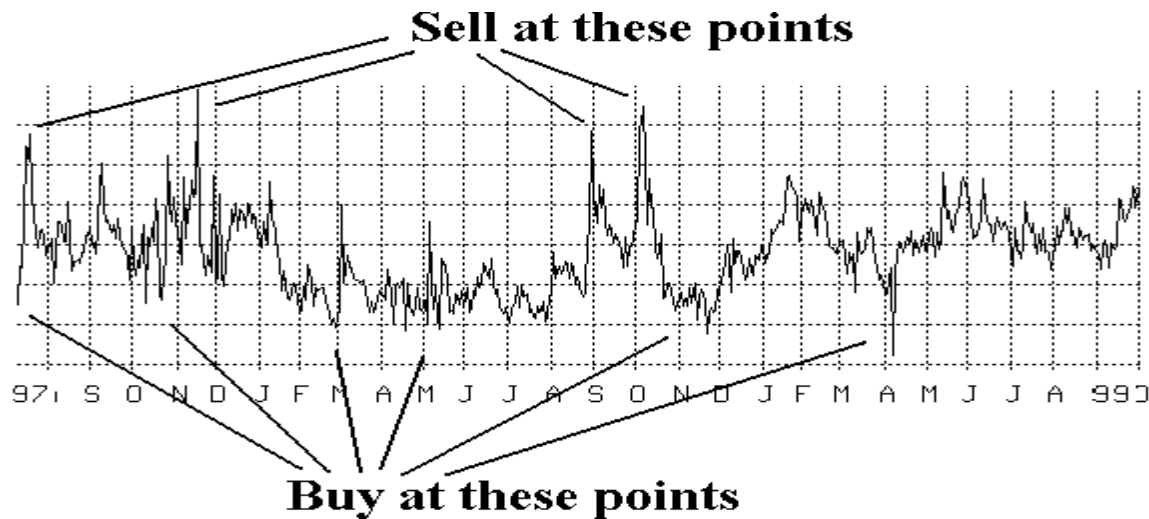
Final Thoughts on Covered Writing

- Strategy has large downside risk, so choose stocks wisely -- don't just rely on the percentage returns.**
- Don't over-leverage**
- Don't get "stuck" in a stock; use a stop loss of some sort**

When Is Hedging Better?

Simplistically, when the options are theoretically mispriced and you therefore have a chance to make money from them without predicting the stock price.

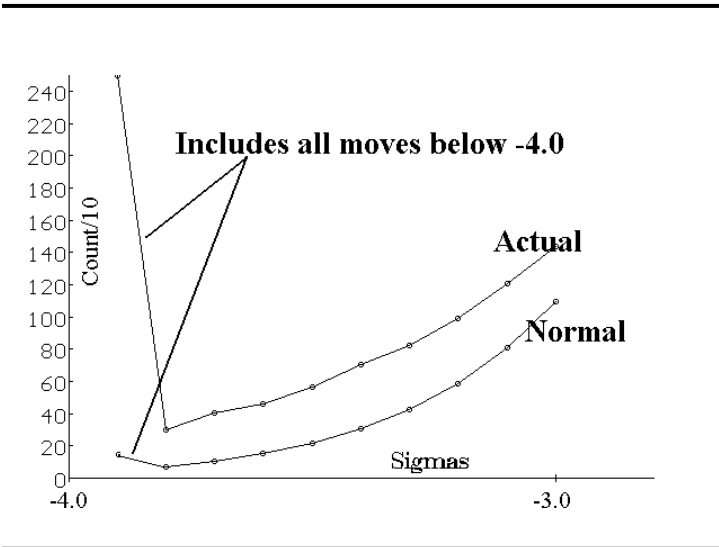
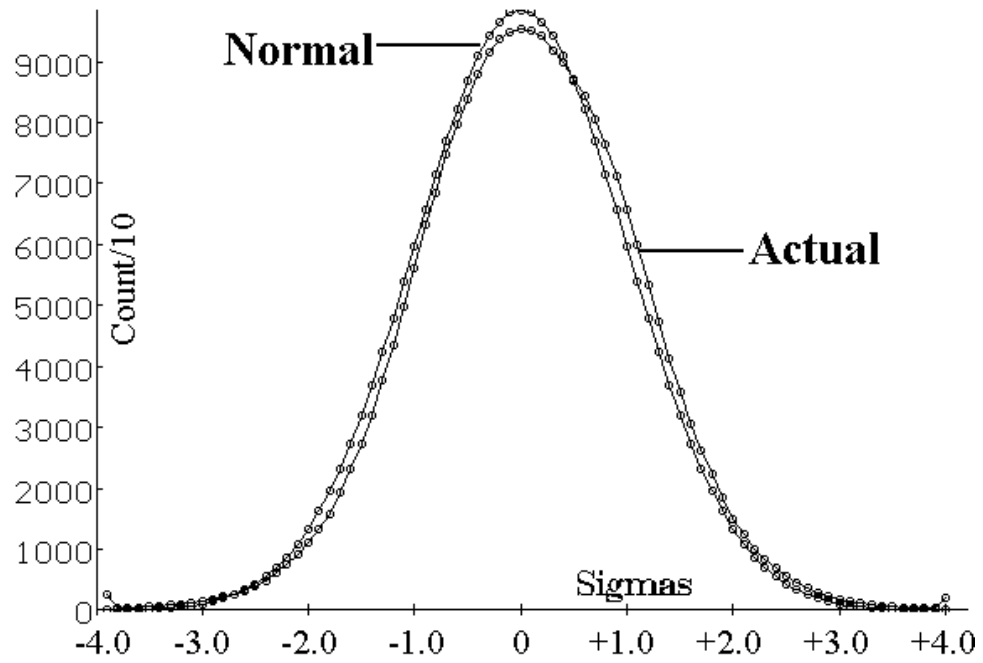
- **Predicting stock prices is hard**
(at least, well enough to beat an index fund)



- **Predicting Volatility is Easier**

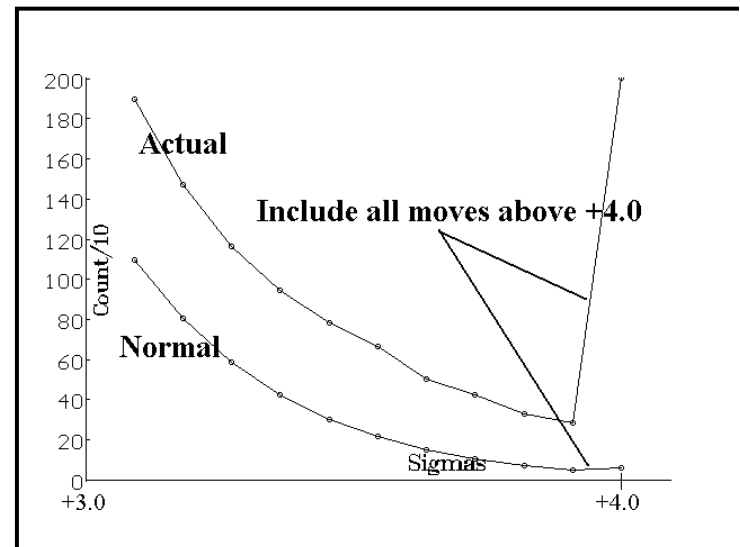
Stock Price Distribution Is Not "Normal"

Normal Stock Price Distribution
vs. Actual Stocks Distribution (30-Day Moves)



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Volatility Skew

Each individual option's implied volatility can be computed.

When individual option implied volatilities are “skewed”, the options are “predicting” an unlikely movement by the underlying.

Sample Reverse Volatility Skew: \$OEX Options

\$OEX: 820

Strike	Implied
760	21.1%
780	19.8%
800	18.0%
820	17.2%
830	16.8%
840	16.3%

General Theory

		Skew	
		Reverse	Forward
Implied Volatility	Low	Call Backspread Calendar Spread	Put Backspread
	High	Put Ratio Spread Bear Spread	Call Ratio Spread Bull Spread

If you use “Low” strategies when implied volatility is “High,” you are assuming volatility will *stay* high.

Finding Skews on The Strategy Zone

VOLATILITY SKEWING DATA

Column Headings:

Stock: symbol (futures begin with @; indices begin with \$)

Price: stock closing price

TotOptVolu: Total option volume traded yesterday

Put Volu: Total put option volume traded yesterday

Implied: Composite implied volatility of all options traded

VolofIV: Volatility of the implied volatilities

Skew: the Skew rating (Standard Deviation of the implied volatilities)

Stock	Price	TotOptVolu	Put Volu	Implied	VolofIV	Skew
TLT :	95.875	volu= 1838	Putv= 1616	iv= 8.1816	3.2236	39.40
PL N3:	664.000	volu= 5	putv= 3	iv= 28.3640	9.5017	33.50
LC M3:	73.400	volu= 1699	putv= 1060	iv= 19.1567	5.4347	28.37
SP M3:	932.200	volu= 14360	putv= 11376	iv= 16.3036	4.1013	25.16
BSX :	50.500	volu= 20317	Putv= 13566	iv= 52.6406	12.7971	24.31
GC N3:	369.300	volu= 883	putv= 377	iv= 21.1023	5.1115	24.22
JY U3:	85.800	volu= 963	putv= 681	iv= 9.2280	1.9772	21.43
JY M3:	85.550	volu= 673	putv= 259	iv= 10.3362	2.1894	21.18
\$SPX :	933.220	volu= 137458	Putv= 65199	iv= 17.8231	3.7672	21.14
\$OEX :	469.750	volu= 16393	Putv= 10297	iv= 17.7620	3.6849	20.75
ALD :	23.375	volu= 7391	Putv= 2723	iv= 13.2737	2.4390	18.37
AMGN :	61.875	volu= 6728	Putv= 2205	iv= 25.5312	4.5694	17.90
JO H4:	92.900	volu= 152	putv= 60	iv= 24.6499	4.3929	17.82
SI U3:	46.590	volu= 267	putv= 124	iv= 20.5535	3.6531	17.77
GC Q3:	369.800	volu= 5205	putv= 1670	iv= 20.8192	3.5774	17.18
GNTA :	10.375	volu= 1305	Putv= 182	iv= 80.0195	13.7399	17.17
MSTR :	32.500	volu= 846	Putv= 198	iv= 43.0580	7.3188	17.00
LC Z3:	72.650	volu= 338	putv= 318	iv= 12.3023	2.0899	16.99
FC U3:	84.450	volu= 98	putv= 80	iv= 12.1115	2.0356	16.81

**Comparing Strategies:
How Do We Decide
“Which One is Best?”**

**Need a common way to compare
expectations:**

“Expected Return”

What is Expected Return?

The return one could expect to make on a position over a large number of trials.

Assumes the *distribution of possible stock prices* can be defined; also assumes *implied volatilities of an unexpired options* can be estimated as well.

Expected Return Example

A Call Bull Spread

XYZ: 52

Oct 50 call: 7

Oct 60 call: 4

Assume the stock must be at one of the following prices:

<u>Stock Price</u>	<u>Probability</u>
< 50	45%
52	8%
54	7%
56	6%
58	4%
>60	30%
Total:	100%

Calculating The Expected Profit

Now, add in the profit picture of the strategy:

<u>Stock Price</u>	<u>Prob</u>	<u>Profit</u>	<u>Expected Profit</u>
< 50	45%	-\$300	-\$135
52	8%	-\$100	-\$ 8
54	7%	+\$100	+\$ 7
56	6%	+\$300	+\$ 18
58	4%	+\$500	+\$ 20
>60	<u>30%</u>	+\$700	<u>+\$210</u>
Total:	100%		+\$112

How Will This Spread Do?

- **Expected Return = $\$112 / \$300 = 37.3\%$**
- **Annualized Exp Return = $37.3\% \times 4 = 112\%$**
- **But the only point you *actually* would make \$112 is if stock is at 54.12 at expiration.**
 - **Chance of that is $< 0.5\%$**
- **In any one case, you could make as much as \$700 or lose as much as \$300**

What Does It Mean?

- **On average, if you invest in positions with high expected return, you should approach that return eventually**
 - **The “Casino Analogy”**
 - **Erroneous Assumptions**
 - **Distribution not lognormal**
 - **Bad volatility estimate**
 - **Event Risk**

Trading Decisions Based on Expected Return

In the bull spread example,

Suppose XYZ moves from 52 to 55 quickly

And you have a profit of \$120.

That's your *expected profit*.

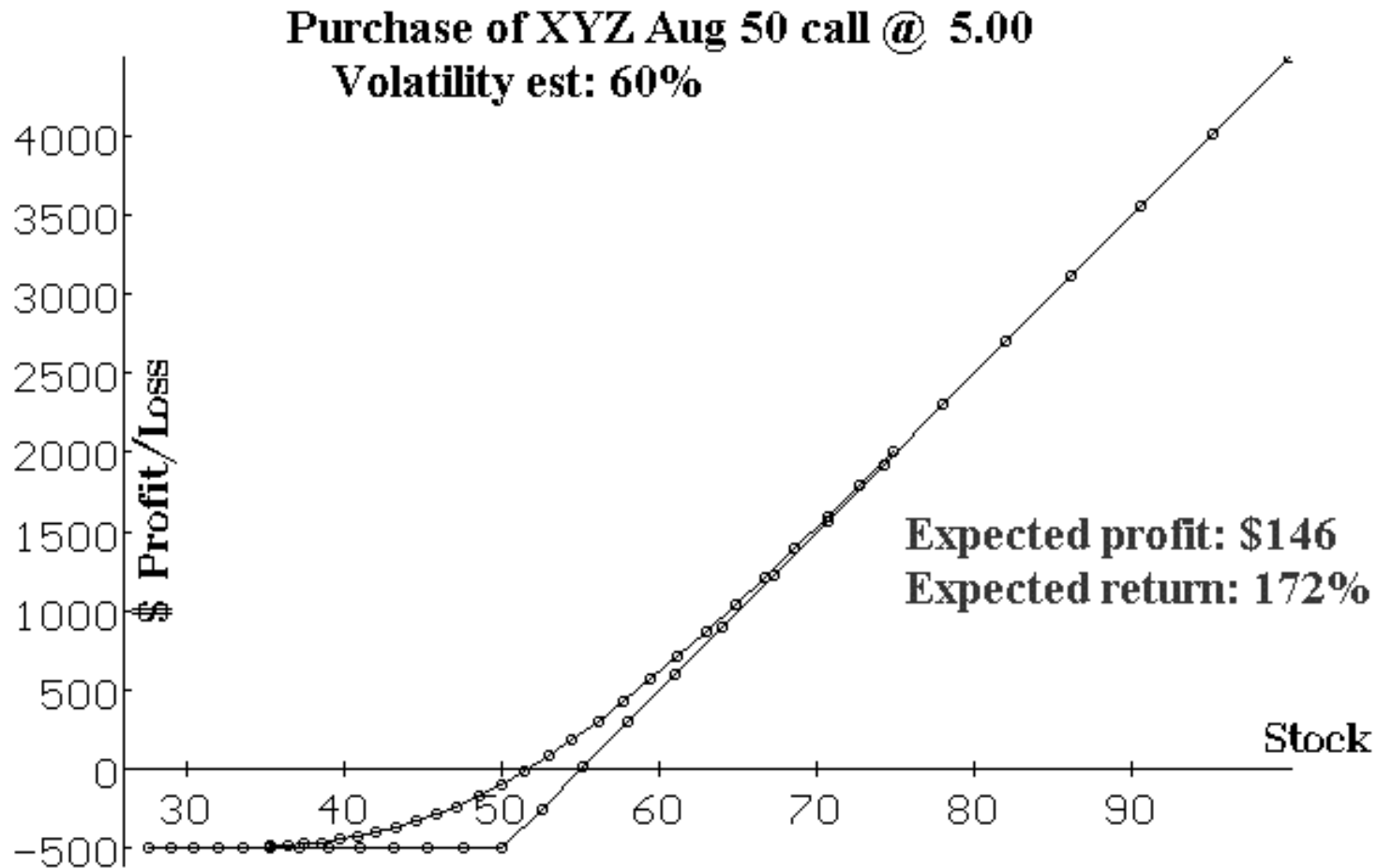
Should you take it?

If you do, your *annualized return increases!*

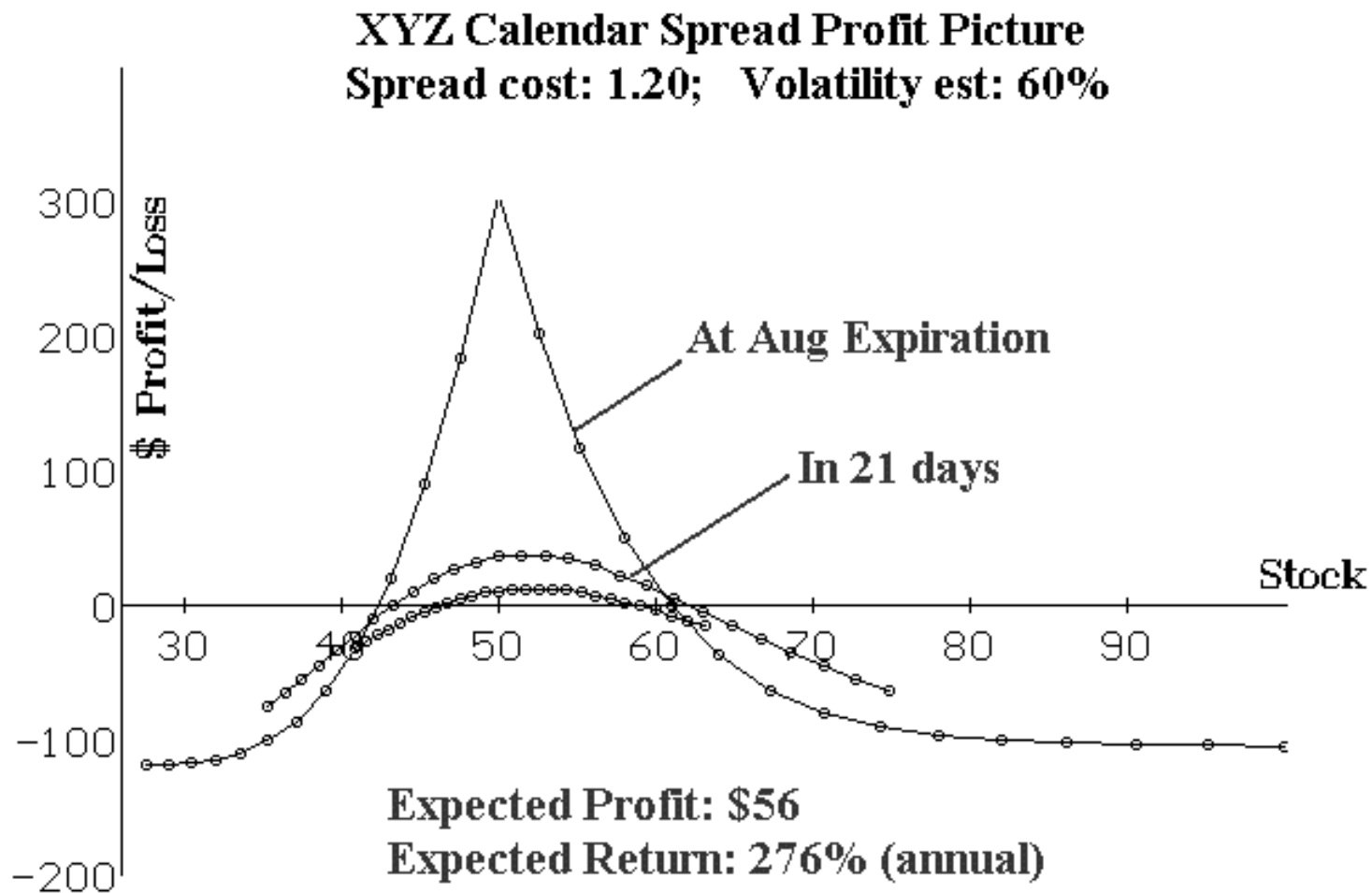
Comparing Strategies

- **Expected Return**
- **Profit Graphs**
- **Your Expectations**
- **Is There A Skew or Other Statistical Anomaly?**

Call Buy – Expected Return

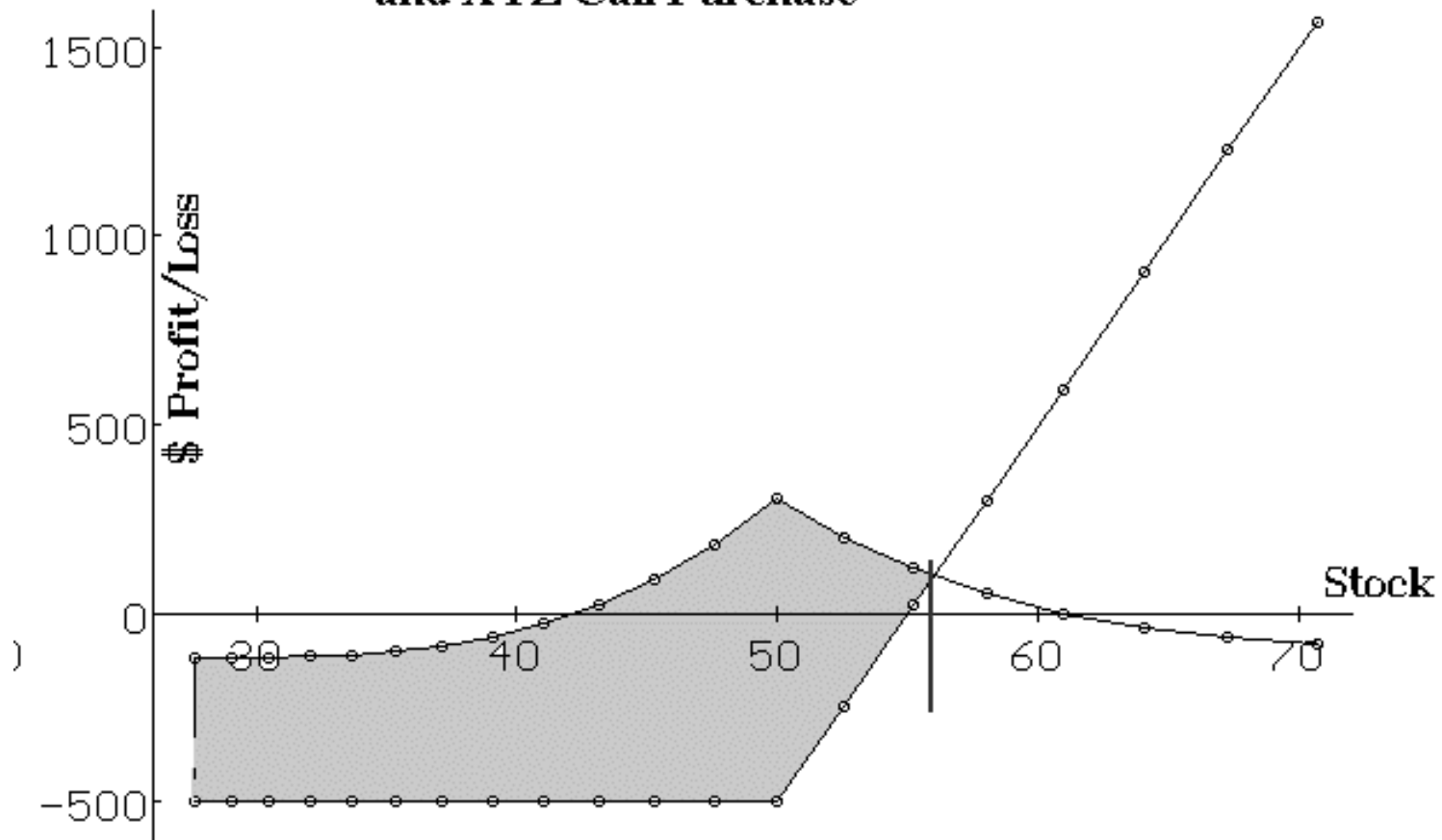


Calendar Spread – Expected Return



Profit Graphs: Comparison

Comparison of XYZ Calendar Spread
and XYZ Call Purchase



Call Buy vs. Calendar Spread

Call Buy: 172% ERTN

Calendar Spread: 276% ERTN

But Call Buy better if $XYZ > 56$

Is there an unwarranted skew? Yes.

So, Should You Speculate or Should You Hedge?

- **Stock owners should hedge with cheap VIX**
- **Covered writers should hedge with cheap VIX**
- **Speculators face a more difficult decision:**

**Hedge if ERTN superior (due to a skew or
poor market volatility estimate)**

**But *DON'T* hedge if no “edge” and
potential is large via a trading system with
a good track record.**

The Psychological Part

Hedging is “steadier”; Speculating is “volatile”

The Option Strategist (12 year returns):

	<u>Hedging</u>	<u>Speculating</u>
Drawdown	-14%	-37%
% Winners	56%	41%
Avg Invmt:	\$6000	\$2100

Which is better?

The Psychological Part

Hedging is “steadier”; Speculating is “volatile”

The Option Strategist (12 year returns):

	<u>Hedging</u>	<u>Speculating</u>
Drawdown	-14%	-37%
% Winners	56%	41%
Avg Invmt:	\$6000	\$2100
Return	+16.9%	+58.4%

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Option Trading Philosophy

- Always use a model**
- Trade all markets**
- Use follow-up strategies**
- Only trade in accordance with your personal philosophy**

Thank you for attending!

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