

Modified Collar- A Strategy to Quell Market Chaos

Interactive Brokers Webinar June 10 ,2008



Philip H. Gocke, OIC
and John Seeberg, IB

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- **Current Outlook-FOMC**
- **Greenspan's 2030 forecast**
- **Impact of the highly improbable**
- **Buy-write: Callan Asso. & CISDM Rut 2000**
- **Active vs. passive strategies**
- **Collar strategy for more protection**
- **Index put hedging**
- **Information in option prices: ISEE index.**
- **Volatility options and futures**

FOMC forecast (4-29-08 meeting minutes)



FOMC forecast

(4-29-08 meeting minutes)

Table 3 Projections of PCE Inflation

Year	PCE Inflation - Apr. 08	PCE Inflation - Jan. 08	PCE Inflation - Oct. 07
2008	3.1 to 3.4	2.1 to 2.4	1.8 to 2.1
2009	1.9 to 2.3	1.7 to 2.0	1.7 to 2.0
2010	1.8 to 2.0	1.7 to 2.0	1.6 to 1.9

Projections of PCE inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated of the price index for personal consumption expenditures.

Table 4 Projections of Core PCE Inflation

Year	PCECore inflation - Apr. 08	PCECore inflation - Jan. 08	PCE Core inflation - Oct. 07
2008	2.2 to 2.4	2.0 to 2.2	1.7 to 1.9
2009	1.9 to 2.1	1.7 to 2.0	1.7 to 1.9
2010	1.7 to 1.9	1.7 to 1.9	1.6 to 1.9

Projections of core PCE inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated of the price index for personal consumption expenditures excluding food and energy.

FOMC forecast (4-29-08 meeting minutes)

Table 1 Projections of Real GDP

Year	Apr. '08	Jan. '08	Oct. '07
2008	0.3 to 1.2	1.3 to 2.0	1.8 to 2.5
2009	2.0 to 2.8	2.1 to 2.7	2.3 to 2.7
2010	2.6 to 3.1	2.5 to 3.0	2.5 to 2.6

Projections of the growth of real GDP are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated.

FOMC forecast (4-29-08 meeting minutes)

Table 2 Projections of Unemployment rate

Year	Apr. '08	Jan. '08	Oct. '07
2008	5.5 to 5.7	5.2 to 5.3	4.8 to 4.9
2009	5.2 to 5.7	5.0 to 5.3	4.8 to 4.9
2010	4.9 to 5.5	4.9 to 5.1	4.7 to 4.9

Average for fourth quarter of year indicated

The Age of Turbulence

by Alan Greenspan (The Penguin Press, NY 2007)



Alan
Greenspan

THE AGE OF TURBULENCE

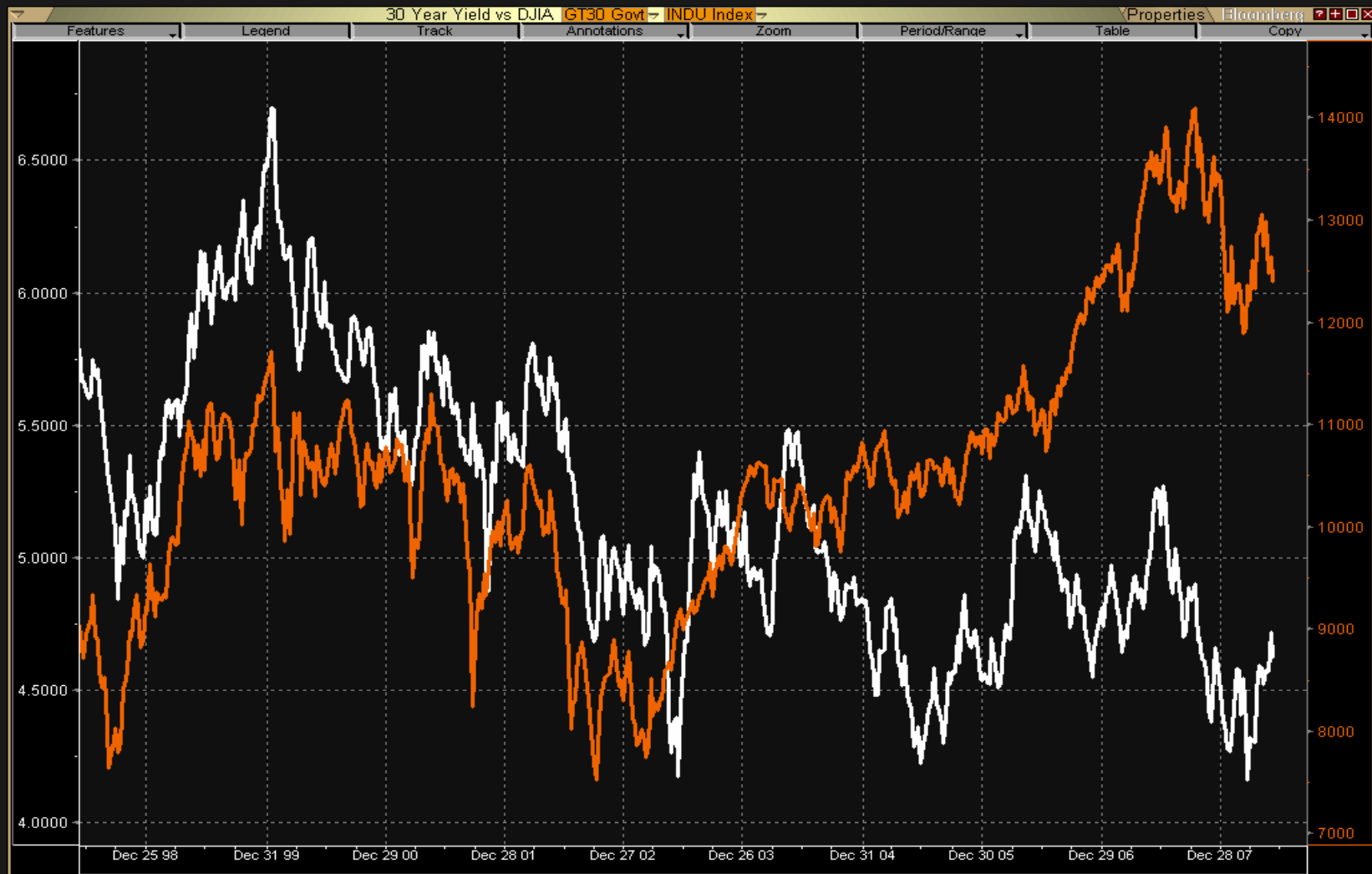
ADVENTURES IN A NEW WORLD

- **Average GDP of 2.5% per year to 2030 (3.1% for past quarter century)**
- **Inflationary expectation of at least 4.5%** - above 2006 core of 2.2%.
- **Ten year note yield at least 8%** & likely flirting w/ double-digit yields.
- **Real yields 1% above today's 2.5%**
- **Subdued asset price increases through 2030** - higher stock yields
- **Business cycle will not have died**

30 Year Bond Yield vs. DJIA

1999 to 2008

Source: Bloomberg



10 Year Note Yield 1978 – 2008

13

Source: Bloomberg



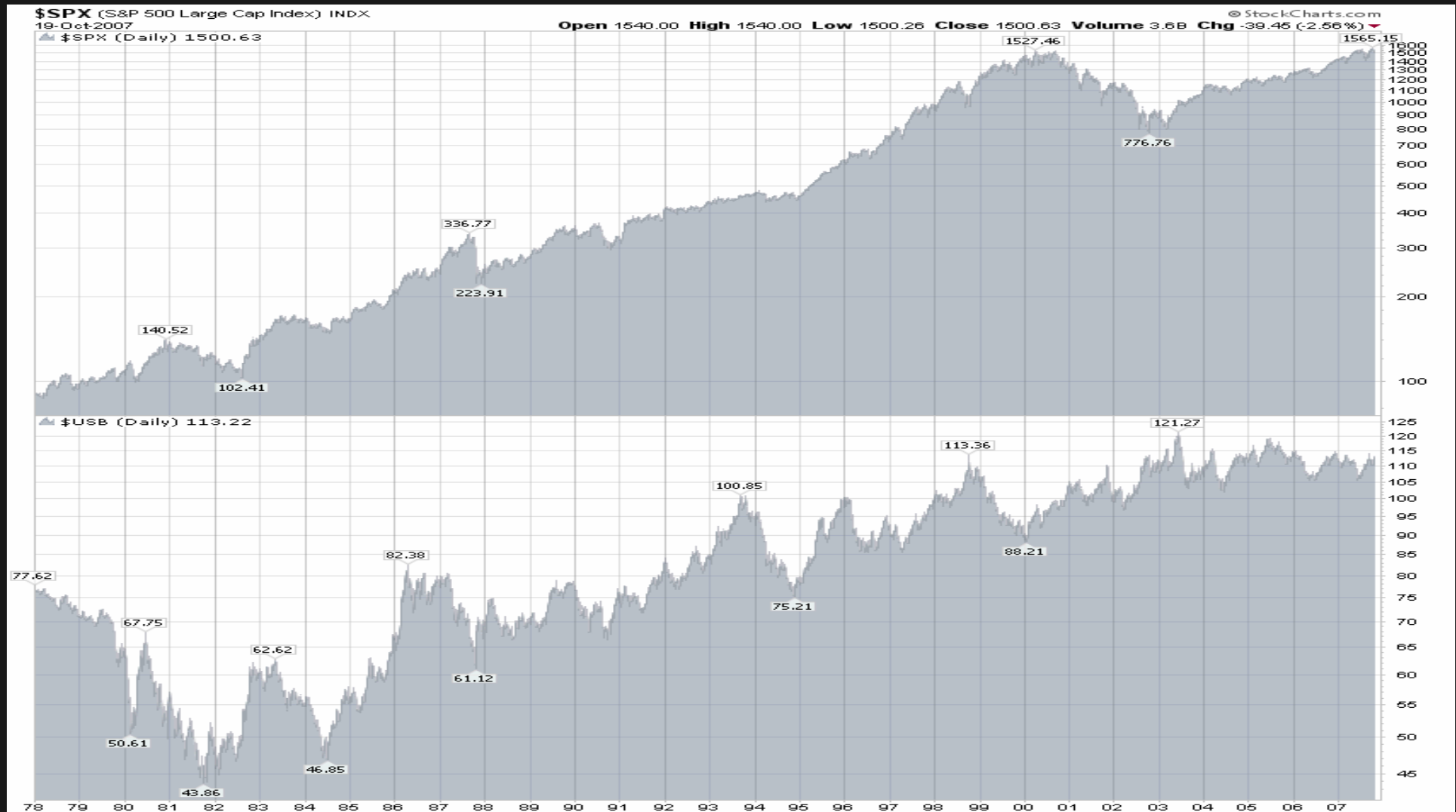
10 Year Yield vs. DJIA

<http://finance.yahoo.com/q/bc?s=%5ETNX&t=my&l=on&z=l&q=l&c=%5EGSPC>



SPX vs. USB_{onds} (1978-2008)

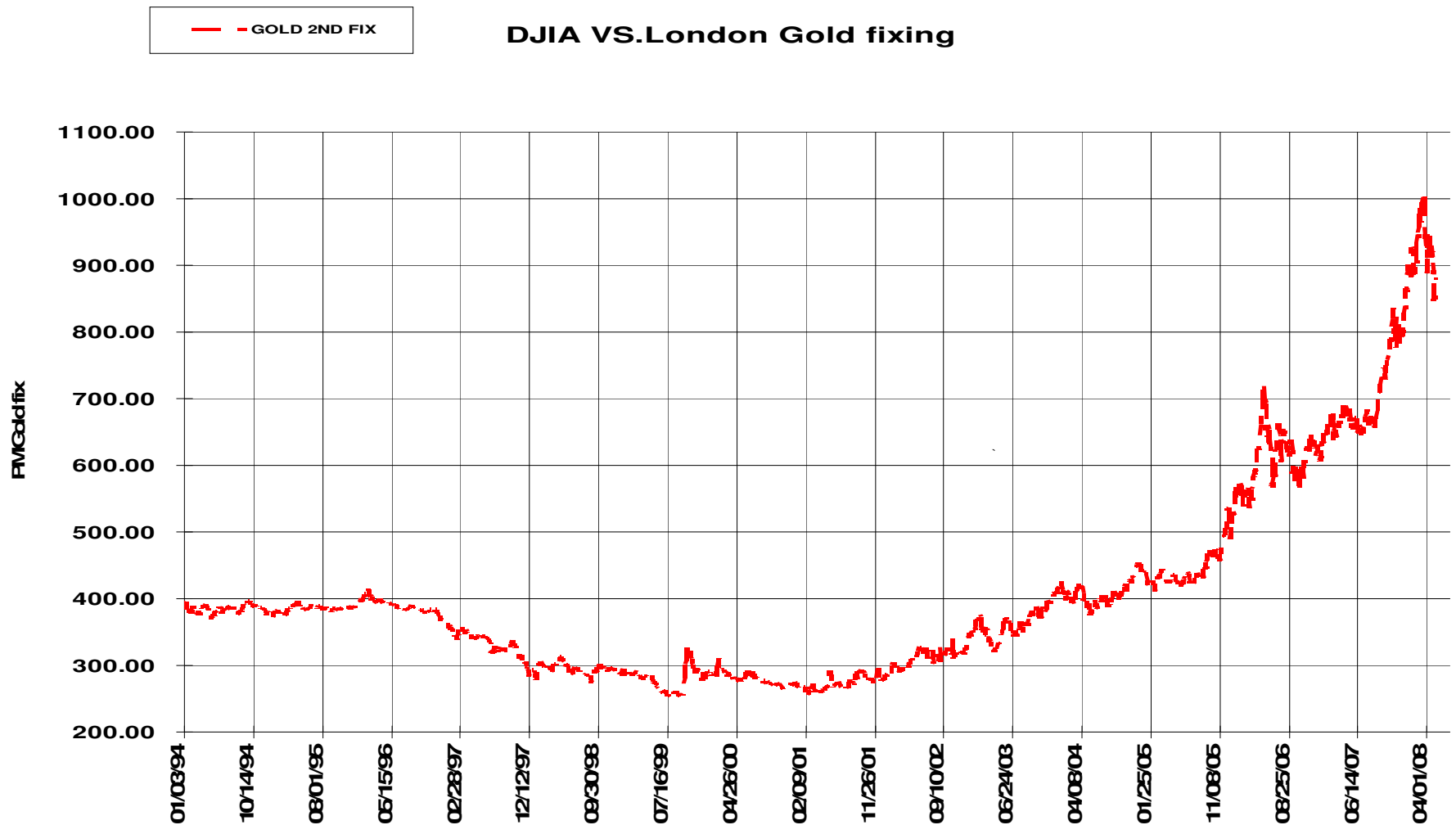
<http://stockcharts.com/charts/historical/spxusb1978.html>



US \$ vs. Swiss Franc (1995 – 2008)

Source: Bloomberg





Nikkei 225 since 1985

Source: Bloomberg



The Black Swan by Nassim Taleb

(Random House Publishing Group April 2007)

THE BLACK SWAN



The Impact of the
HIGHLY IMPROBABLE

Nassim Nicholas Taleb

Election Day: November 4, 2008

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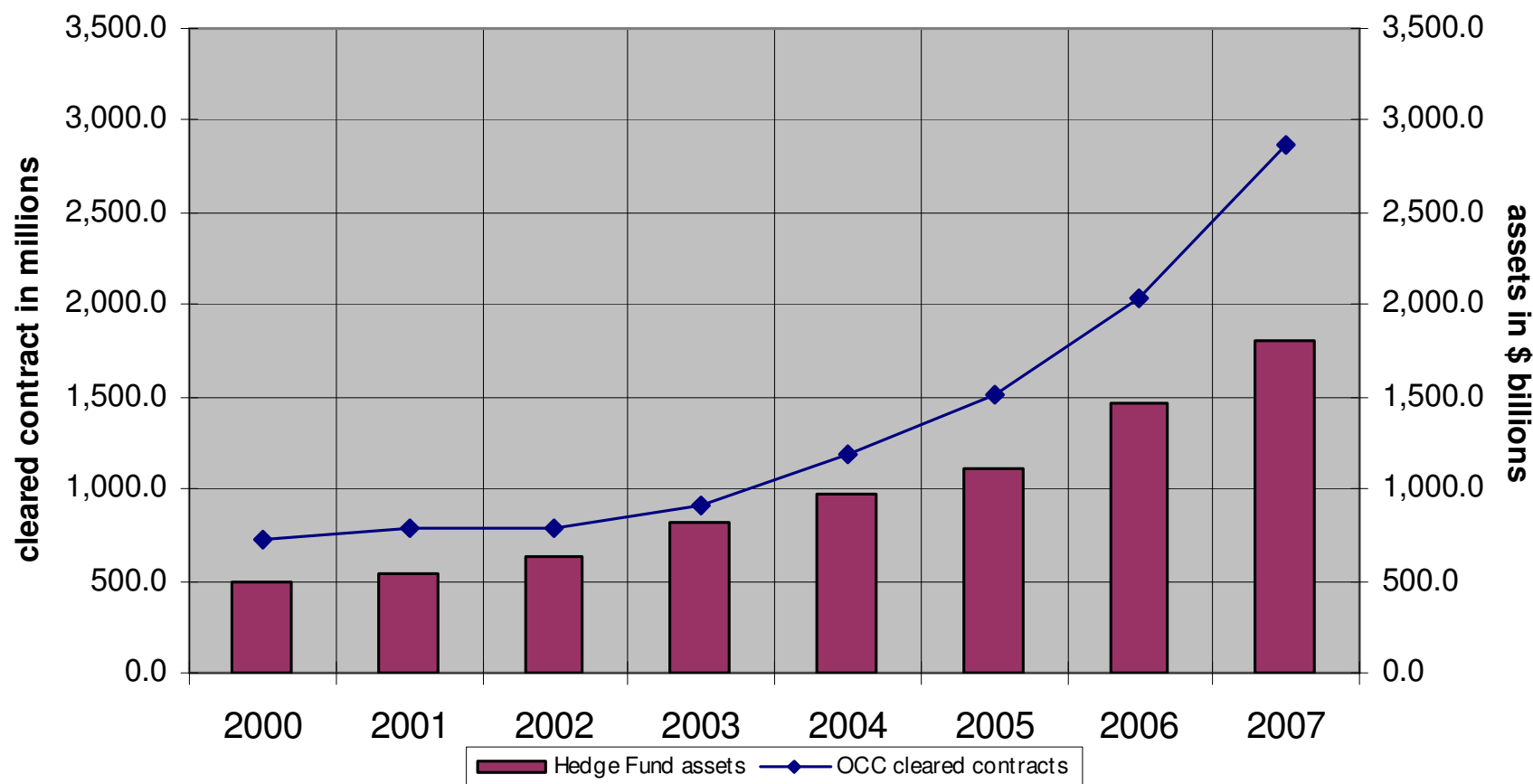


Listed Options Begin to Outstrip HF Growth

source-P&I and OCC



Hedge Fund assets vs. OCC cleared contracts



SEARCH FOR ALPHA:

- Yale University:
 - \$22.5 billion
 - 28% return in 2007; 18% per annum for 10 years
 - Endowment contributes 33% of University's net revenue
- Harvard University:
 - \$34.9 billion
 - 20% return in 2007
 - Absolute return & special situations =25% of portfolio.



Buy-write

Consider Selling Covered Calls

- Forecast: Neutral to moderately bullish on the stock
- Goals: Increase returns in stable markets and reduce stock price risk

Buy stock at \$43.50, sell 45 Call at \$2.30



Covered Call Calculator

www.OptionsEducation.com

Covered Call Calculator

[Calculator Help and Information](#) / [Take the Covered Call Class](#)

The covered call calculator and 20 minute delayed options quotes are provided by IVolatility, and NOT BY OCC. OCC makes no representation as to the timeliness, accuracy or validity of the information and this information should not be construed as a recommendation to purchase or sell a security, or to provide investment advice. For more information or help, please view our [help files](#) or contact our options professionals at 1-888-OPTIONS (1-888-678-4667).

Symbol:

dia

Stock ticker

Go!

Today: Mon, Jul 2, '07

Stock: DIA

Style: American

Price: 135.27

Quantity: 100

What If Price: 140

Comm. type: None

Comm. amount:

Dividends

Use dividends in
P&L calculations: ☒

Last Date: 06/15/07

Amount Per Share: 0.169

Frequency: Per Month

Option ticker: DAZIF

Exp. Date: Sep07

Days To Exp.: 81

Strike Price: 136.00

Option Premium: 3.970

Comm. type: None

Comm. amount:

Margin Interest Rate(%): 5.35

Calculate

Worksheet inputs

Covered Call Calculator

www.OptionsEducation.com

Strategy results

Account Type	Cash	Margin
Capital required	\$13,130.00	\$6,366.50

If the stock is called at expiration

Profit/Loss	\$520.70	\$439.28
Return	4.0%	6.9%
Annualized	17.63%	30.67%

If the stock is unchanged at expiration

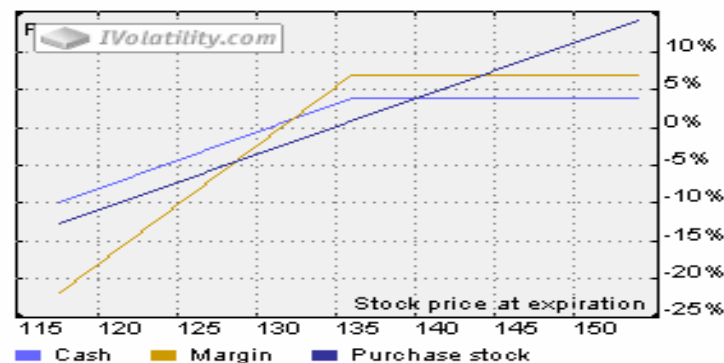
Profit/Loss	\$447.70	\$366.28
Return	3.4%	5.8%
Annualized	15.2%	25.6%

What If Price 140.00

Profit/Loss	\$520.70	\$439.28
Return	4.0%	6.9%
Annualized	17.6%	30.7%

Break-even Analysis

Break-even Point	\$130.79	\$131.61
Percent Difference	3.3%	2.7%

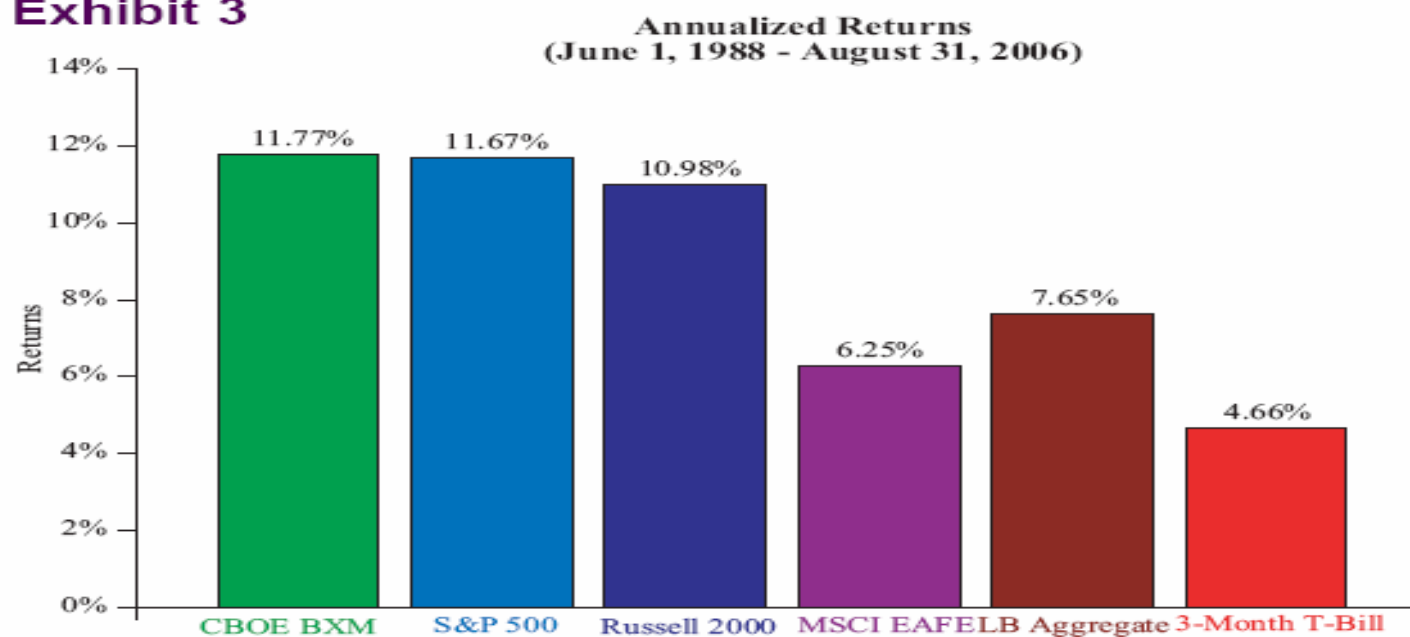


Callan Study for CBOE Oct. 2, 2006



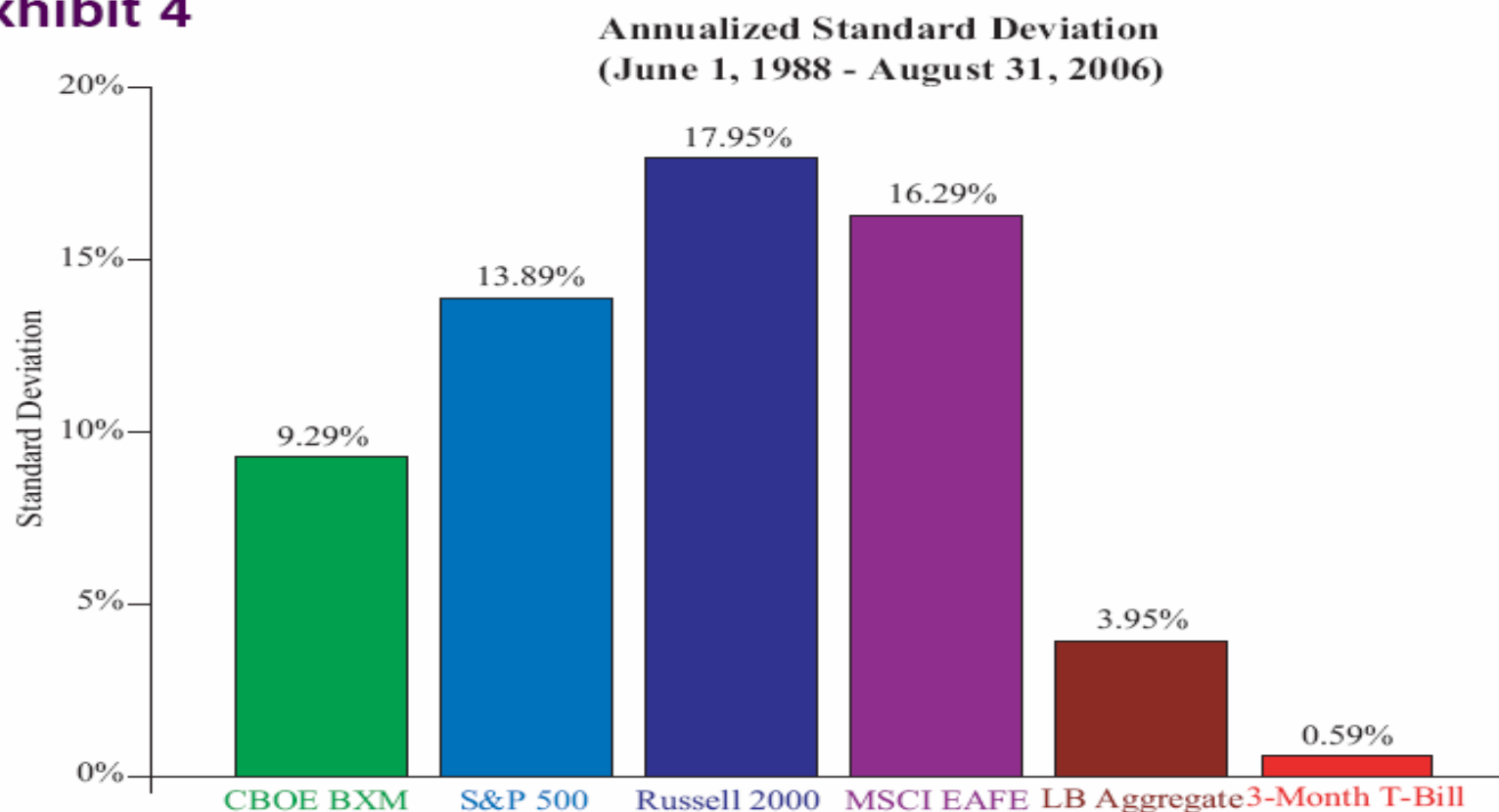
Analysis of Cumulative Results

Exhibit 3



Annualized returns for all asset classes over the period June 1, 1988 to August 31, 2006. The CBOE BXM averaged an 11.77% annual return, slightly higher than that for the S&P 500. The return for the BXM implies that one dollar compounding at this constant rate would have grown to \$7.62 over the study period.

Exhibit 4



Annualized standard deviations for all asset classes over the period June 1, 1988 to August 31, 2006. The 9.29% standard deviation for the CBOE BXM was approximately two-thirds that of the 13.89% standard deviation for the S&P 500.



Characteristics of RUT buy-writing by Kapadia & Szado, UMass

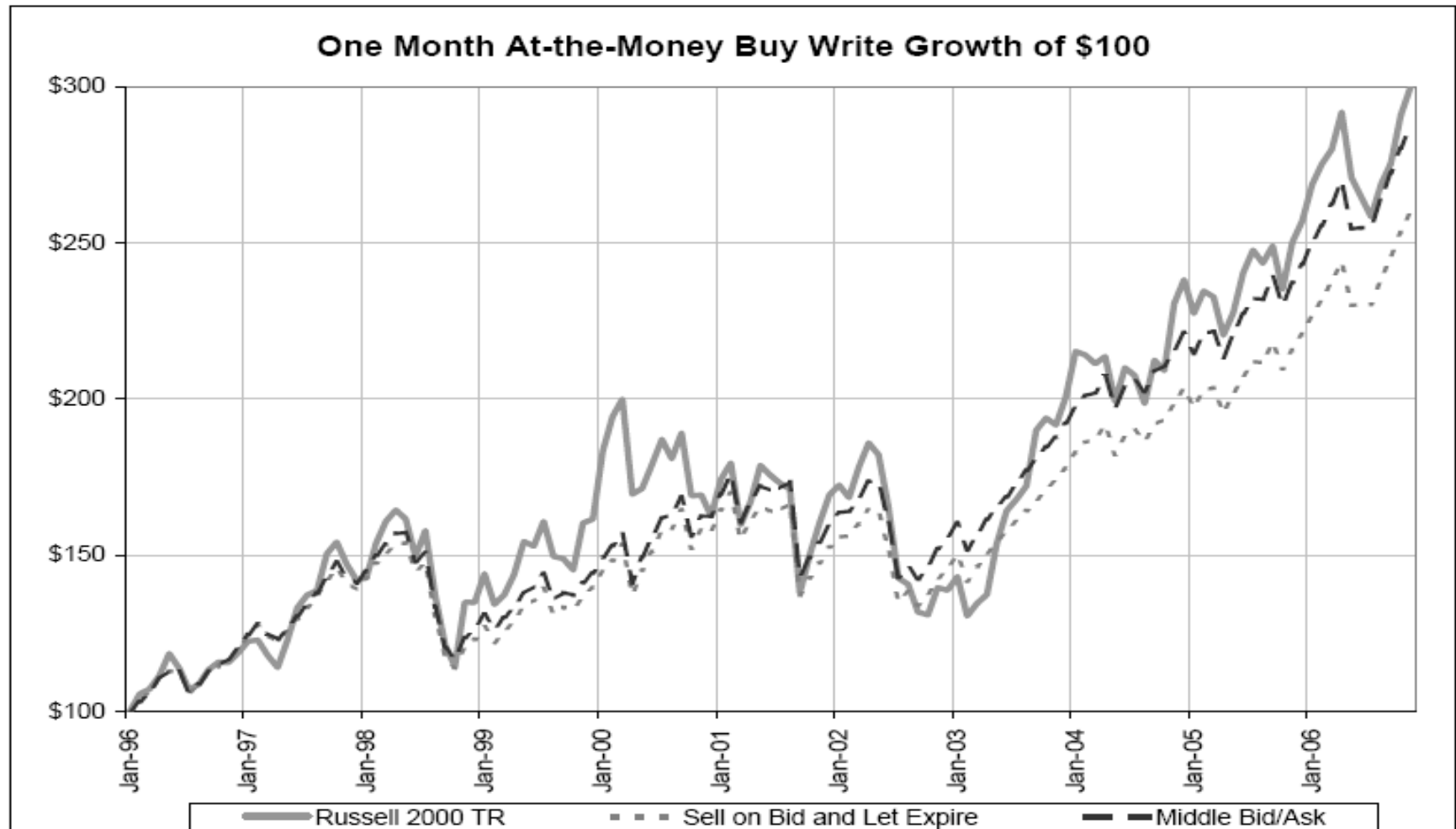


**Center for International Securities &
Derivatives Market of the University of
Massachusetts**

**Demonstrated that a passive buy-write
strategy of 1 month calls consistently
outperformed the Russell 2000 on a risk
adjusted basis.**

**www.OptionsEducation.org/institutional
for complete study**

Characteristics of RUT buy-writing by Kapadia & Szado, UMass





Characteristics of RUT buy-writing by Kapadia & Szado, UMass



Over 10 year study period ending Nov. 2006:

- **RUT** **annualized return:** **10.67%**
- **OTM 2 %** **buy-write return:** **10.60%**
- **ATM** **buy-write return:** **9.21%**

- **RUT** **annualized volatility:** **20.52%**
- **OTM 2 %** **annualized volatility:** **14.85%**
- **ATM** **annualized volatility:** **13.36%**



Wrong Time for 'Buy-Write'? Options Strategy Lags Behind In a Climbing Market



Wall Street Journal By MOHAMMED HADI
June 23, 2007; Page B2

A popular approach to options trading **may not serve investors well in a rising stock market.** The strategy, known as “buy-write” or “covered-call selling,” consists of purchasing a stock while simultaneously selling call options — which give buyers the right to pay a certain price for the stock by a certain date.



Barron's Striking Price: Better Covered Calls

By Kopin Tan (11-28-05)



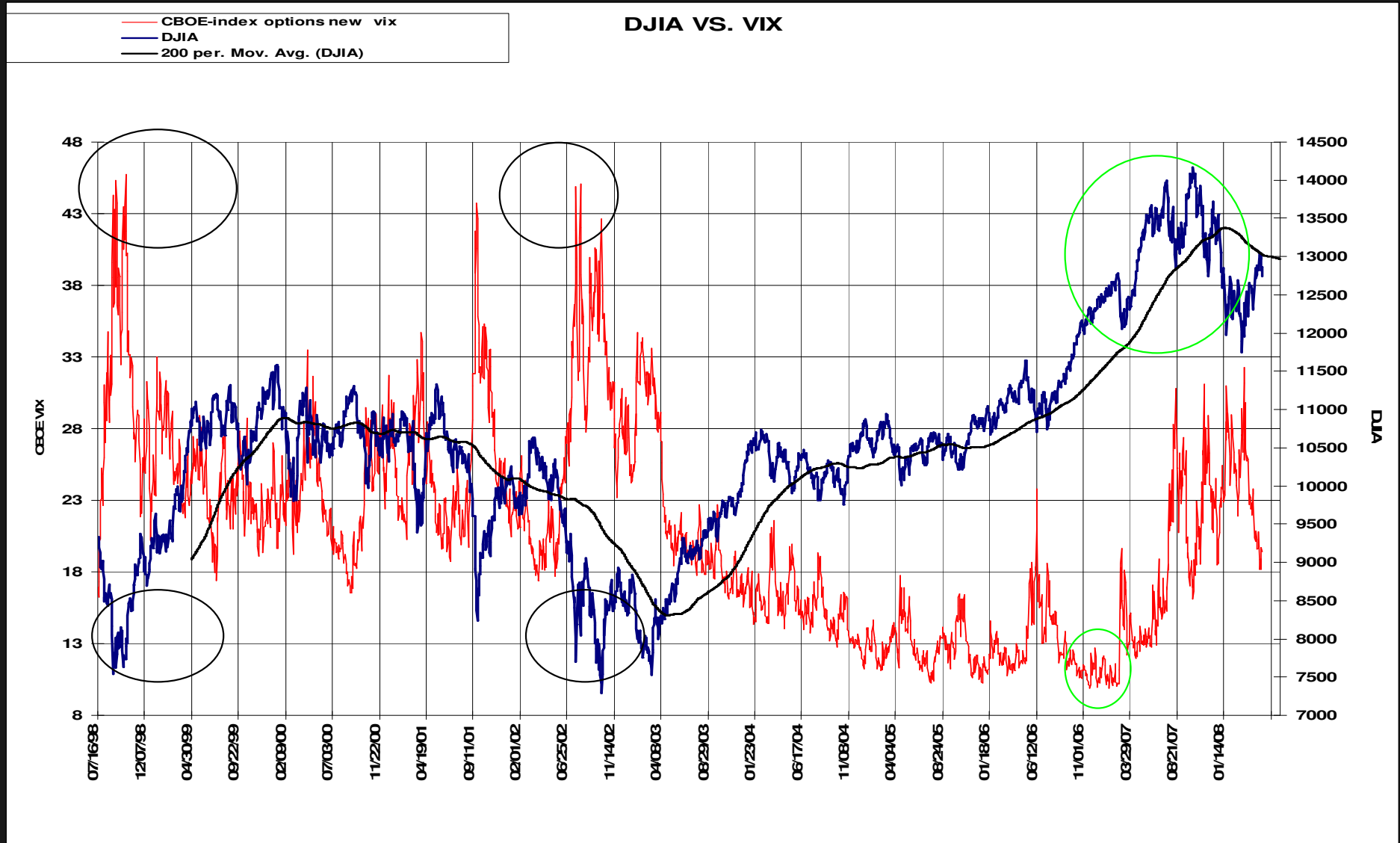
- “Overwriting strategies that are dynamically rebalanced ahead of large market rallies or downturns can naturally enhance the returns generated,” says Lehman derivatives strategist.
- Construct a seemingly counterintuitive portfolio that sells fewer calls when volatility is high, and more when volatility and premiums are low.



Enhanced Buy-Writing

- Write just 0.75 of a call against an index when volatility is more than one standard deviation above the average.
- Write 1.25 calls when projected volatility falls more than one standard deviation below average.

Over-write at low vol- mkt top? Under-write at hi vol-mkt bottom?





More Protection

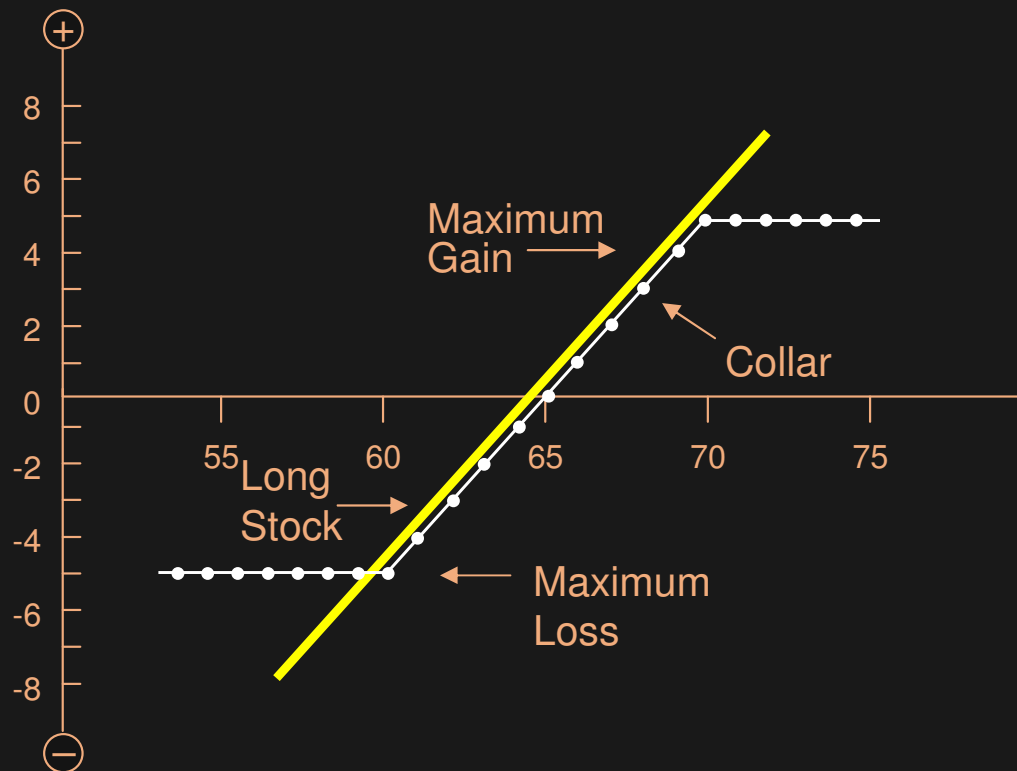
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The collar

An option hedge which is:

- Established for reduced cost/no cost
- The purchase of the put is offset
- By the sale of a call

MNO at \$65.00
Buy 60 Put, sell 70 Call



ADVANTAGES:

- Selling calls helps to finance insurance
- Limited downside risk
 - Establishes minimum selling price until expiration
 - (put strike price – net premium paid)

DISADVANTAGES:

- Transaction costs
- Early assignment
- Can be difficult to find
- **UPSIDE POTENTIAL CAPPED BY THE SHORT CALL**



QQQ Collar Strategy

March 1999-March 2008



Collaring the Cube:

Protection Options for a QQQ ETF Portfolio

Edward Szado, CFA & Hossein Kazemi, PhD, CFA

Center for International Securities & Derivatives Markets

University of Massachusetts

May 2008

Collaring the Cube (study & summary)

OptionsEducation.org/institutional



MarketWatch - Market Overview

4	XLFRY JUN 25.00p	43,597
5	SFBRH JUN 138.00p	35,291
6	QQQXV DEC 48.00p	34,490
7	XLFFY JUN 25.00c	33,747
8	BUDFL JUN 60.00c	33,184
9	QQQFW JUN 49.00c	29,902
10	IOWRU JUN 73.00p	26,410

View: 25 Most Active / Puts / Calls

Source: [iVolatility.com](#)

White Papers

The CBOE Volatility Index - VIX (PDF / 1.71MB)
VIX provides a snapshot of expected stock market volatility over the next 30 calendar days and is calculated real-time from index option premiums.

Collar Trade (PDF)
A collar trade consists of selling one out-of-the-money (OTM) call and buying one at-the-money (ATM) put for each 100 shares of stock owned. The expiration month is the first one available that is at least one year away. As a result, the position consists of a covered call (long stock and short OTM call) to collect income and a long put for protection.

[Click to view more White Papers and Research Articles](#)

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The Striking Price

STRIKING PRICE DAILY: MAY 23, 2008
The Oracular Power of Options

MAY 26, 2008
Musing and (Maybe) Snoozing
A suggestion for Memorial Day: Stop obsessing over market volatility.

Collaring the Cube: Protection Options for a NASDAQ 100 ETF Portfolio

 (PDF)
A study by Szado and Kazemi of the University of Massachusetts evaluated nine years of data on the Powershares QQQ exchange traded fund and found that a protective collar strategy using a six month put purchase and consecutive one month call writes provided far superior returns compared with buying and holding the NASDAQ-100 Index® ETF with about one-third of the index volatility. Over the 108 month study period, this collar strategy returned more than 150% cumulatively, while the cube portfolio lost over 12%.

You can also view the [six page summary](#) (PDF) of the paper which also provides a collar tutorial on the back pages.

Useful Links

More

CBOE Nasdaq Volatility Index VIX®

14:00 16:00 11:00 13:00 15:00

Source: [iVolatility.com](#)

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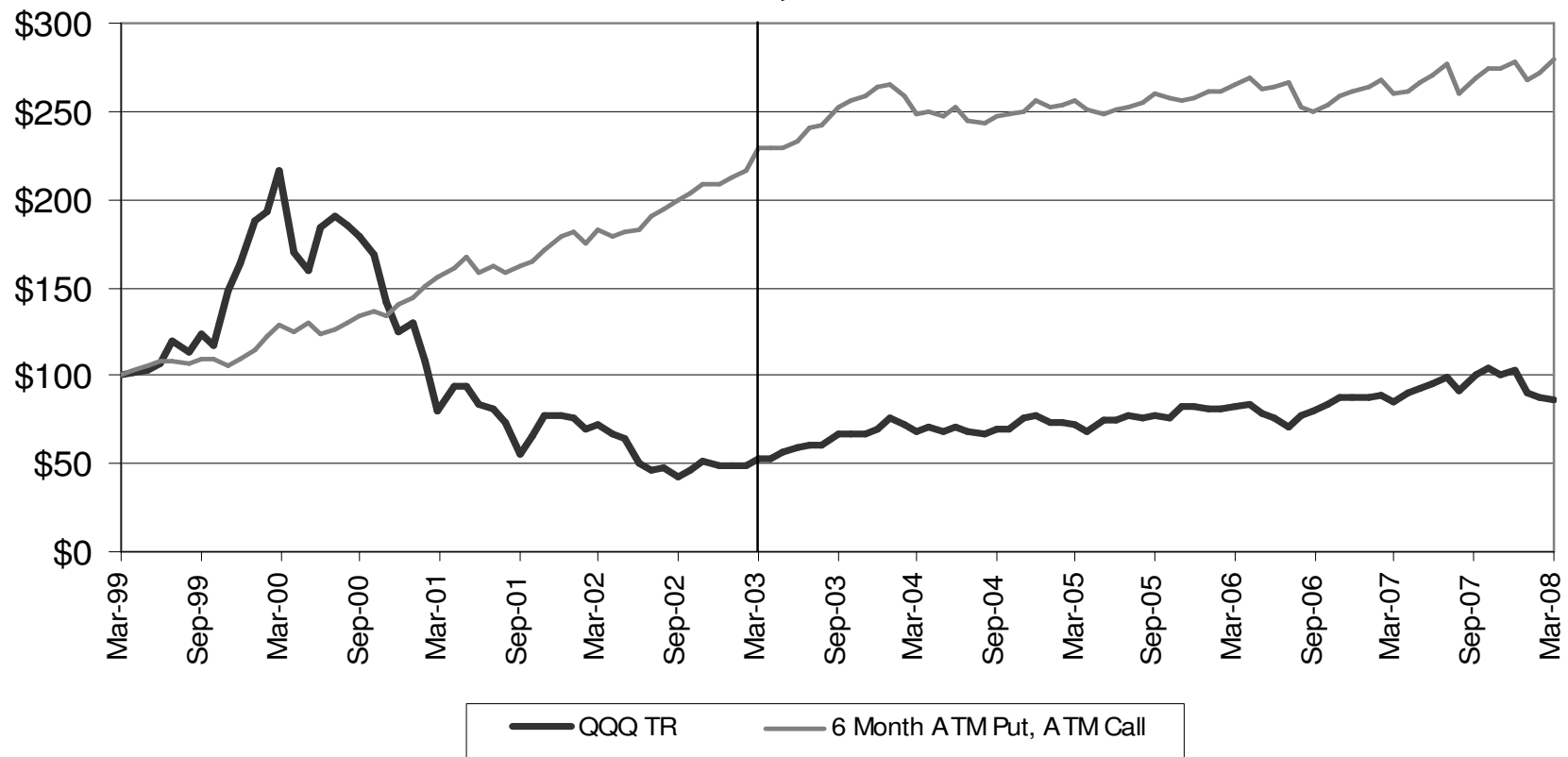
[Sign up for other email alerts.](#)



QQQ – Collar Strategy



**Growth of \$100 QQQ Collar
6-Month ATM Puts, 1-Month ATM Calls**





QQQ – Collar Strategy



Full Period (3/1999 to 3/2008)				
		ATM Calls		
6 month Puts, 1 Month Calls	QQQ	5% OTM Puts	2% OTM Puts	ATM Puts
Annualized Return	-1.69%	12.80%	12.14%	12.11%
Annual Standard Deviation	29.93%	8.89%	8.71%	8.63%
Mean Monthly Return	0.24%	1.04%	0.99%	0.99%
Median Monthly Return	0.30%	1.37%	1.30%	1.32%
Monthly Standard Deviation	8.64%	2.57%	2.51%	2.49%
Skewness	-0.308	-0.688	-0.626	-0.602
Excess Kurtosis	1.542	0.237	0.270	0.251
Minimum Monthly Return	-25.45%	-5.95%	-5.81%	-5.81%
Maximum Monthly Return	26.57%	6.02%	6.02%	6.02%
Maximum Drawdown	-80.44%	-8.59%	-8.42%	-8.42%
Annual Sharpe Ratio	-0.180	1.025	0.970	0.976
Monthly Stutzer Index	0.028	0.280	0.268	0.269
CAPM Beta	1.000	0.092	0.062	0.052
Leland Beta	1.000	0.091	0.062	0.052
Monthly Leland Alpha	0.00%	0.74%	0.69%	0.69%
Jarque-Bera Statistic	12.416	8.765	7.373	6.817
Probability Normal	0.20%	1.25%	2.51%	3.31%



QQQ – Collar Strategy



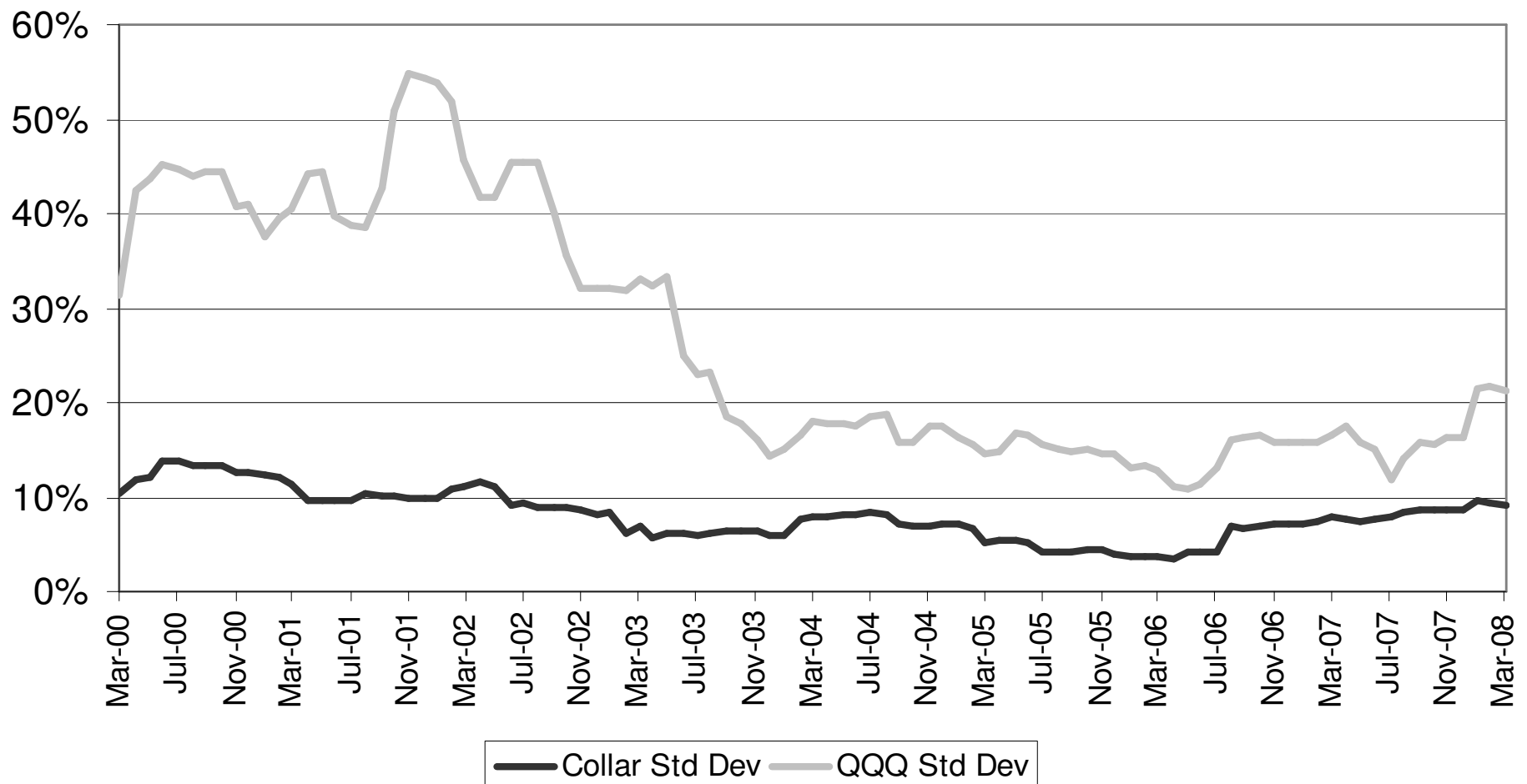
	Full Period 3/99 to 3/08		3/1999 to 3/2003		4/2003 to 3/2008	
	ATM Puts		ATM Puts		ATM Puts	
6 month Puts, 1 Month Calls	QQQ	ATM Calls	QQQ	ATM Calls	QQQ	ATM Calls
Annualized Return	-1.69%	12.11%	-14.66%	23.01%	10.09%	4.10%
Annual Standard Deviation	29.93%	8.63%	40.99%	9.79%	16.51%	6.90%
Mean Monthly Return	0.24%	0.99%	-0.61%	1.78%	0.92%	0.35%
Median Monthly Return	0.30%	1.32%	-0.65%	2.35%	0.57%	0.91%
Monthly Standard Deviation	8.64%	2.49%	11.83%	2.83%	4.77%	1.99%
Skewness	-0.308	-0.602	-0.080	-0.906	-0.151	-1.135
Excess Kurtosis	1.542	0.251	-0.154	0.138	-0.042	1.356
Minimum Monthly Return	-25.45%	-5.81%	-25.45%	-5.00%	-12.45%	-5.81%
Maximum Monthly Return	26.57%	6.02%	26.57%	6.02%	10.94%	4.25%
Maximum Drawdown	-80.44%	-8.42%	-80.44%	-5.00%	-17.71%	-8.42%
Annual Sharpe Ratio	-0.180	0.976	-0.458	1.927	0.409	0.110
Monthly Stutzer Index	0.028	0.269	-0.081	0.472	0.135	0.040
CAPM Beta	1.000	0.052	1.000	0.030	1.000	0.207
Leland Beta	1.000	0.052	1.000	0.031	1.000	0.226
Monthly Leland Alpha	0.00%	0.69%	0.00%	1.47%	0.00%	-0.06%



QQQ – Collar Strategy



12 Month Rolling Annualized Standard Deviation 6 Month ATM Puts, 1 Month ATM Calls






Question: Are you willing to have your stock called away at the strike price?



Strategy Highlights on OptionsEducation.org



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Options Strategies: Collar

A collar can be established by holding shares of an underlying stock, purchasing a protective put and writing a covered call on that stock. The option portions of this strategy are referred to as a combination. Generally, the put and the call are both out-of-the-money when this combination is established, and have the same expiration month. Both the buy and the sell sides of this spread are opening transactions, and are always the same number of contracts. In other words, one collar equals one long put and one written call along with owning 100 shares of the underlying stock. The primary concern in employing a collar is protection of profits accrued from underlying shares rather than increasing returns on the upside.

Market Opinion?

Neutral, following a period of appreciation


When to Use?

An investor will employ this strategy after accruing unrealized profits from the underlying shares, and wants to protect these gains with the purchase of a protective put. At the same time, the investor is willing to sell his stock at a price higher than current market price so an

In This Section

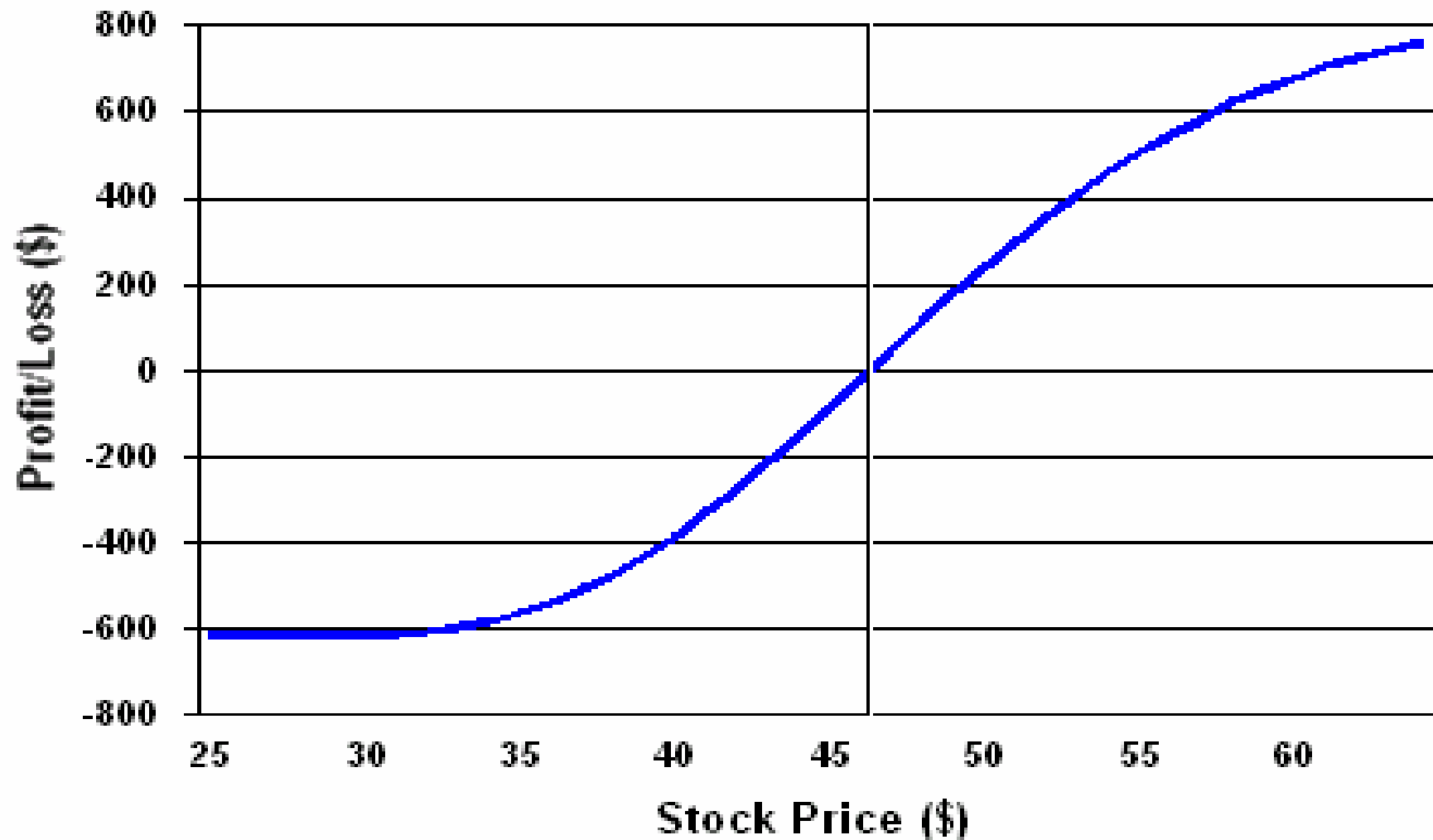
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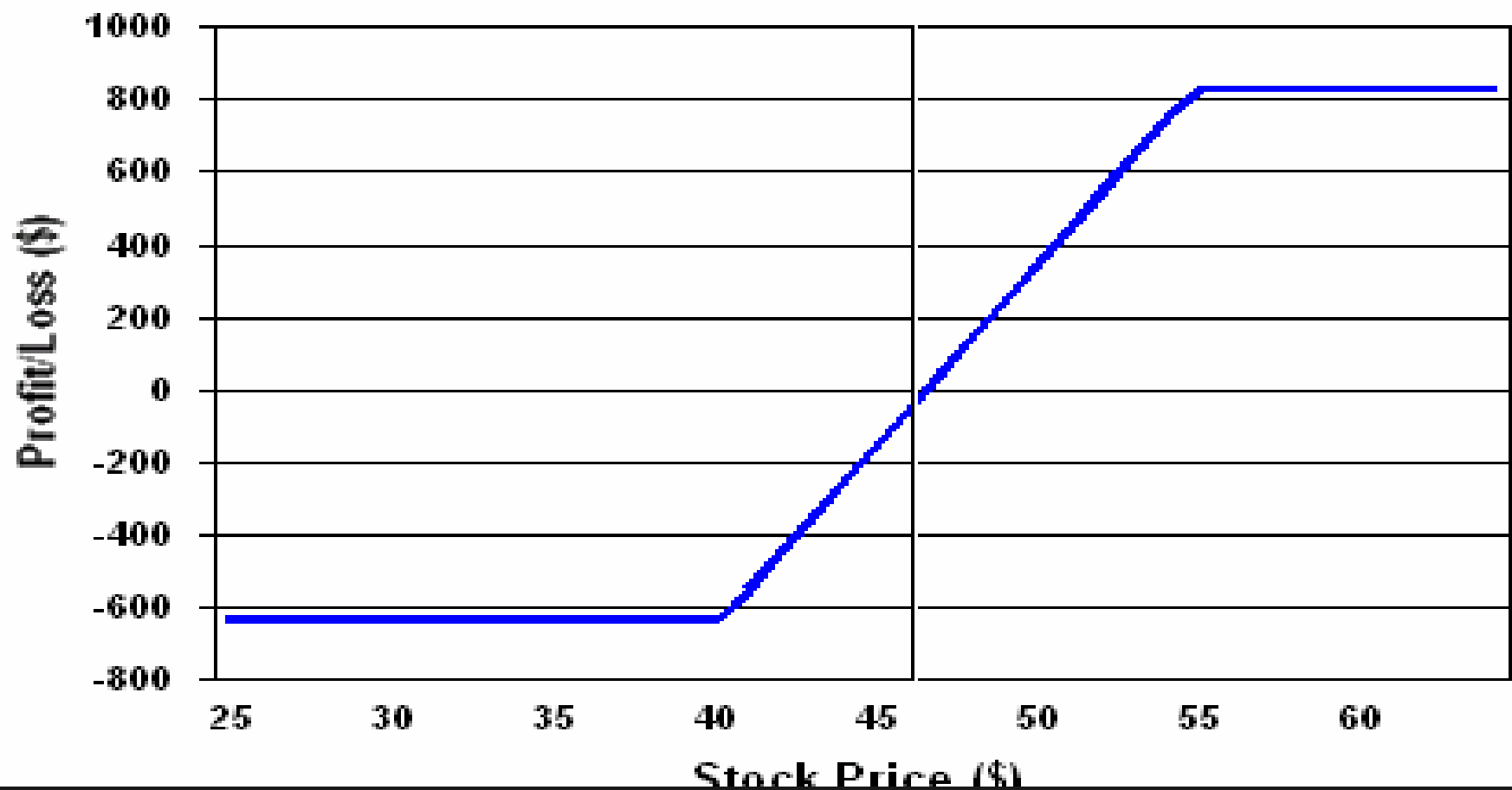


Collar risk-reward prior to expiration



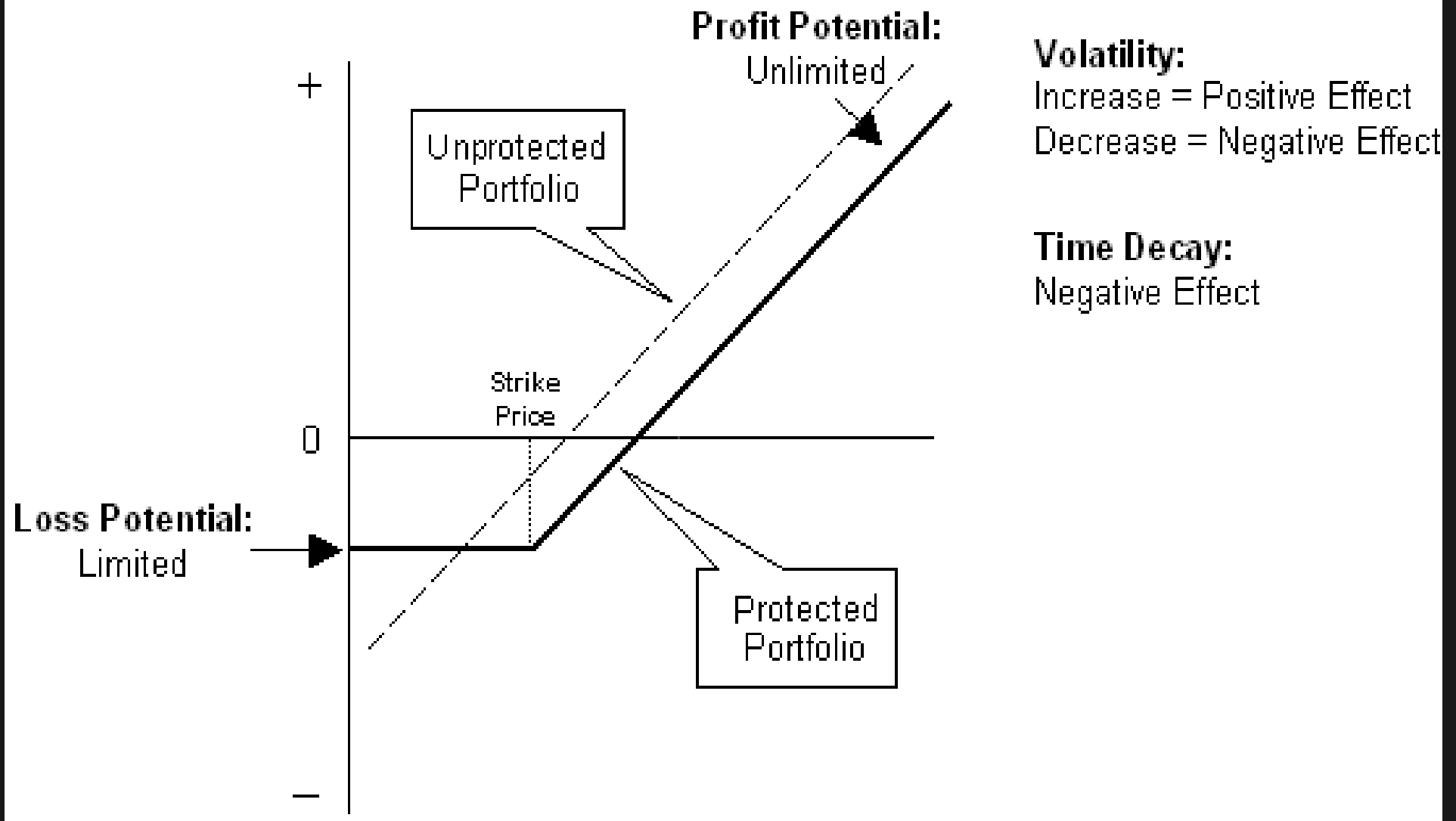


Collar risk-reward at expiration



Protective Index Put Strategy

From CBOE web site



Example

- An investor has a portfolio of mixed stocks worth \$2 million that closely matches the composition of index XYZ.
- With the current level of index XYZ at 100, this investor wants to buy XYZ puts to protect the portfolio from a market decline of 4% over the next 60 days.

Example Calculation for Number of Puts

- Calculate current total value of index XYZ (XYZ = 100)
 - $100 \times 100 \text{ multiplier} = 10,000$
- Divide the amount to be hedged (\$2,000,000 portfolio)
 - $\$2,000,000 \div 10,000 = 200 \text{ puts}$
- Purchase 200 XYZ puts

Adjust number of contracts according to the beta of the portfolio's performance vs. XYZ (if not exact beta)

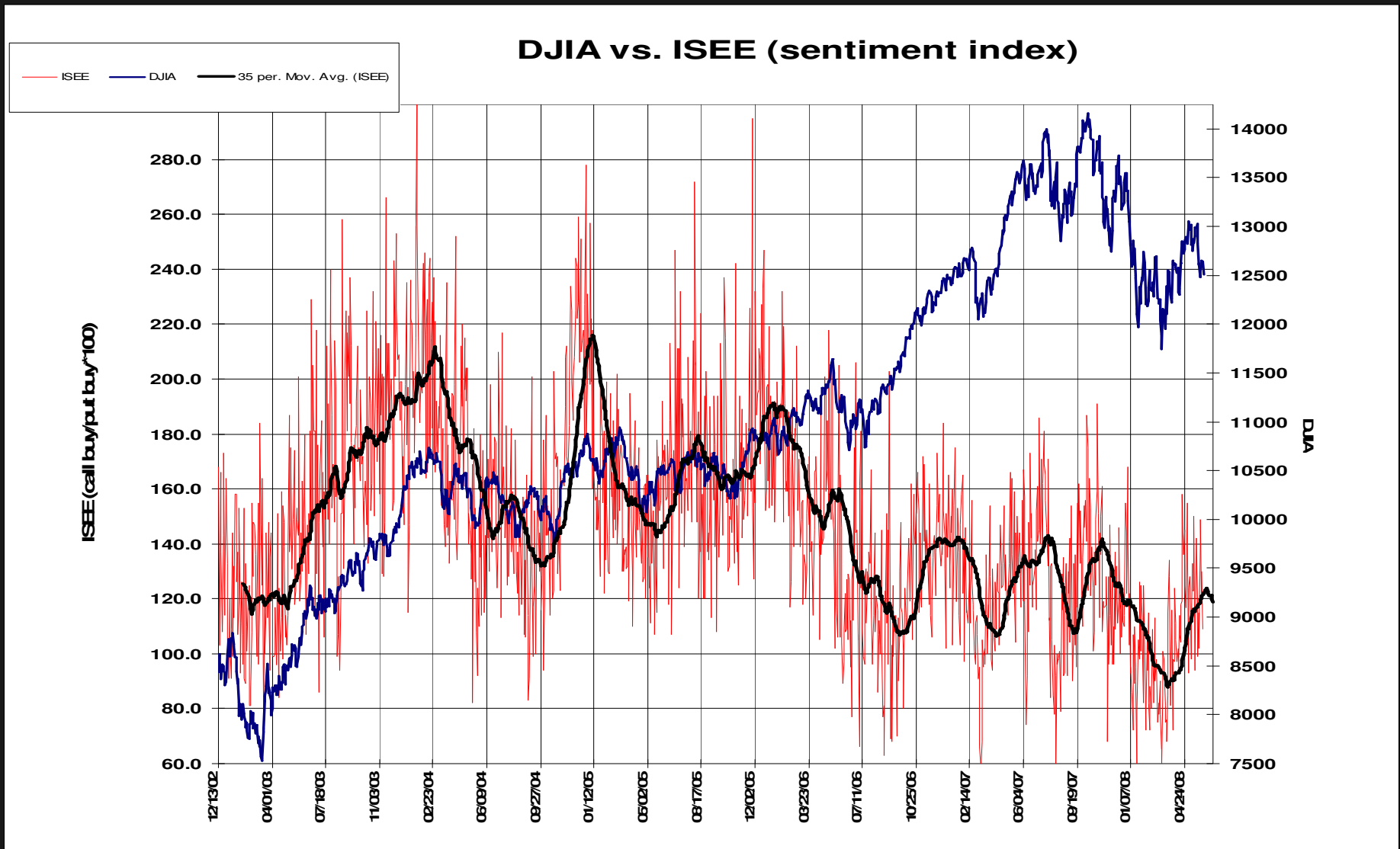


Informational Value of Options

ISEE is computed by dividing opening long call options bought by customers by opening long put options bought by customers.

•

$$\frac{\text{Long Calls (Opening Position)}}{\text{Long Puts (Opening Position)}} \times 100 = \text{ISEE}$$





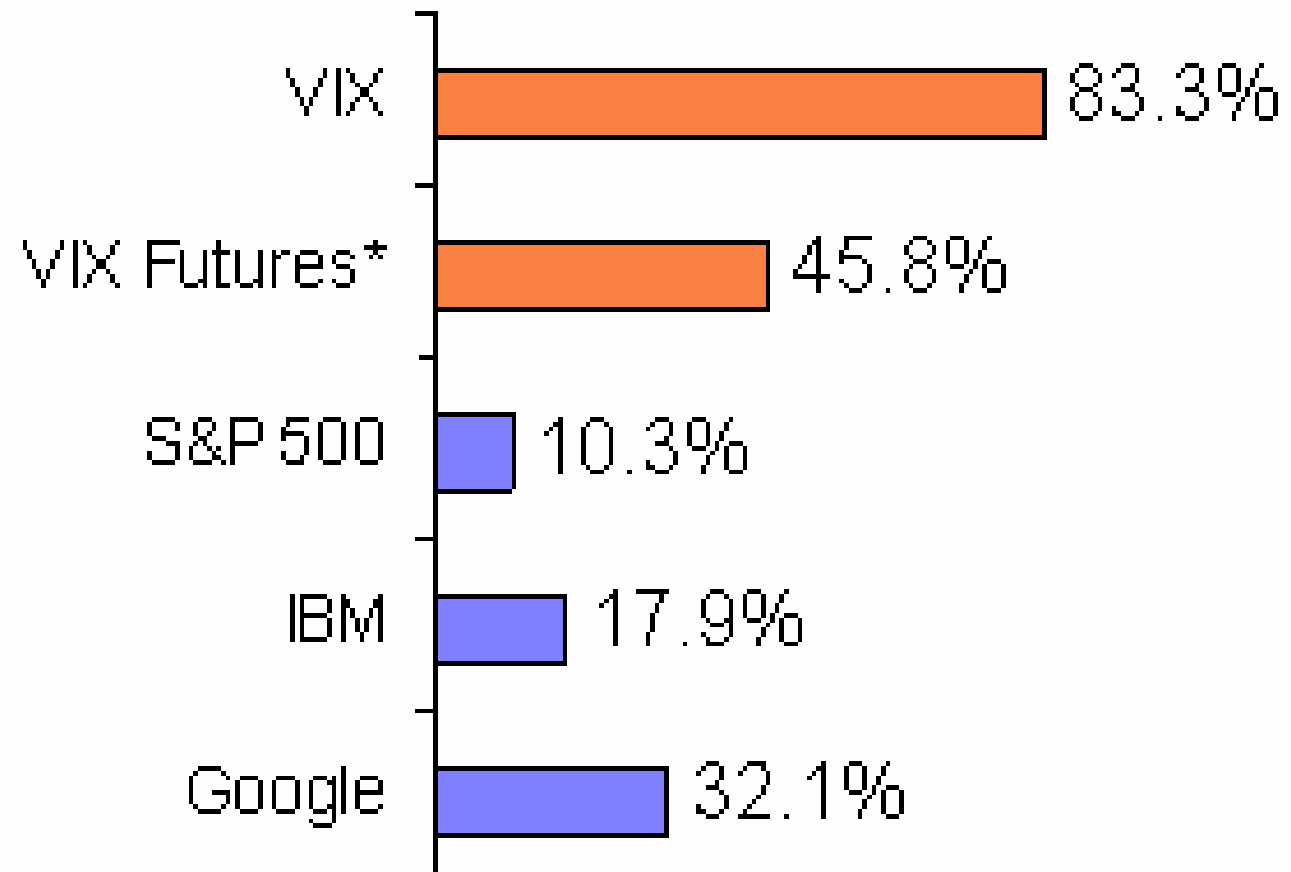
Options as an asset class

VIX

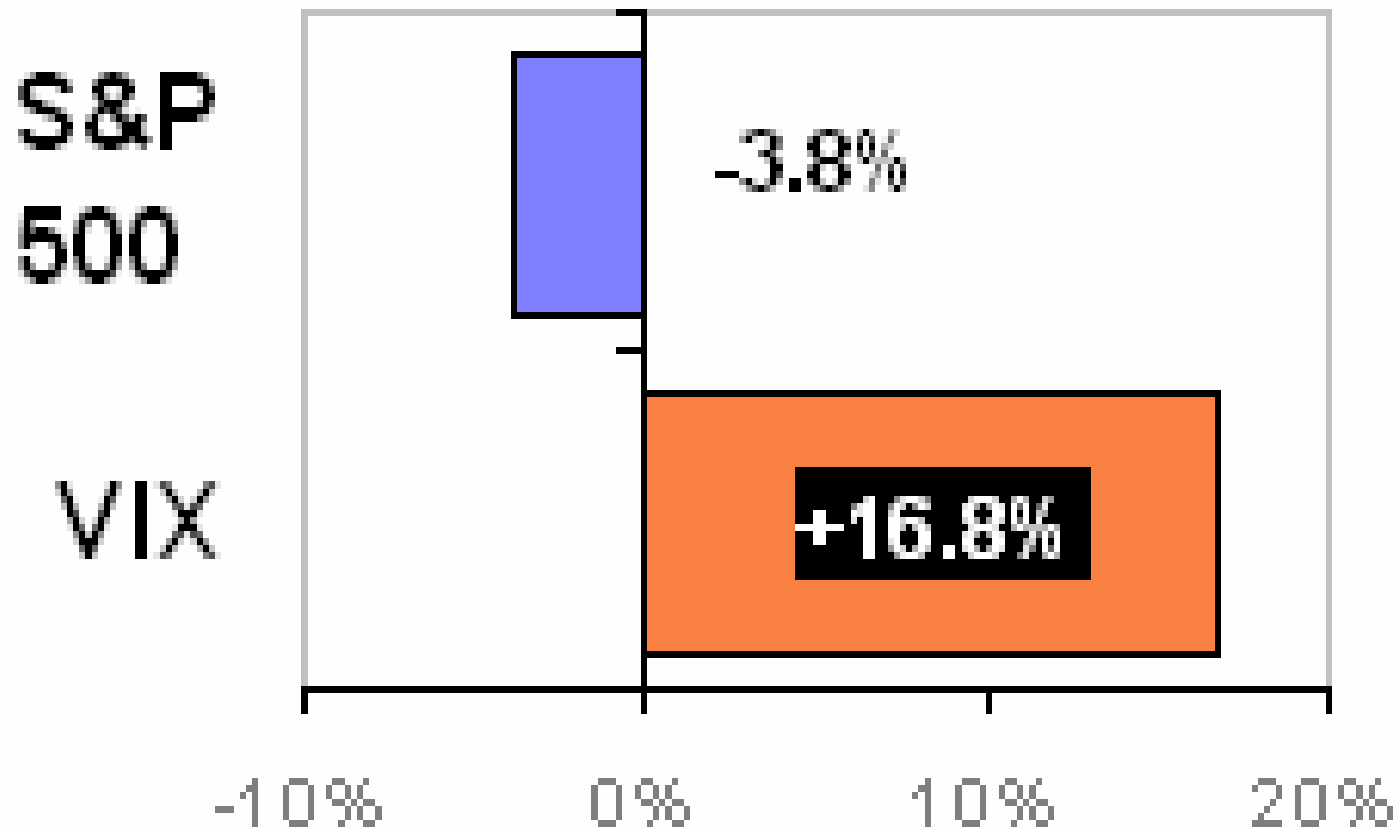
- Barometer of investor sentiment & market volatility
- implied volatility index-measures the market's expectation of 30-day S&P 500® volatility from prices of near-term S&P 500 options
- VIX standard deviation of a rate of return quoted in percentage terms.

Historic Volatilities Based on 2005 Daily Returns

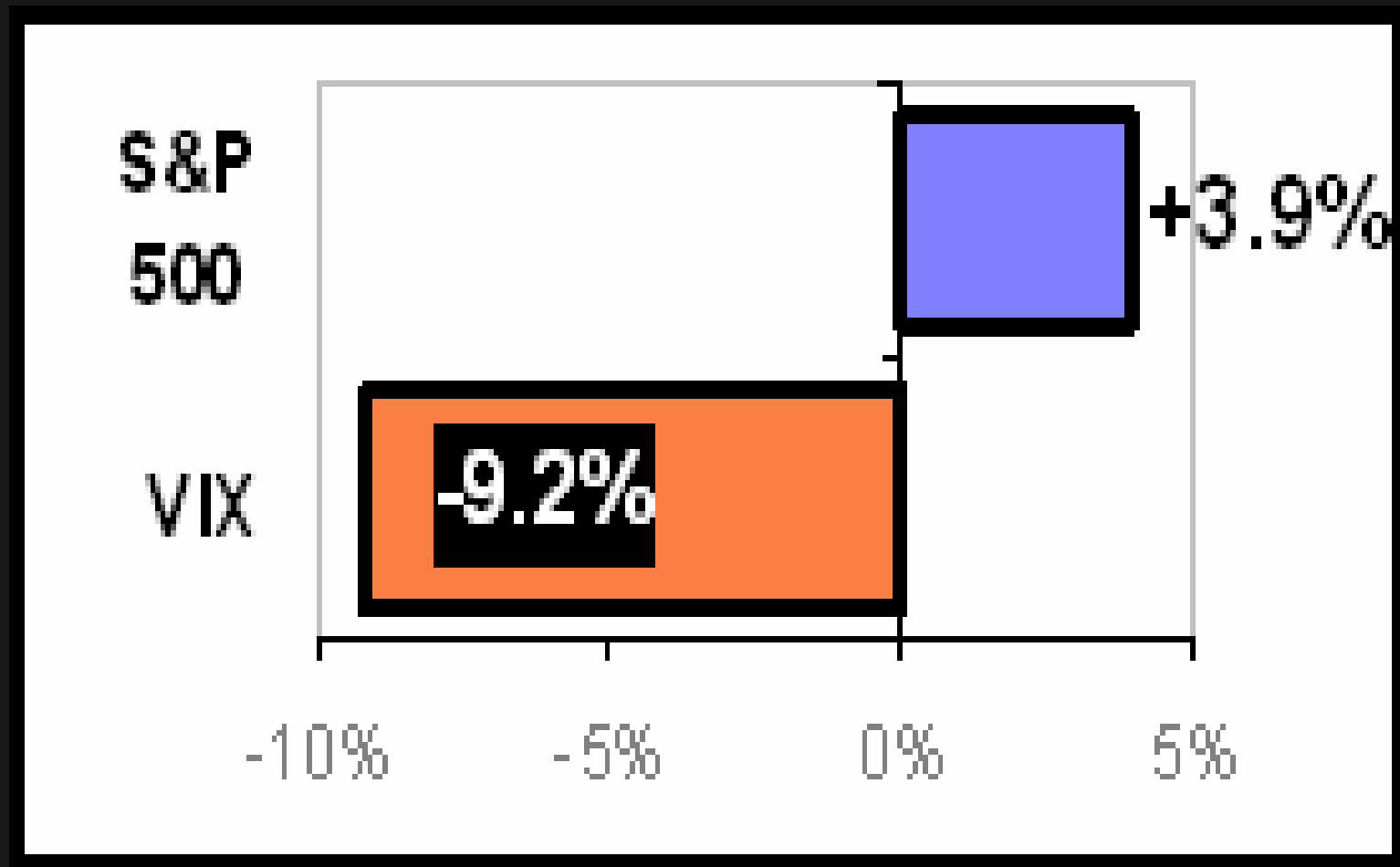
www.cboe.com/micro/vix/vixoptions.aspx



***Avg. Price Change on the 26 Days That The
S&P 500 Fell by 3% or More (1990 -2005)***



Avg. Price Change on the 33 Days when S&P 500 Rose by 3% or More (1990 - 2005)



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Historical and Implied Volatility

Symbol: [Symbol lookup](#) | [Help](#)

	Current	1 WK AGO	52 wk Hi/Date	52 wk Low/Date
HISTORICAL VOLATILITY				
10 days	24.16%	20.19%	28.91% - 09-Aug	4.74% - 08-Feb
20 days	20.26%	18.26%	27.28% - 28-Nov	6.29% - 23-Feb
30 days	18.84%	18.81%	25.19% - 12-Dec	7.11% - 09-May
IMPLIED VOLATILITY				
IV Index call	27.59%	27.65%	29.94% - 22-Jan	8.73% - 16-Feb
IV Index put	27.84%	25.40%	29.36% - 22-Jan	8.26% - 20-Feb
IV Index mean	27.71%	26.53%	29.65% - 22-Jan	8.57% - 16-Feb
HISTORICAL 30-DAYS CORRELATION AGAINST				
30 days	97.48%	97.47%	99.42% - 08-Mar	93.37% - 31-Jan

Price Chart

Volatility Chart

Most Active Series

Last Updated Mon Jan 28 15:42:14 CST 2008

Rank	Option Description	Today's Volume in Contracts
1	QQQNQ FEB 43.00p	67,326
2	XBTOO MAR 67.00p	48,695
3	OZCMN JAN 40.00p	44,259
4	QQQBT FEB 46.00c	41,739
5	QQQNR FEB 44.00p	39,334
6	QQQNP FEB 42.00p	39,207
7	QQQBS FEB 45.00c	39,009
8	DIWNP FEB 68.00p	36,879
9	SFBBG FEB 137.00c	35,451
10	MSQBG FEB 35.00c	33,030

View: 25 Most Active / Puts / Calls

2008 Options Industry Conference

The Striking Price

STRIKING PRICE DAILY: JANUARY 25, 2008
Volatility is a Friend of Interactive Brokers

JANUARY 28, 2008
Liquidity Lost
There are few places for options traders to go when volatility chokes.

ISE Sentiment Index

Time Period: 60 Days

Source: International Securities Exchange

CBOE Volatility Index (VIX)

Source: Volatility.com

CBOE Nasdaq Volatility Index VIXN

Source: Volatility.com



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