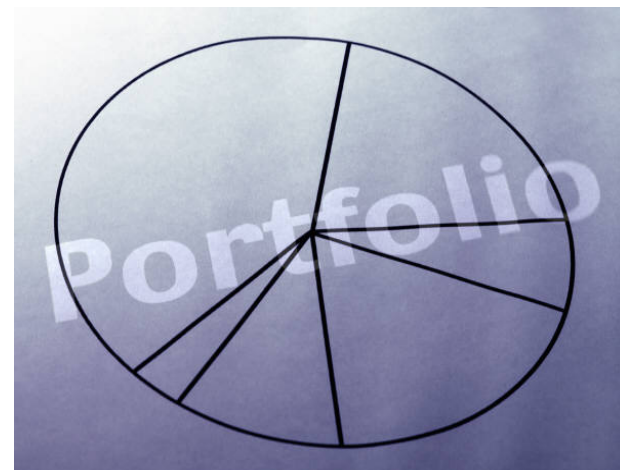




Only the...

PORTFOLIO MATTERS!



A core - satellite investment strategy

Toronto Stock Exchange | TSX Venture Exchange | **Montréal Exchange** | Natural Gas Exchange | Montréal Climate Exchange | Boston Options Exchange

Canadian Derivatives Clearing Corporation | TMX Datalinx | Equicom | PC Bond | Shorcan

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Richard's Excellent Portfolio

October 1992



Stock	Shares	Cost	Outlay
 PHILIP MORRIS INTERNATIONAL	177	\$ 28.25	\$ 5,000
 MERCK <i>Be well</i>	123	\$ 40.65	\$ 5,000
	112	\$ 44.64	\$ 5,000
	606	\$ 8.25	\$ 5,000
Total Portfolio			\$ 20,000



One Year Later!

October 1993



Stock	Cost	Market	Value
 PHILIP MORRIS INTERNATIONAL	\$ 28.25	\$ 15.25	\$ 2,699
 MERCK <i>Be well</i>	\$ 40.50	\$ 23.00	\$ 2,829
	\$ 44.50	\$ 30.75	\$ 3,444
	\$ 8.25	\$ 20.00	\$ 12,120
Total Portfolio			\$ 21,092



Was I Successful?







Croft's Excellent Portfolio	5.46%
S&P 500 Composite Index	14.68%



And now...



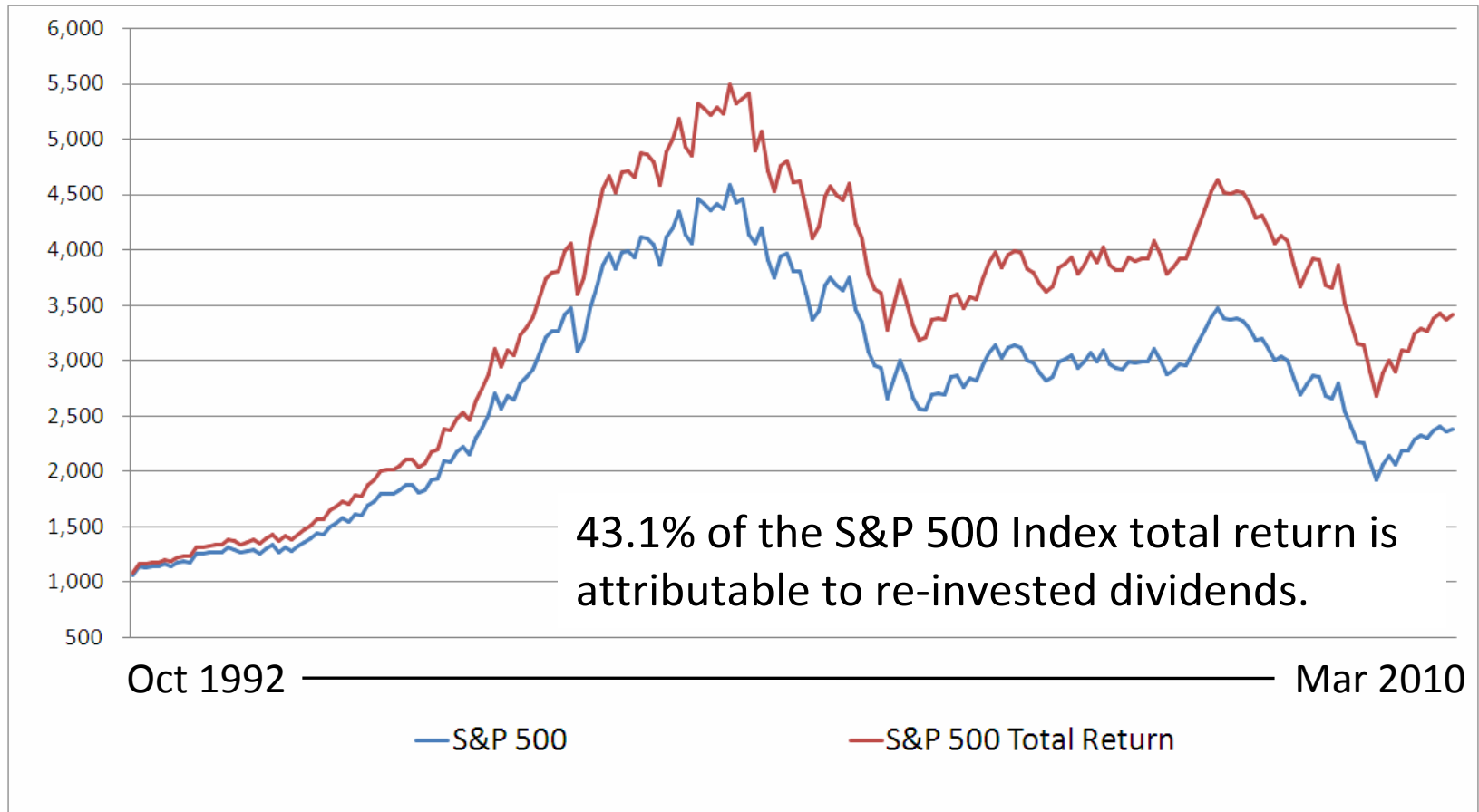
Stock	Cost	Value	Return
 PHILIP MORRIS INTERNATIONAL	\$ 5,000	\$ 15,515	210.30%
 MERCK <i>Be well</i>	\$ 5,000	\$ 8,898	77.96%
	\$ 5,000	\$ 39,442	688.83%
	\$ 5,000	\$ 61,254	1125.08%
Total Portfolio	\$ 20,000	\$ 125,109	525.54%



	Total	Compound
Croft's Excellent Portfolio	525.54%	11.39%
S&P 500 Composite Index	214.88%	6.98%



The Value of Dividends!



How we choose investments



- Loosely defined objectives
 - What we know – the past
 - What we think we know – the present
 - What we will never know – the future
- Short term focus.
 - No defined exit strategy
- Risk is rarely considered and never quantified.
 - Unless it is the result of an emotional response!



The problem is that human nature

Makes risk assessment critical



- Myopic loss aversion
 - The dark side of visibility
- Investors are not risk averse
 - Investors are loss averse
- Investors are reference dependent
 - Anchor theory and House money
- Risk drives too many of our decisions
 - Emergence of “Black Swan” events
- Is there an answer?



The answer is risk management...



- To manage risk you must define short, medium and long term responses before making an investment decision...
- Which includes a set of responses to deal with unexpected events.
- Unfortunately we cannot manage risk if we do not understand it, and more importantly, are unable to quantify it.



Quantifying Risk



- Option pricing models provide a metric for measuring risk.
 - Mathematically, it takes approximately three units of risk for each unit of return.
- Option premiums are calculated using a volatility (i.e. risk) input.
 - Understanding volatility is as important to an options trader as earnings are to a securities analyst.



The Option Strategy Matrix



	CALL	PUT	
B U Y E R	The right (but not the obligation) to buy	The right (but not the obligation) to sell	STRADDLES OR STRANGLES
S E L L E R	The potential obligation to sell SPREADS	The potential obligation to buy SPREADS	



Option Pricing Models

Black-Scholes Formula

$$C(S, E, t, r, \sigma) = e^{-\delta t} S N(d_1) - E e^{-rt} N(d_2)$$

Where:

$$d_1 = [\ln(S/E) + (r - \delta + \sigma^2/2) t] / \sigma \sqrt{t}$$

$$d_2 = d_1 - \sigma \sqrt{t}$$



Options Are Like Insurance



Insurance Agent

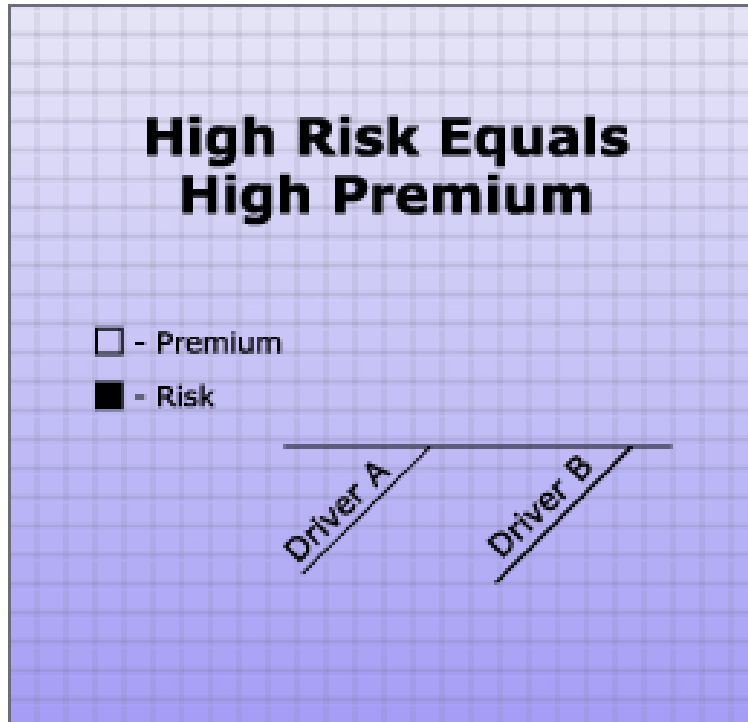
- Value of car
- Deductible
- Time span of policy
- Interest Rates
- Risk

Options Trader

- Stock price
- Strike price
- Time to expiration
- Cost of money
- Volatility



Pricing Similarities



Source: CBOE



Impact Of Volatility



The Option Pricing Formula

Stock Price	100	100
Strike Price	100	100
Days to Expiration	178	178
Quarterly Dividend	0.25	0.25
Annual Interest Rate	3%	3%
Volatility	15%	34%
Call Price	\$ 4.47	\$ 9.44
Put Price	\$ 3.86	\$ 8.22



Let's Play Football...



- Pittsburgh Steelers Record: 11 – 0
- Detroit Lions Record: 1 – 10
- Playing at Pittsburgh
- Who will win the game?



The Implied Trading Range



The Option Pricing Formula

April 9-2010

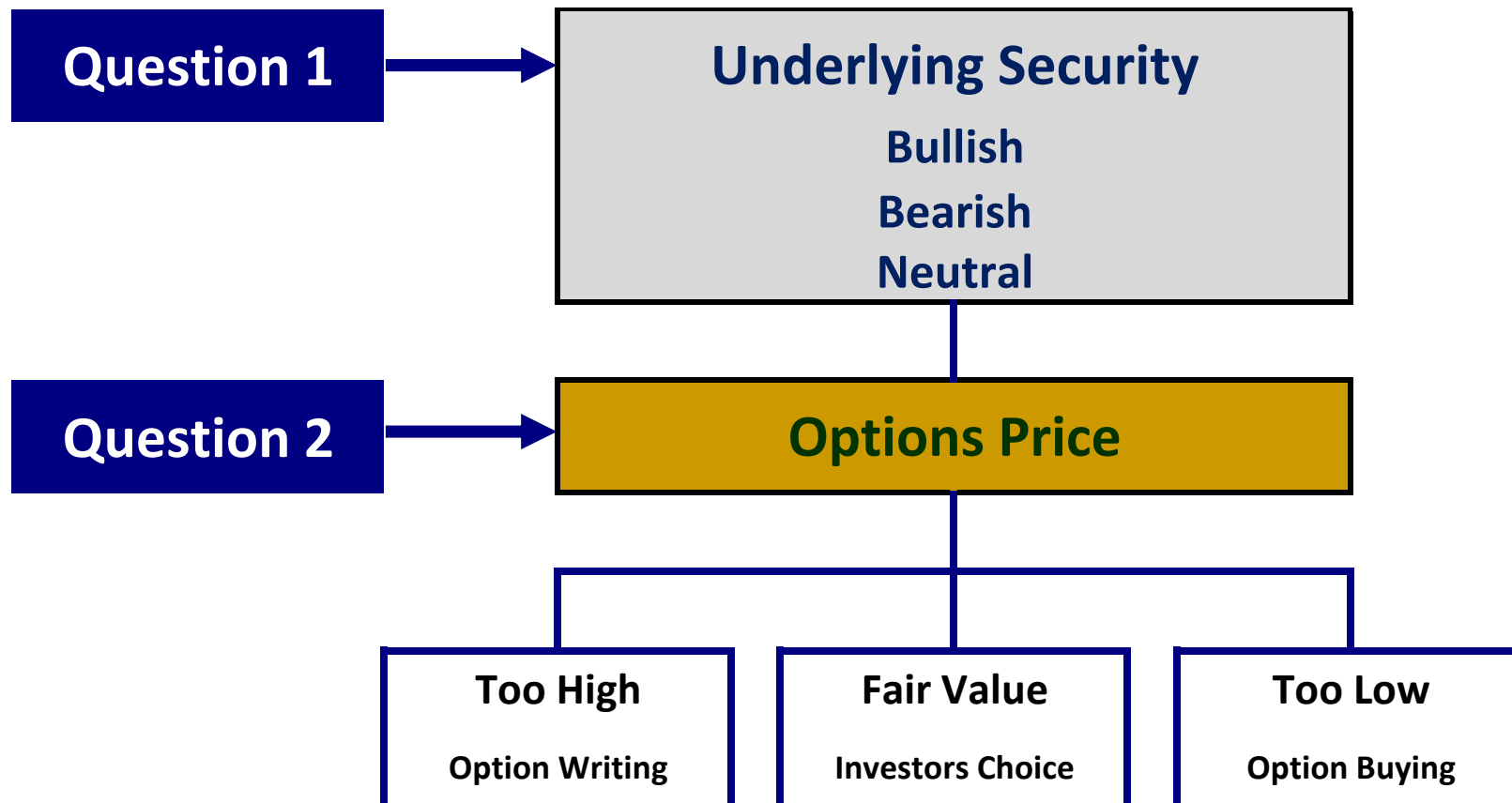
Canadian Imperial Bank of Commerce			\$	73.49
CIBC January	74.00	call		3.75
CIBC January	74.00	put		6.50

Implied Trading Range

Upper Trading Band	74.00	+	10.25	=	84.25
Lower Trading Band	74.00	-	10.25	=	63.75



Applying the right strategy



A Real Life Example

September 1987...

- ▶ General Motors @ \$83.50
GM November 85 calls \$1.750

October 19, 1987...

- ▶ General Motors @ \$57.00
GM November 85 calls \$1.375

October 20, 1987...

- ▶ General Motors @ \$72.00
GM November 85 calls \$0.875



Are Markets Efficient?



Implied Trading Range

April 8-2010

iShares CDN S&P/TSX Large Cap Index Fund	\$	17.69
iShares Fund May 17.50 call		0.50
iShares Fund May 17.50 put		0.32

Implied Trading Range S&P / TSX Large Cap Fund

Upper Trading Band	17.50	+	0.82	=	18.32
Lower Trading Band	17.50	-	0.82	=	16.68

Implied Trading Range TSX Composite Index

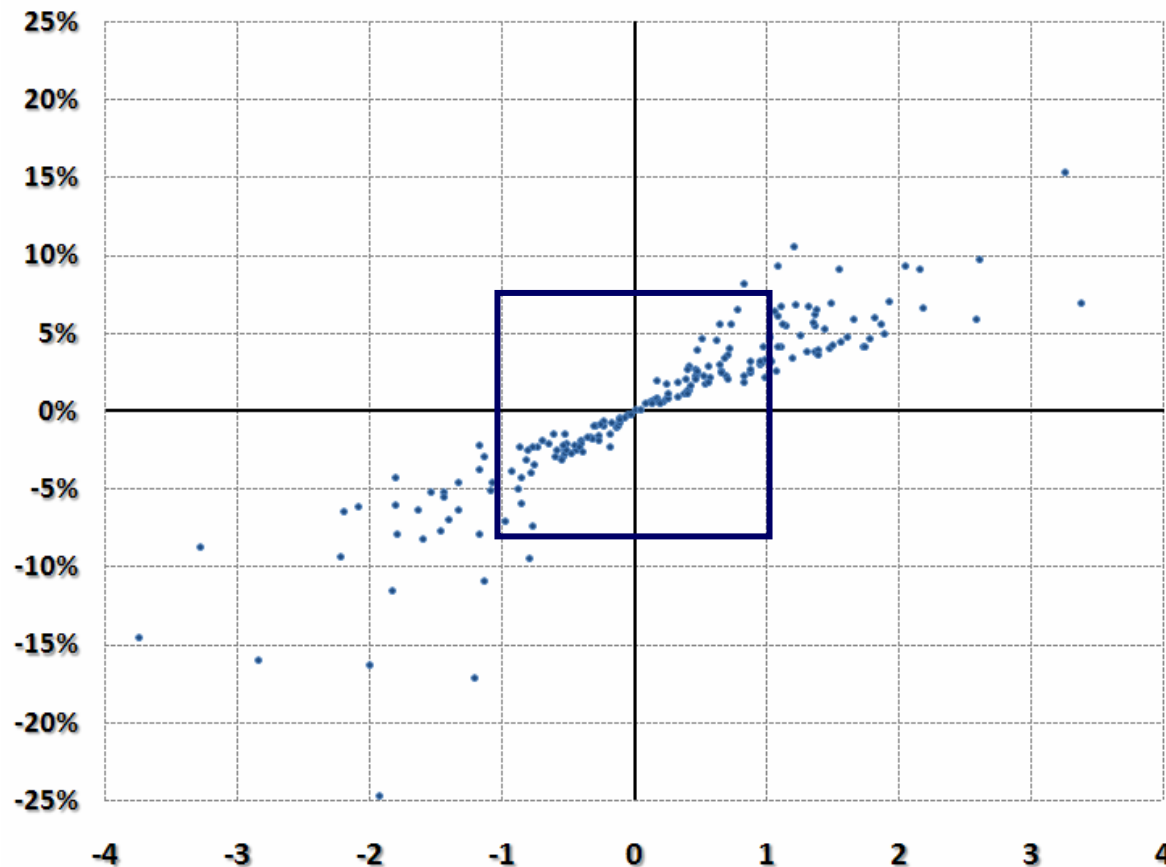
Upper Trading Band	11,778	+	552	=	12,329
Lower Trading Band	11,778	-	552	=	11,226



Testing the theory

Longer term trends seem to support efficient market hypothesis

TSX Composite Index - Monthly Returns 1993 to 2010



Monthly option premium matched or exceeded the return of the underlying index 60.31% of the time based on 194 monthly data points from Feb 1993 to Feb 2010.



But, shorter term...

movements are random and unpredictable



Looking at shorter time horizons, the arguments are less clear. Based on 3881 daily observations option premiums matched or exceeded the trading range of the underlying index only 32.41% of the time.



Short Term Random Behavior



Implied Trading Range S&P / TSX Large Cap Fund

Upper Trading Band	17.50	+	0.82	=	18.32
Lower Trading Band	17.50	-	0.82	=	16.68

In essence this is telling us that in the majority of instances, there will be a point during a 30 day straddle where the buyer will be in a profitable position.



What does this tell us...

Longer term, the stock market is efficient?



- That current market values reflect an unbiased view based on all known available information.
- Short term market fluctuations are random and unpredictable.
- Markets tend to overshoot up or down in the medium term.
- A stock's current value is the markets best guess as to its long term return potential.



The Options Market Is Efficient



- Current option values reflect an unbiased view based on all known available information.
- Options value risk, referred to as implied volatility.
- Short term fluctuations in volatility are random and unpredictable.
- An options price is the markets best guess at quantifying short and medium term risk.



Strategies for an efficient market

In our search for alpha!



- Covered call writing
- Short term straddle buys
- Double up double down
- Calendar spreads



Covered Call Writing

Buying into the concept of efficient markets



- Establish a price at which you are willing to sell the stock
- Reduce your risk (i.e. downside price) by the premium received
- Create tax advantaged cash flow
 - Premium is taxed as a capital gain
- The downside; you end up losing your best performing stocks while retaining the dogs.



Covered Writing

Works better in certain sectors



Implied Volatility: ~30%

Trade Date: April 8-2010

				<u>Units</u>	<u>Price</u>	<u>Totals</u>
Buy	Barrick Gold			1,000	41.20	41,200.00
Sell	ABX	October	42.00 calls	1,000	3.15	(3,150.00)
	Per Share Dividend			0.10		
	Number of Dividend Payments			2		

The Outcome as of October 2010

Share Price Above	\$ 42.00	10.96% *	21.17% **
Share price unchanged	\$ 41.20	8.85% *	17.09% **
Downside Break Even	\$ 37.85	8.13%	

* Actual Return over time period

** Annualized return



Three Out Of Four Ain't bad!



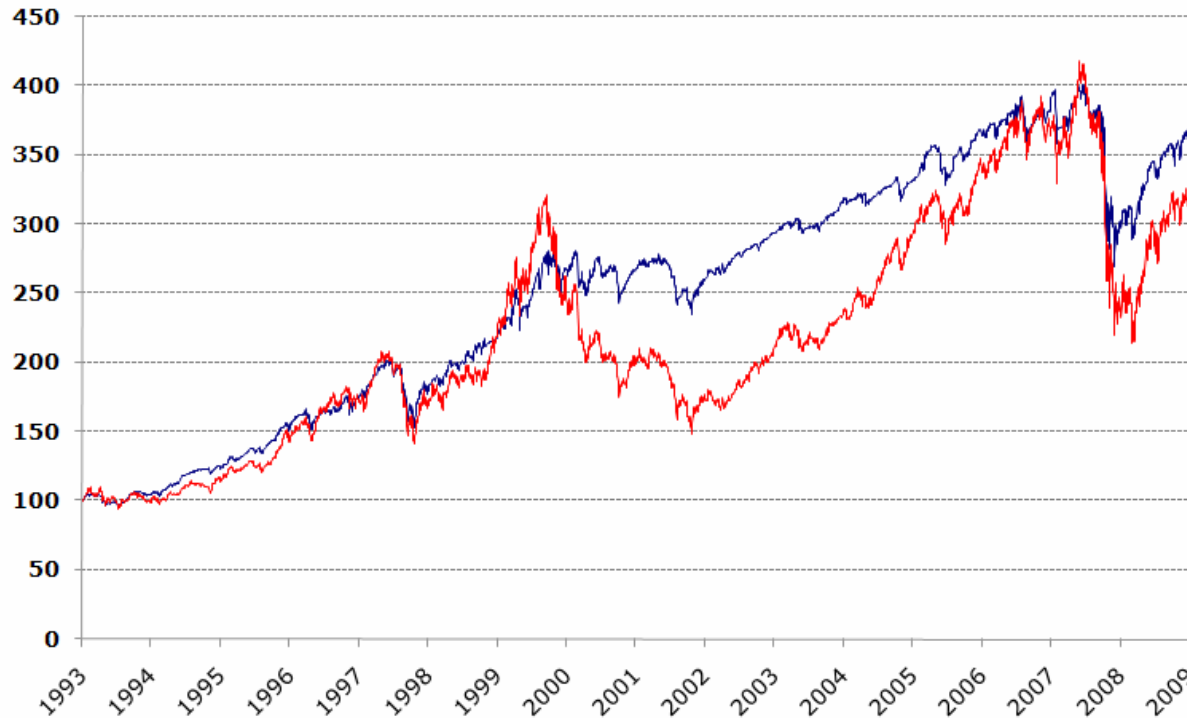
- Covered option writing outperforms if
 - Markets decline (you will lose less)
 - Markets are stable
 - Markets rise slightly
- The strategy underperforms if
 - Markets rise quickly and significantly



Covered writing generates Alpha!



Mx Covered Call Writers Index



Compound Return

Option Writing: 8.50%

S&P TSX 60: 7.52%

Standard Deviation

Option Writing: 13.05%

S&P TSX 60: 19.20%

MX Covered Option Writing Index



iShares Cdn Large Cap 60 Index Fund



Straddle Buying



- Check volatility levels.
 - Mx Volatility Index for Canadian equity.
 - VIX for US equity
- Buy an at-the-money call plus an at-the-money put (i.e. same strike price) with a minimum of one month to expiry.
- Look for an opportunity to exit the position at some point prior to maturity.



Straddle Buy Example



Straddle Buy Example *

April 8-2010

Canadian Natural Resources				\$	78.00
Buy CNQ May	78.00	call			3.60
Buy CNQ May	78.00	put			1.60
* Example only, not a recommendation			Total Cost	\$	5.20

Straddle Profit Zone

Upper Trading Band	78.00	+	5.20	=	83.20
Lower Trading Band	78.00	-	5.20	=	72.80

Maximum Risk \$ **5.20** at \$ **78.00**



Double Up Double Down

Dollar cost averaging your portfolio



- The strategy involves buying the underlying shares.
- We then sell a close to the money call and a close to the money put.
- The call obligates us to sell the shares we own at the strike price of the option. In this scenario, the put expires worthless.
- The put requires us to buy additional shares at the strike price of the option. In this scenario, the call expires worthless.



A defined set of responses



Trade Date: April 9-2010

				<u>Units</u>	<u>Price</u>	<u>Totals</u>	
Buy	Research in Motion			100	70.19	7,019	
Sell	RIM	September	70.00	Calls	1	6.55	(655)
Sell	RIM	September	70.00	Puts	1	6.00	(600)
					Cost of shares	7,019	
	Less	Call Premium received				(655)	
	Less	Put Premium received				(600)	
	Equals	Net out of pocket				5,764	



Rim Rises



Call option (obligation to sell RIM at \$70) is exercised

Put option (obligation to buy RIM at \$70) expires worthless

Received from sale	7,000
Six month % Return *	10.72%

* Assumes that you set aside in cash, sufficient capital to meet the put obligation



RIM Declines



Short put requires that you buy additional 100 shares RIM at \$70

Cost of Initial shares	(accounting for premium received, ex dividends)	5,764
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Plus	Additional Purchase	(Put Obligation)	7,000
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Equals	Total capital outlay	12,764
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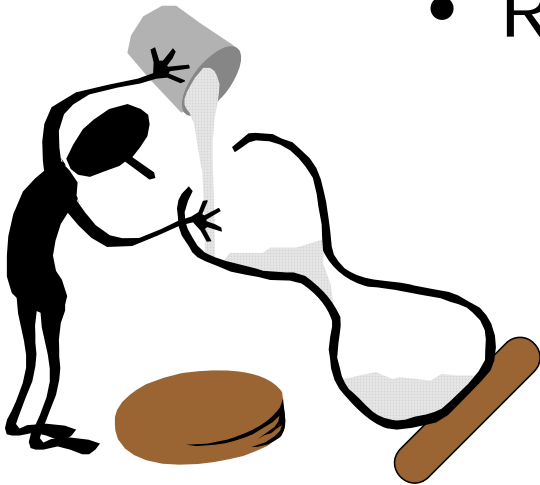
Divided By	Total shares	200
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Equals	Average cost per share	\$ 63.82
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The Calendar (time) Spread

Also known as the event spread



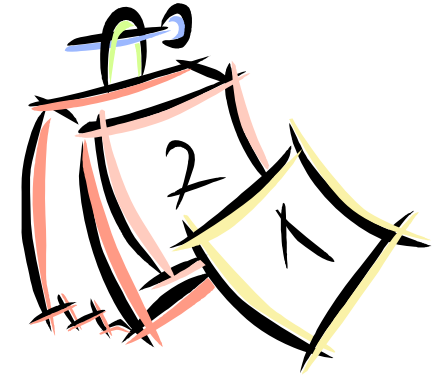
- Rarely used... often profitable
- Puts time is on your side!
- Look for an edge!



The Strategy



- Buy a longer term call
- Sell a shorter term call with the same strike price
- Net debit is maximum risk



The Edge

Look for a short term option that is trading at a higher implied volatility than the longer term option.



An Event Spread Example



Trade Date: July 14

XYZ @ \$83			IV
July	85 calls	1.500	78%
August	85 calls	3.375	42%
October	85 calls	5.750	38%

Sell July 85 calls, buy October 85 calls

July 17, stock closed at \$83.125

October 85 calls closed at \$5.75 (26% profit)





Questions

