

4 T H A N N U A L

# Innovative **ALTERNATIVE** **INVESTMENT STRATEGIES**

## **Tail Risk Management: Using Tactical Strategies to Capture Trends**

### MODERATOR

**Dave Schulz, CFA**

President

*Convergence Investment Partners*

### PANELISTS

**Dr. Thomas Howard, Ph.D**

Co-Founder and CIO

*AthenaInvest*

**Richard Weed, CFA**

Managing Director

*F-Squared Alternative Investments*

**Dominick Paoloni, CIMA®**

CIO and Founder

*IPS Strategic Capital*



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# Innovative **ALTERNATIVE** **INVESTMENT STRATEGIES**

## **Behavioral Portfolio Management** **Tail Risk Management**

### **C. Thomas Howard, PhD**

**Emeritus Professor of Finance**  
**Daniels College of Business**

**CEO and Director of Research**  
**AthenaInvest, Inc**

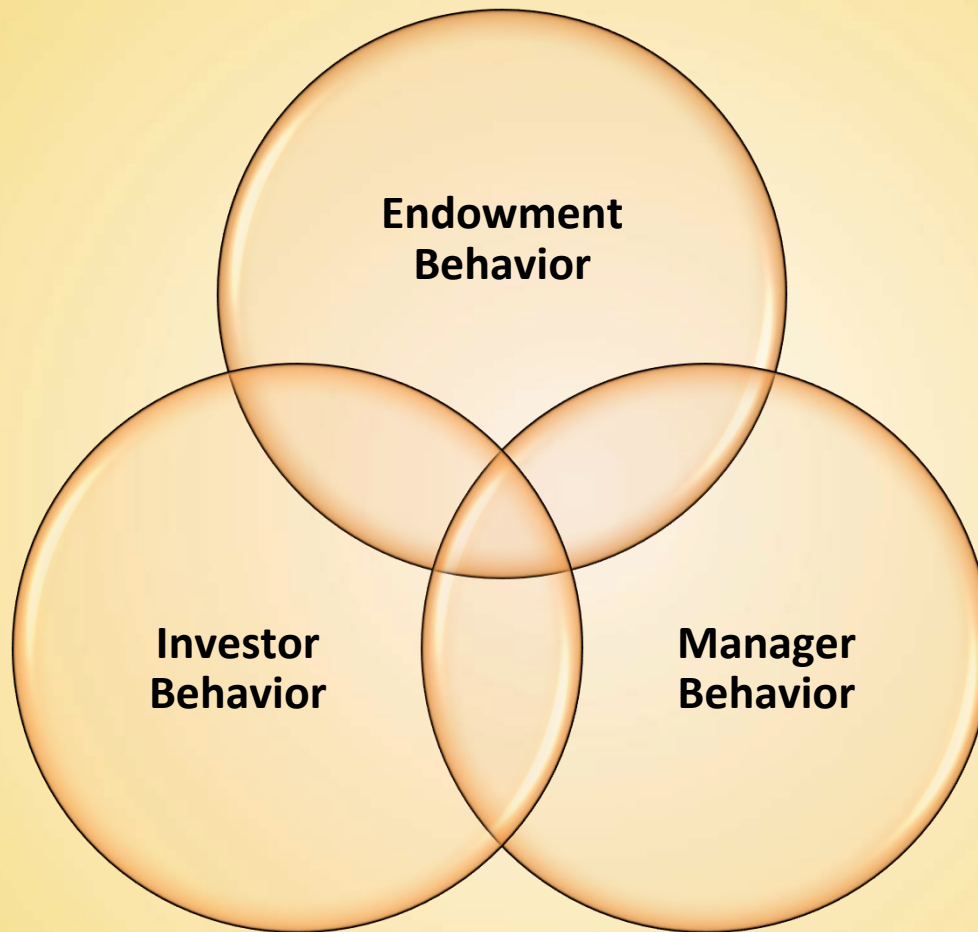
**Portfolio Manager**  
**AdvisorShares Athena International Bear ETF (HDGI: NYSE arca)**



# Three Eras of Finance

<b>Fundamental 1934-1973</b>	<b>MPT 1974-2013</b>	<b>Behavioral 2014</b>
Graham & Dodd Market	Efficient Market	Behavioral Market
Analyst & Manager Skill	Engineered Solutions Formulas	Harnessing Market Emotions
Fundamental Intrinsic Value	Mathematical Models	Behavioral Factors

# Athena Behavioral Research



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*Private*  
Wealth

# Tail Risk Management Strategies

- ✓ **Asset Allocation**
  - ✓ **Separate Short & Long**
  - ✓ **Endowment Model**
  
- ✓ **Investment Selection**
  - ✓ **Active Management**
  - ✓ **Hedging**
  
- ✓ **Tactical Management**
  - ✓ **Defensive**
  - ✓ **Opportunistic**

**At  
What  
Cost ?**

# Traditional Approaches **Are Not Working**

## 60/40

- Multiple Objectives
- High Correlations
- Low Bond Yields

## Style Boxes

- Hurts Performance
- Highly Correlated

## Complex

- Over-diversified
- Global Mush
- Weak Performance
- High Cost



■ Equity ■ Bonds

	Value	Core	Growth
Large			
Mid			
Small			

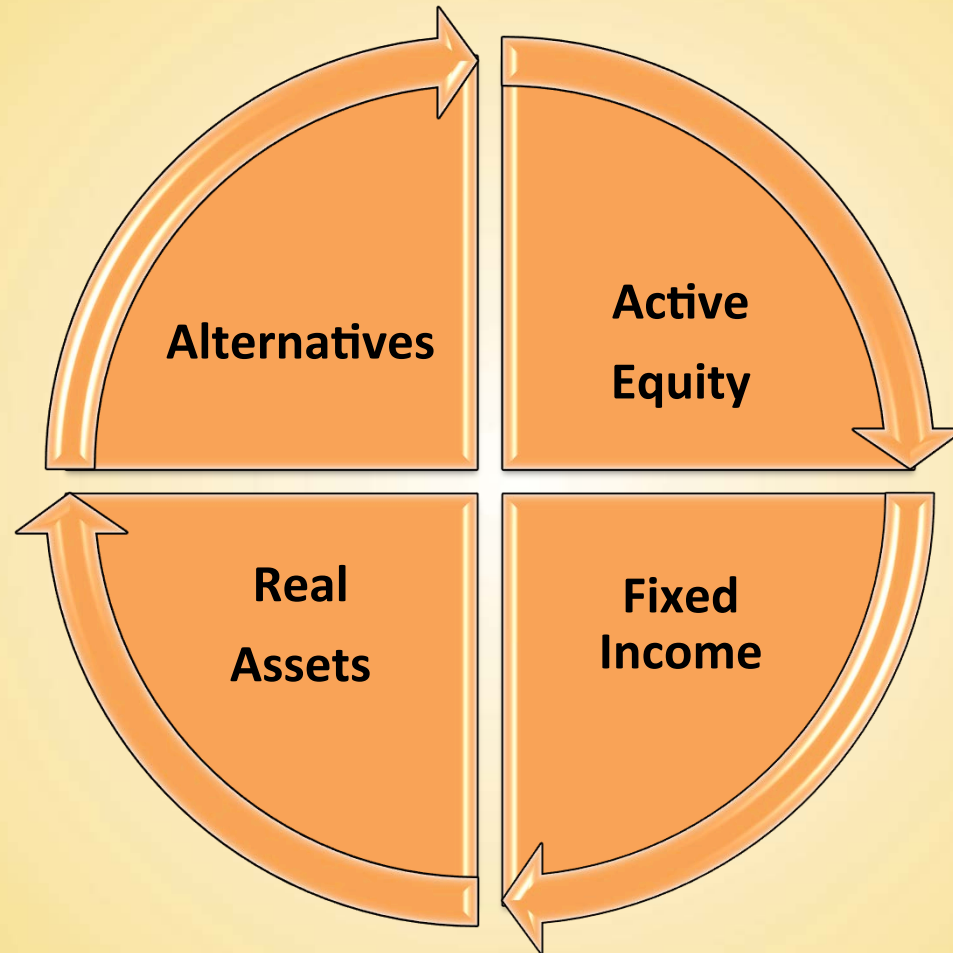


- Cash
- Bonds
- Small Cap Value
- Small Cap Growth
- Large Cap Value
- Large Cap Growth
- Emerging
- Developed
- Real Estate
- Commodities
- Natural Resources
- Hedge Funds

# Endowment Framework

Component	Point of View
Goals & Needs	Separate Short & Long
Time Horizon	10-20-30+ Years
Asset Class	Expected Returns
Investment Selection	Excess Returns
Investment Risk	Underperformance

# Endowment Allocation Components

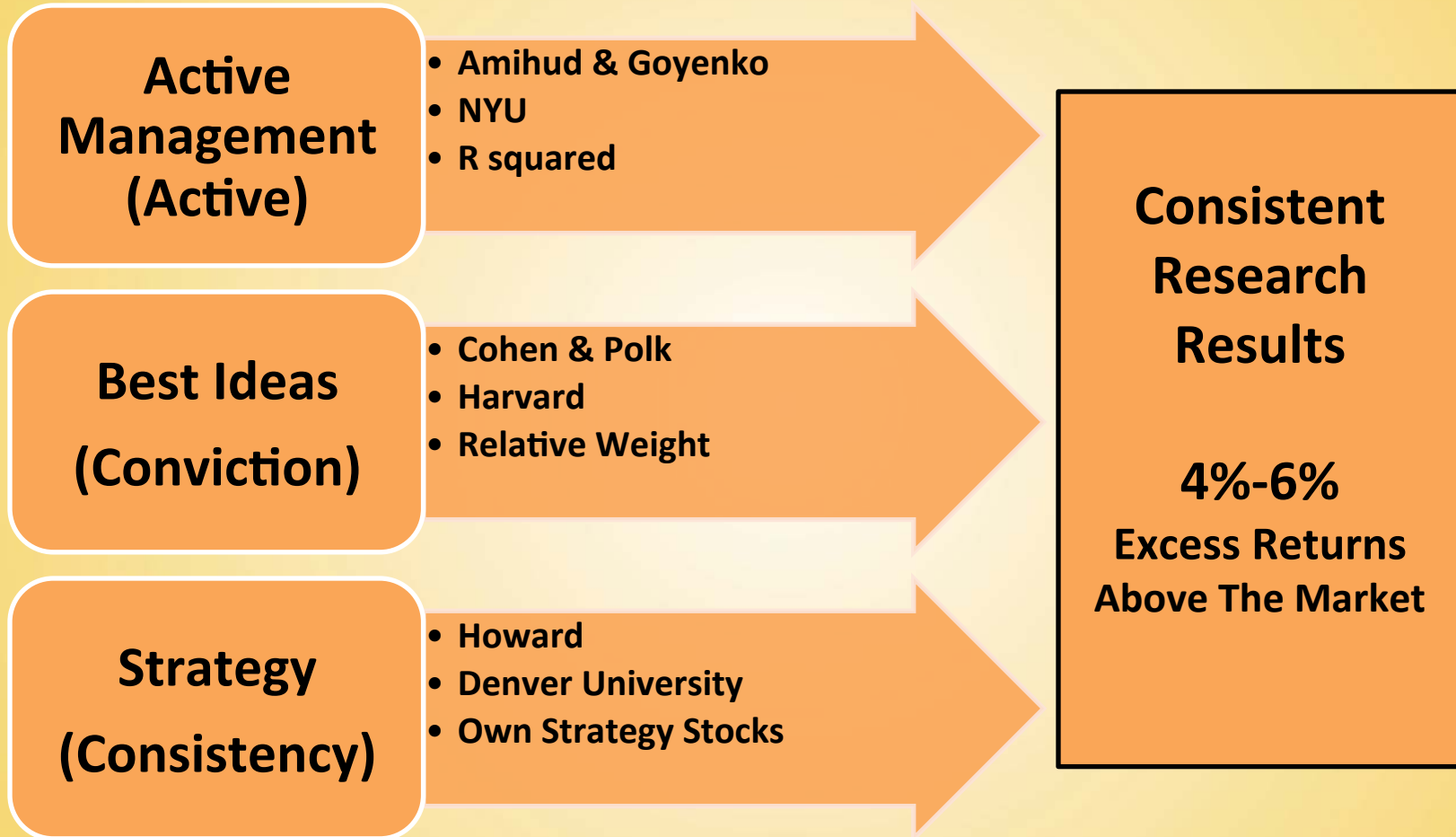


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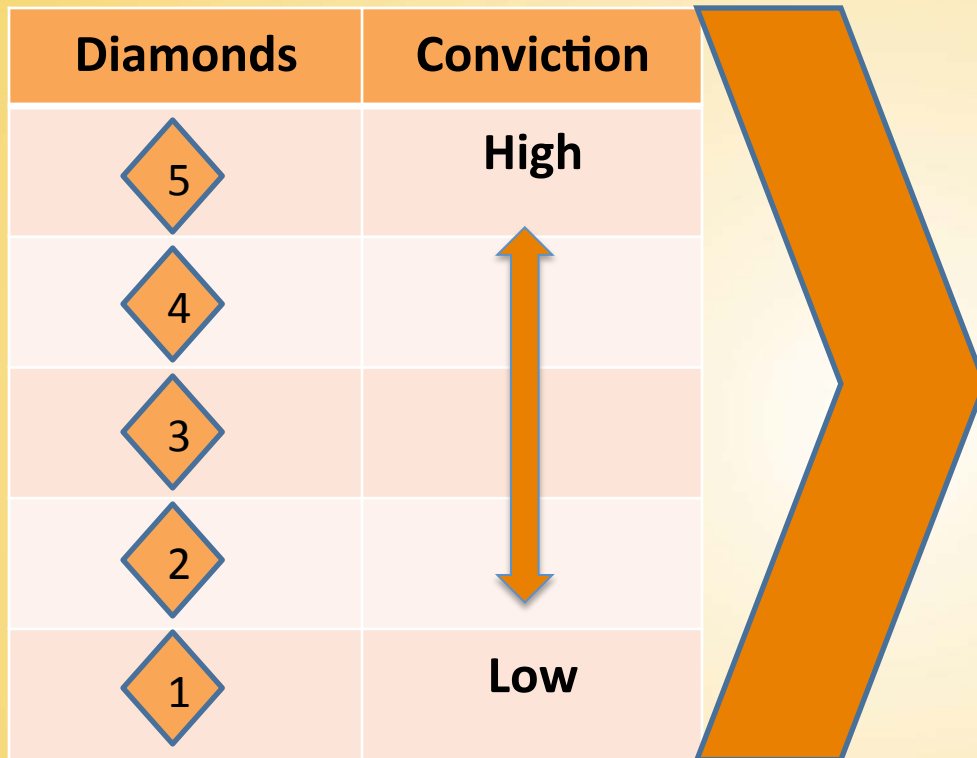




# Academic Research Foundation



# Active Management Behavioral Spread



**400-600bps  
Spread Between  
Highest and Lowest  
Conviction Managers**

**Advisor Perspectives - Tom Howard**

“Improving on Morningstars Ratings” June 22, 2010, “

“Using Buy Side Analytics to Improve Stock Selection” November 16, 2010

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# Tactical Model Behavioral Components

**Athena Market  
Barometer**

**Investor Relative Preference  
for US & International Strategies**

**Baker and Wurgler  
Sentiment Index**

**Investor Sentiment  
for Small & Large stocks**

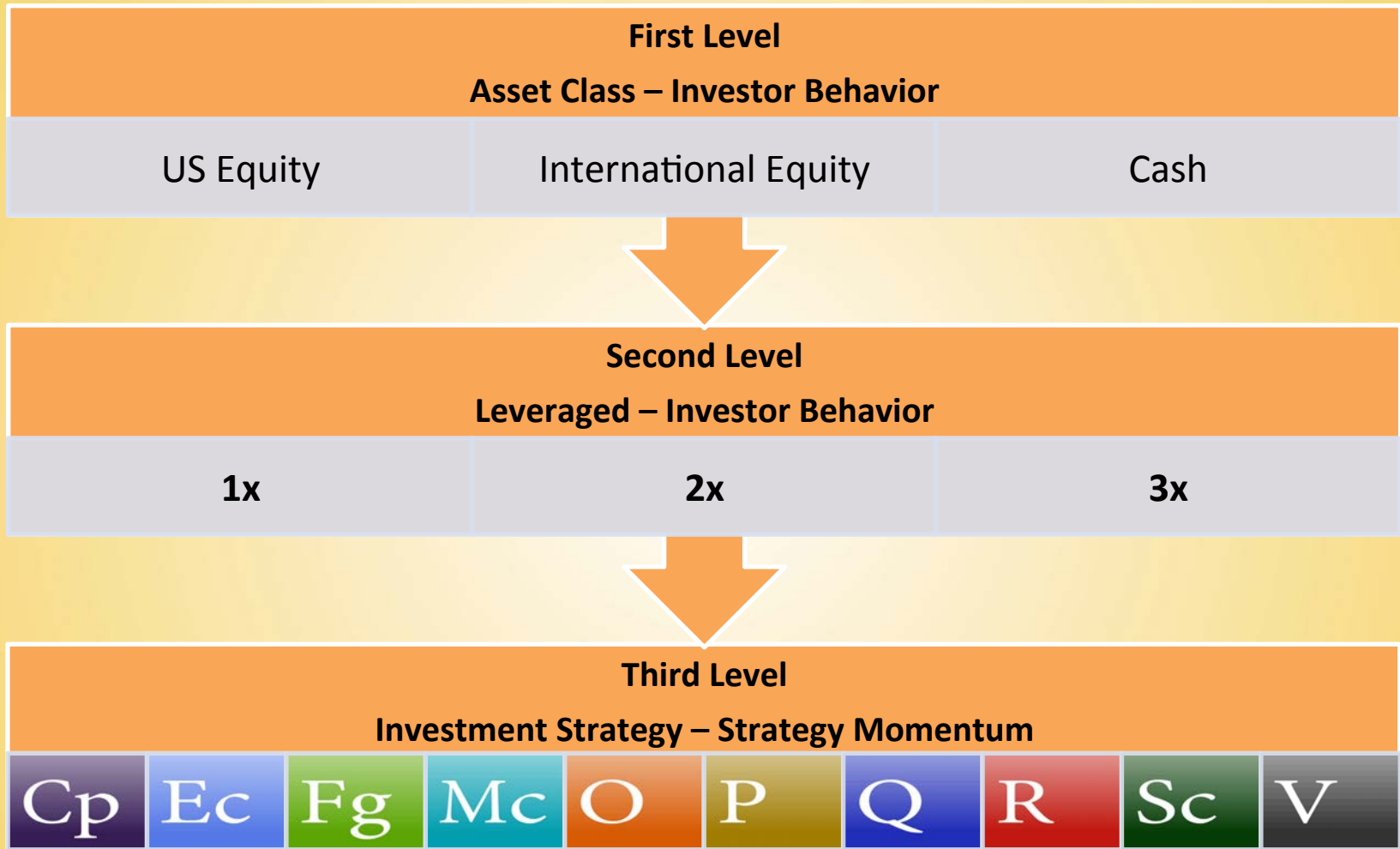
**Expected Returns  
Signal Strength**

**Market  
Selection**

**Strategy  
Momentum**

**Strategy  
Selection**

# Tactical Allocation Process



# Summary Model Characteristics

	Index MSCI ACWI	Endowment Allocation	Tactical Allocation	Best Ideas Hedged	Tactical Leveraged
Annual Return	7.6%	9.8%	9.9%	11.6%	21.3%
Standard Deviation	16.5%	11.6%	14.0%	16.5%	24.0%
R Squared	.92	.82	.82	.64	.42
Beta	1.09	.73	.87	.68	1.07
Up Side	108	88	103	94	171
Down Side	108	68	89	78	116

Results are based on the 10yr time period June 2003 through June 2013. Endowment results are based on AthenaInvest Moderate Wealthbuilder. The Best idea hedge is 75% international DR5 stocks minus 25% DR1 stocks. The Tactical allocation is based on the Athena Strategy Market Barometers and Capital Barometer and trades across US large and small stocks, International stocks, and T-bills. Tactical Leveraged uses the same methodology, but takes leverage positions when a Barometer registers a strong reading. R-squared, beta, up side, and down side based on S&P 500 total return index. For more details, visit [AthenaInvest.com](http://AthenaInvest.com).

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# Important Information

- **The figures shown are past results.** Past performance does not guarantee future results. There are risks involved with mutual fund and stock investing, including the risk of loss of principal. There is no assurance that the investment process will consistently lead to successful results. Investing in securities involves inherent risks, including the risk that you can lose the value of your investment.
- The unmanaged Standard & Poor's (S&P) 500 Index is a market value-weighted index of large-cap common stocks considered representative of the broad market. Total returns for the unmanaged index include the reinvestment of dividends and capital gain distributions but do not reflect the costs of managing a mutual fund.
- The Strategy Based Investing methodology is based on the concept of constructing portfolios along the strategy dimension. This entire system also looks at managers this way, assembling peer groups, allocates among them, and analyzes the sources of alpha as a result. This methodology is patented.
- Opinions and forecasts regarding industries, companies, countries and/or themes, and portfolio composition and holdings, are all subject to change at any time, based on market and other conditions, and should not be construed as a recommendation of any specific security.
- Expressed in percentage terms, Thomson's calculation of total return is determined each month by taking the change in monthly net asset value, reinvesting all income and capital-gains distributions during that month, and dividing by the starting NAV. Reinvestments are made using the actual reinvestment, and daily payoffs are reinvested monthly. Thomson does not adjust total returns for sales charges (such as front-end, deferred or redemption fees). The total returns do account for management, administrative and 12b-1 fees and other costs automatically taken out of fund assets.
- There are risks involved with mutual fund and stock investing, including the risk of loss of principal. There is no assurance that the investment process will consistently lead to successful results. Investing in securities involves inherent risks, including the risk that you can lose the value of your investment. Past performance is not indicative of future results. Investing may not be appropriate for all individuals, always consult a qualified professional prior to making any investment decision.
- You should consider the investment objectives, risks, charges, and expenses of mutual funds carefully before investing. The prospectus contains this and other information, and may be obtained from AthenaInvest at 877-430-5675. Be sure to read the prospectus carefully before investing.
- For more information please visit us on the web at [www.Athenainvest.com](http://www.Athenainvest.com).
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MANAGING DOWNSIDE RISK USING TREND FOLLOWING STRATEGIES

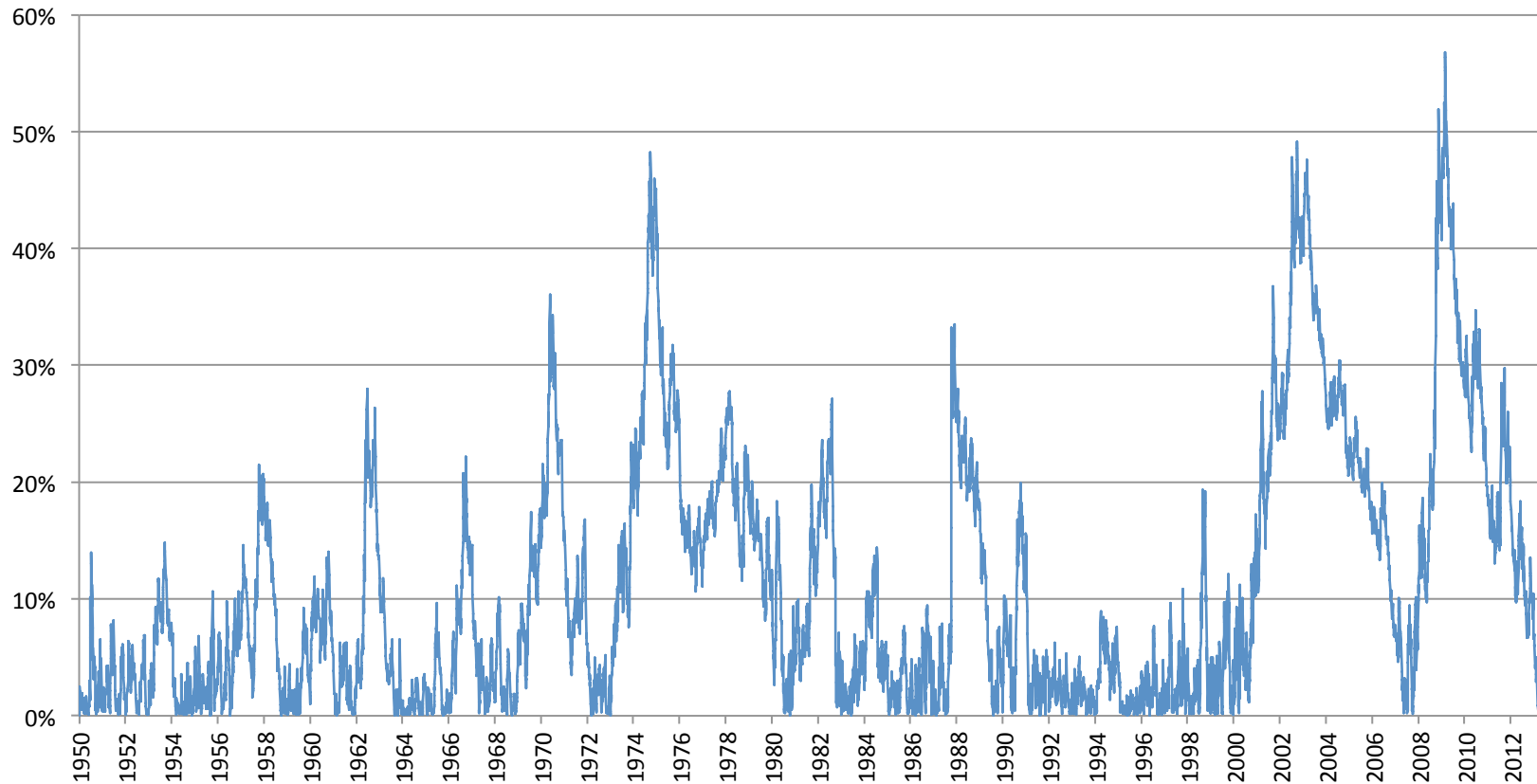
July 2013

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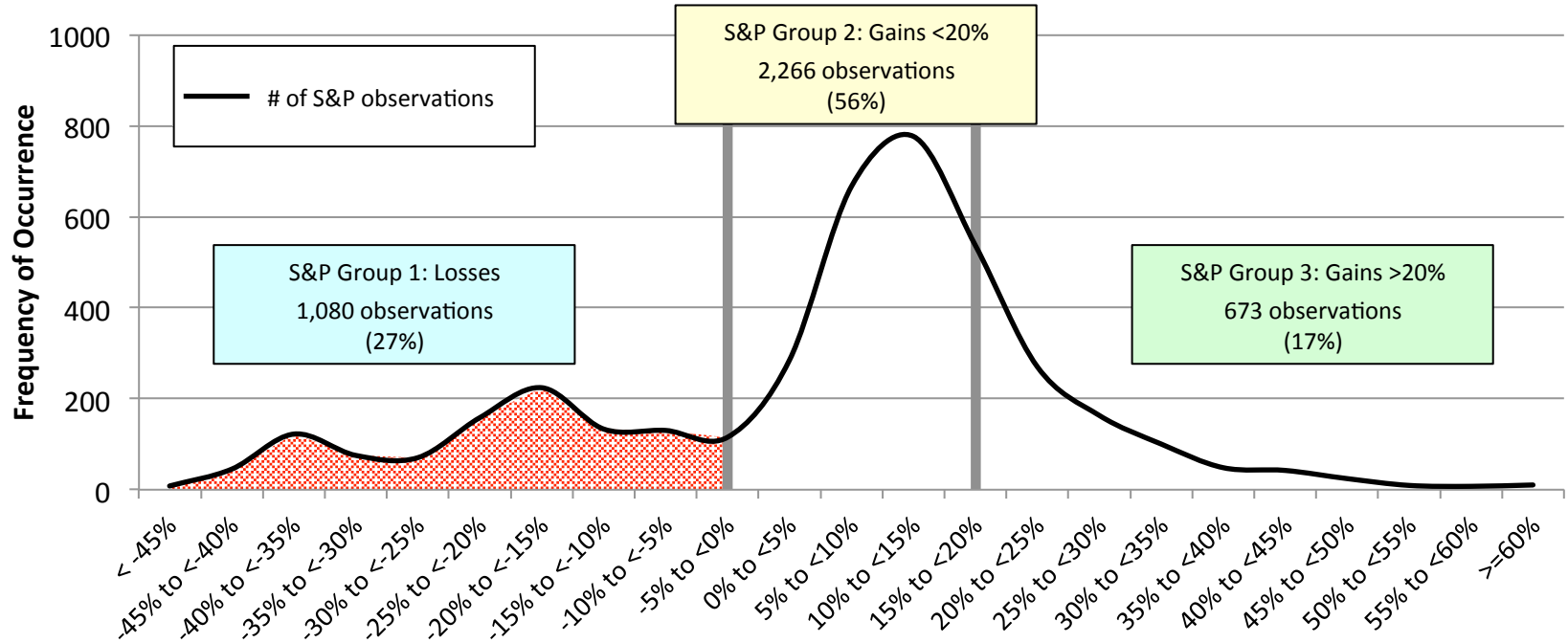
# Drawdowns occur with amazing regularity

## Magnitude of S&P500 drawdowns since 1950\*



# Rolling one year returns for the S&P 500: Key insight to distribution of its historical performance<sup>1</sup>

## Distribution of Rolling One Year Returns - S&P 500



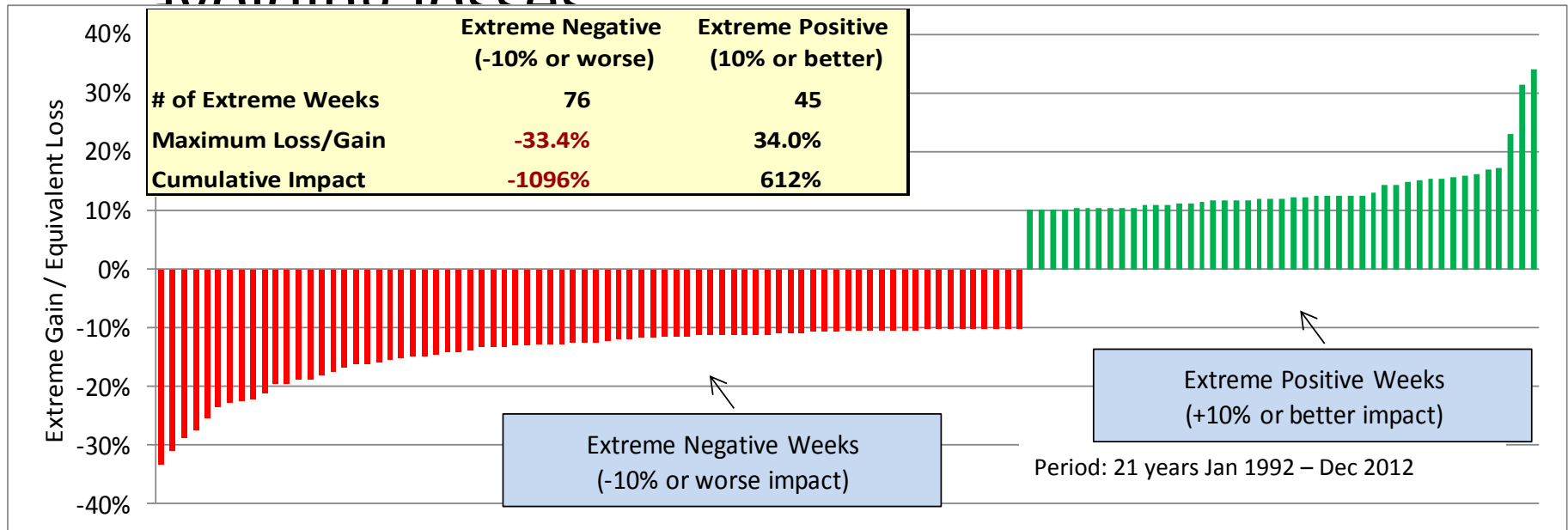
	<b>Group 1: Losses</b> <i>Rolling 1-Year S&amp;P Return is &lt;0%</i>	<b>Group 2: Gains &lt; 20%</b> <i>Rolling 1-Year S&amp;P Returns from 0% to 20%</i>	<b>Group 3: Gains &gt; 20%</b> <i>Rolling 1-Year S&amp;P Return is &gt; 20%</i>	<b>Total</b> <i>All Periods</i>
Observations: Number & Percent	1,080 (27%)	2,266 (56%)	673 (17%)	4,019
Average Return	-20.1%	11.0%	29.7%	5.8%
Maximum Return	0.0%	20.0%	72.3%	72.3%
Minimum Return	-47.5%	0.1%	20.0%	-47.5%

Source: Morningstar. <sup>1</sup>April 2001– March 2013

# Investment rationale of AlphaSector is based on statistical advantages of avoiding losses

- Traditional “valuation-based” investment model is based on upside capture
- AlphaSector investment model is based on **avoiding losses**

**S&P 500 Sector Returns – Extreme Gains and Equivalent Losses<sup>1</sup>**



<sup>1</sup> Source: Morningstar and F-Squared Investments.

# AlphaSector Strategy

## Model description

- **Model objective**

- Makes a “probabilistic” determination of risk of loss for each sector-based ETF
- Does not use valuation metrics, and does not determine relative high or low valuations

- **Key inputs to the Model**

- **Historical price returns for each ETF**
  - Used to generate rolling moving averages for each sector-based ETF
- **Volatility**
  - Utilizes a proprietary measure of volatility which includes intra-day volatility
  - Volatility is a key risk factor, but NOT a sell trigger
- **Changing levels of volatility**
  - Increasing levels of volatility results in the window size for the rolling moving averages to compress, increasing sensitivity to near market results
  - Decreasing volatility levels expands the window size, increasing stability

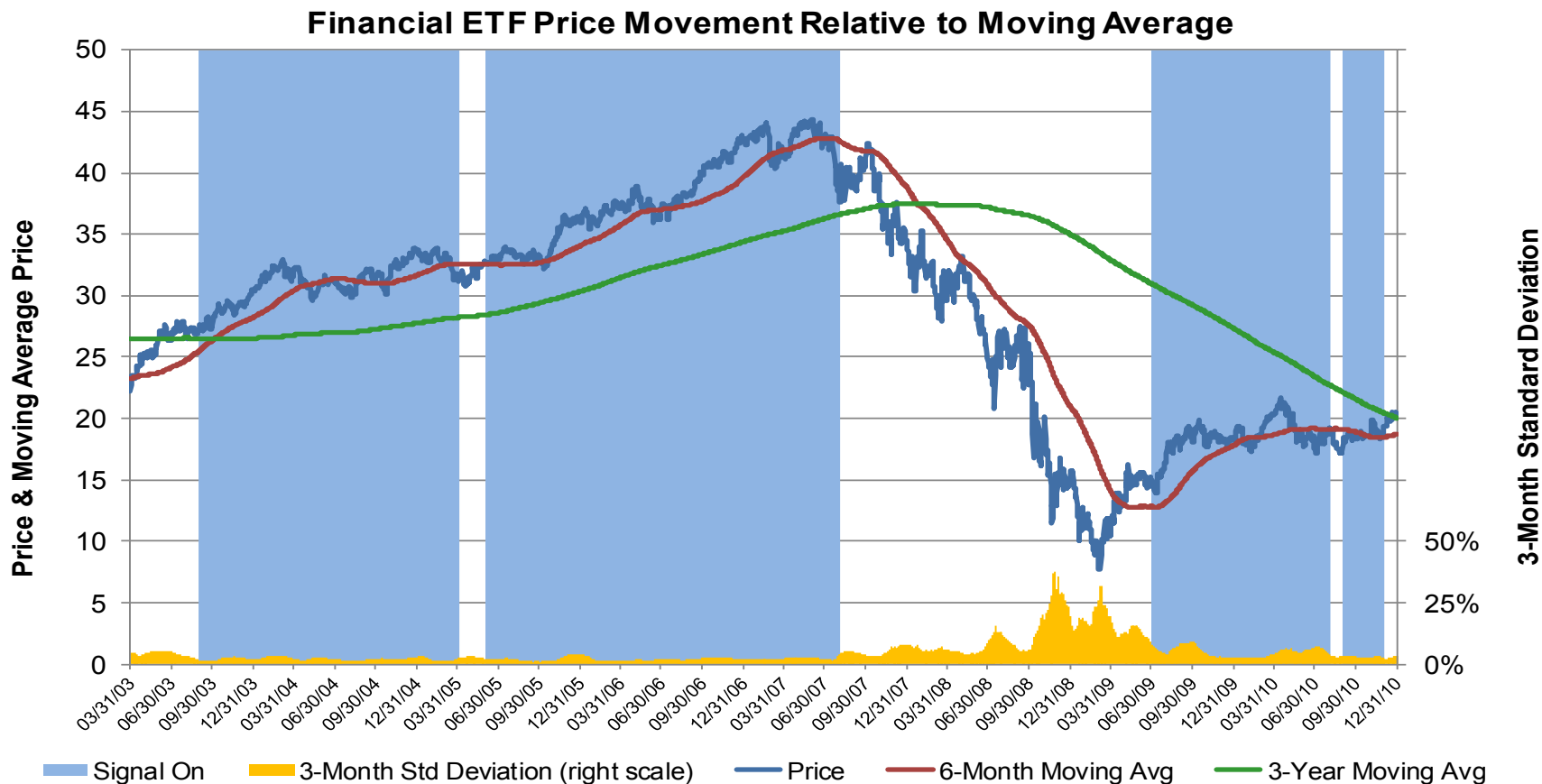
- **Output from the Model**

- Determination of forecasted performance relative to cash returns (binary decision)

- **Results in a sector either included or removed from the portfolio**

# AlphaSector Strategy: Financial ETF showing price returns, rolling moving averages, and volatility

Shown below is a conceptual example of how different moving average windows and volatility can provide insight into AlphaSector decisions



Source: Morningstar, F-Squared Investments

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The *Premium AlphaSector Index* is based on an active strategy with an inception date of April 1, 2001. Inception date is defined as the date as of which investor assets began tracking the strategy. The process of converting the active strategy to an index implies that the returns presented, while not backtested, reflect theoretical performance an investor would have obtained had it invested in the manner shown and does not represent returns that an investor actually attained, as investors cannot invest directly in an index.

The *Dynamic AlphaSector Index* has a live inception date of February, 2012. Inception date is defined as the date where investor assets were tracking the strategy. Performance information presented prior to the inception date is backtested, simulated performance where the investment decision signals are based on those of the AlphaSector Premium Index, but the application of leverage and short exposure is generated through the use of a backtested, rules-based, quantitative overlay. The Dynamic AlphaSector Index does not reflect the actual trading of any client account. No representation is being made that any client will or is likely to achieve results similar to those presented herein.

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The results shown do not reflect the deduction of any advisory fees or expenses, nor trading costs, both of which will decrease the return experienced by a client. The performance is adjusted to reflect the reinvestment of dividends. The fees and anticipated expenses will be specified in each client agreement. F-Squared's fees will be made available upon request and are disclosed in its publicly-available Form ADV Part 2A.

The following Indexes were constructed to reflect the intended portfolio composition for client accounts that will trade utilizing the Index as its Model Portfolio:

*The Premium AlphaSector Index.* It is an index of U.S. equity sector-based ETFs and an ETF that reflects short-term Treasury securities. It is based on an active strategy with an inception date of April 1, 2001.

Russell 3000 Index – measures the performance of the largest 3000 U.S. companies representing approximately 98% of the investable U.S. equity market.

Russell 2000 Index – measures the performance of the small-cap segment of the U.S. equity universe.

Russell 1000 Value Index – measures the performance of the large-cap value segment of the U.S. equity universe.

Russell 1000 Growth Index – measures the performance of the large-cap growth segment of the U.S. equity universe.

MSCI EAFE Index – an equity index which captures large and mid cap representation across Developed Markets countries\* around the world, excluding the US and Canada.

MSCI Emerging Markets Index – An equity benchmark for emerging market stock performance. It is a capitalization-weighted Index that aims to capture 85% of the (publicly available) total market capitalization.

Spot Gold – The current price at which gold can be bought or sold at a specified time and place. A security's spot price is regarded as the explicit value of the security at any given time in the marketplace.

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Dow-Jones UBS Commodity Index – offers exposure to 20 commodities, representing the following commodity sectors: energy, precious metals, industrial metals, livestock and agriculture.

The *Dynamic AlphaSector Index* was constructed to reflect the intended portfolio composition for client accounts that will trade utilizing the Index as its Model Portfolio.

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Past performance is no guarantee of future results.

Sources: Morningstar, F-Squared Investments. All rights reserved.

A definition of all standard terms used in this presentation can be found at [www.morningstar.com](http://www.morningstar.com).

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For more information including risks of investing in our strategies, visit our website at [www.f-squaredinvestments.com](http://www.f-squaredinvestments.com)



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# Innovative **ALTERNATIVE** **INVESTMENT STRATEGIES**

## Tail Risk Management

Protective Puts

Very Expensive-Negative Carry

Not Dynamic

Mathematically Defined

Vix Calls

Expensive-Negative Carry

Dynamic

High Beta Response

Not Mathematically Defined

Vix Futures

Obligation-undefined risk

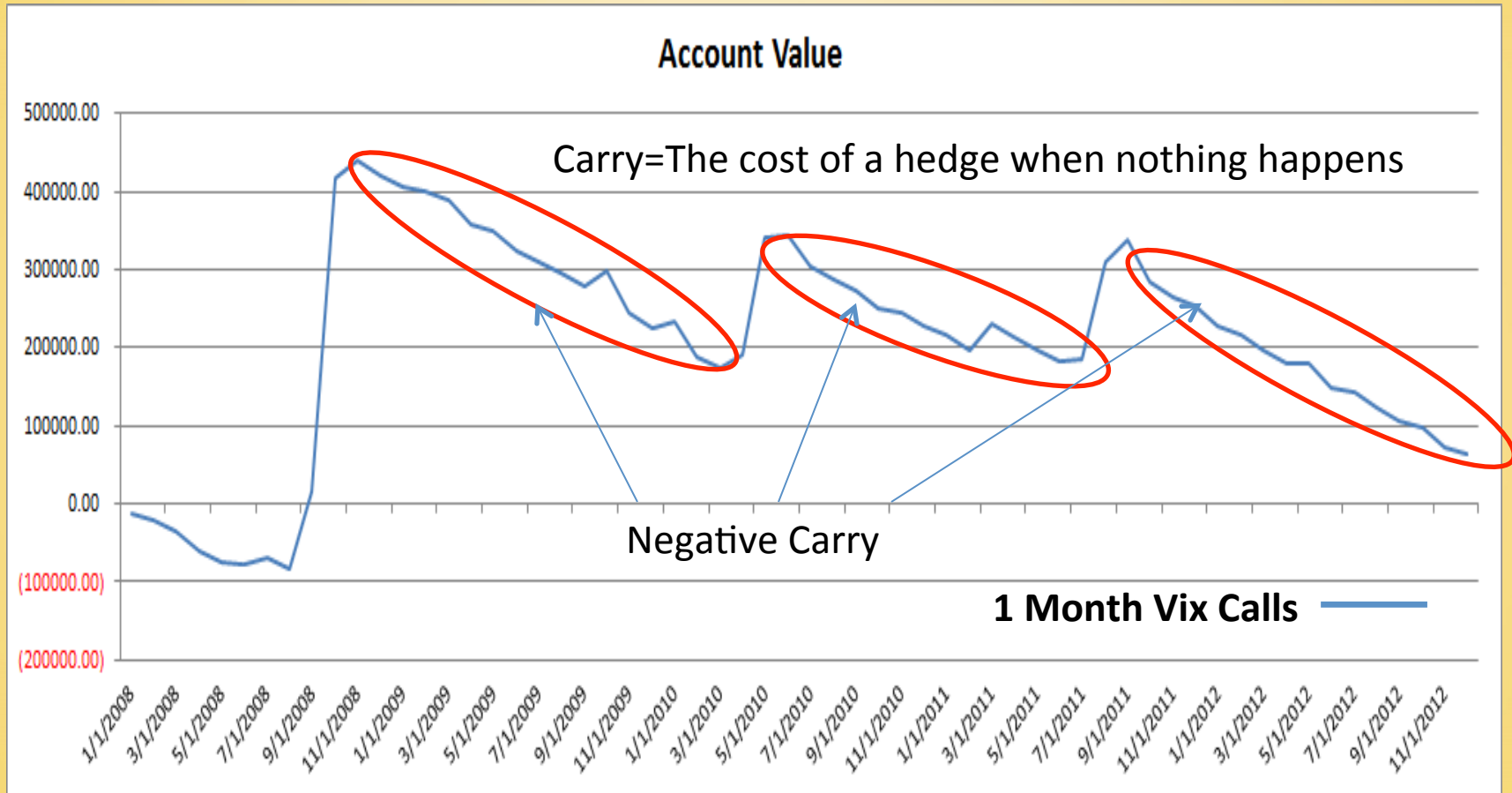
Dynamic

High Beta Response

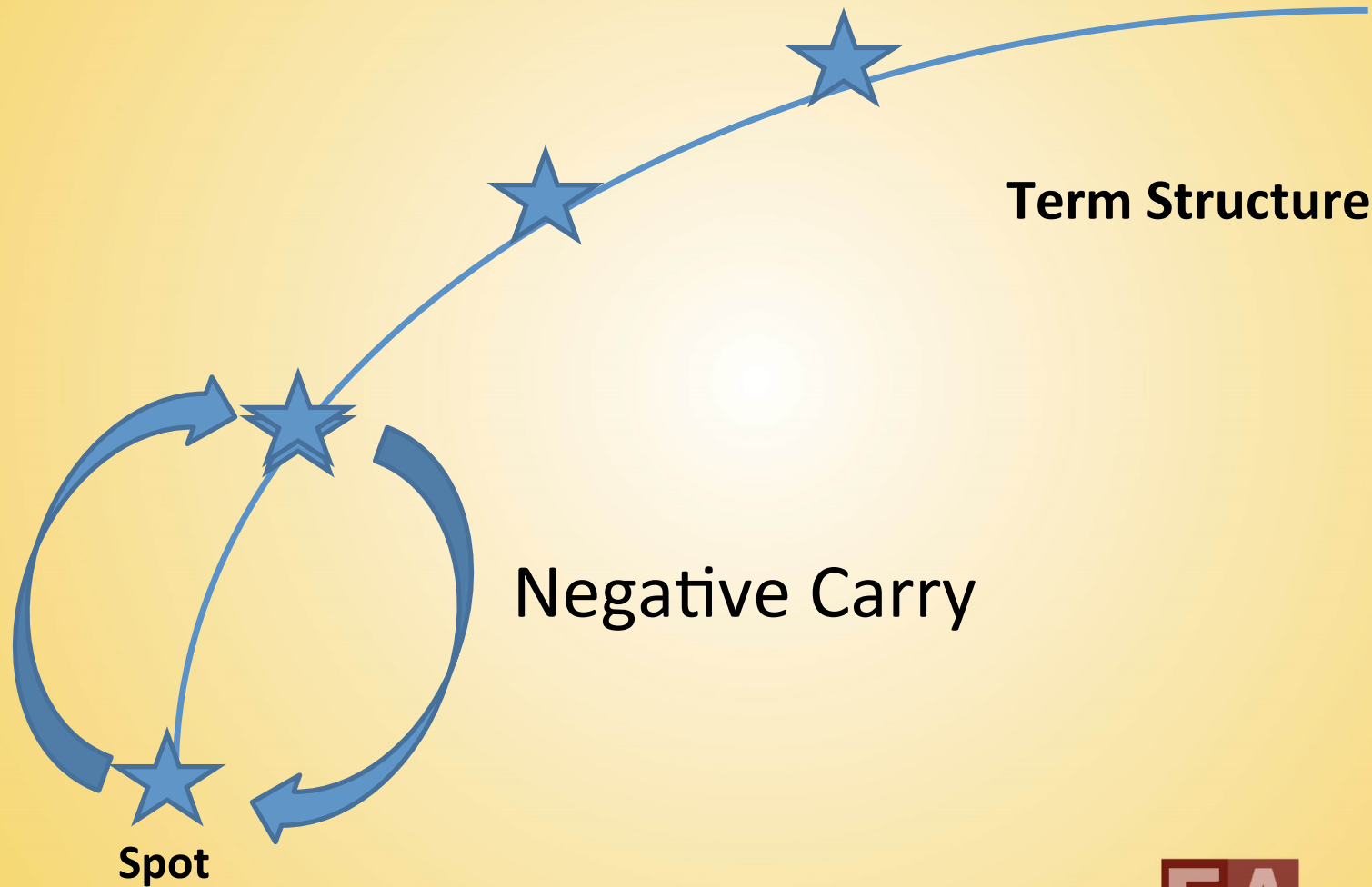
Not Mathematically Defined



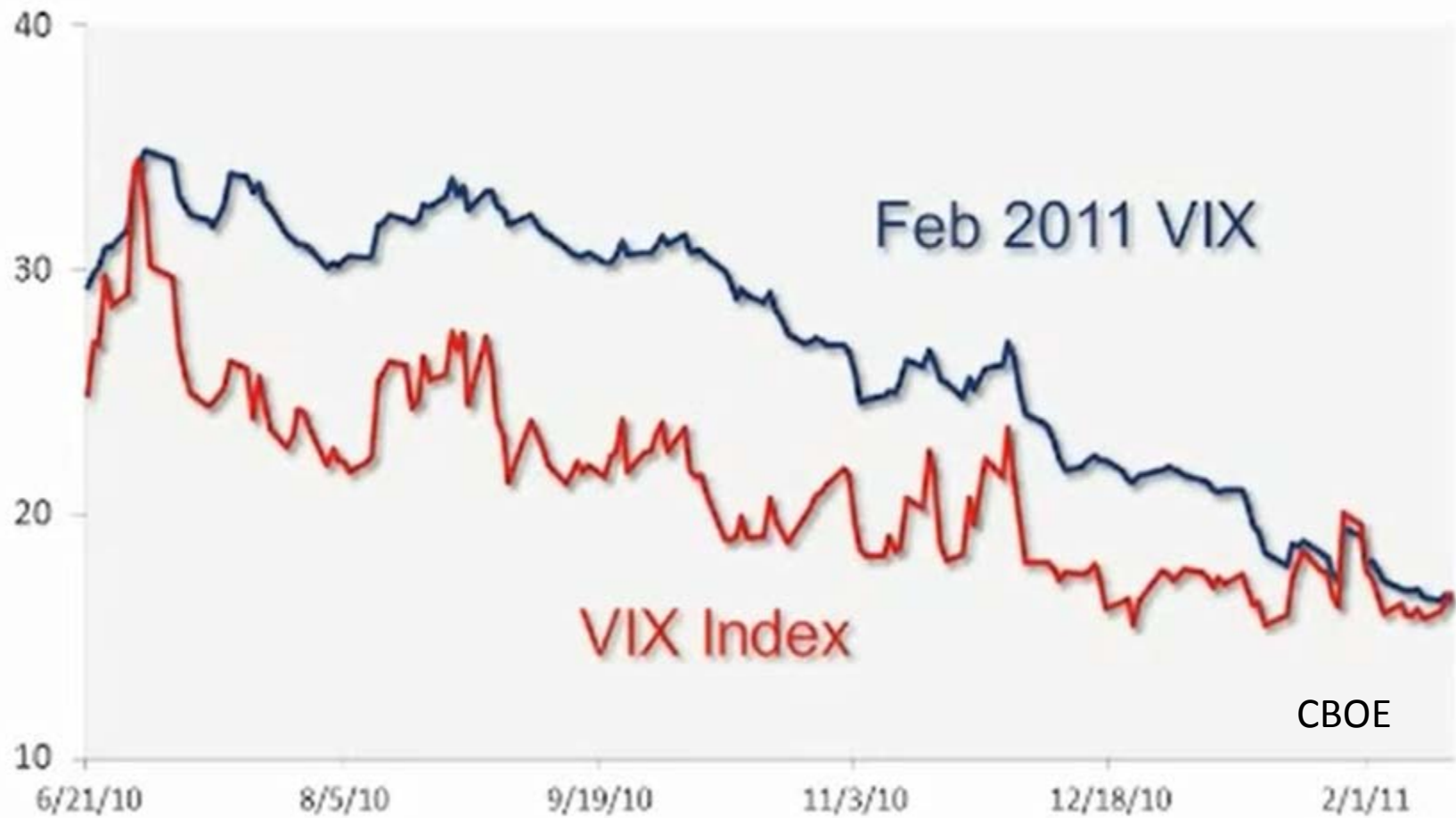
# Great Tail Protection but Expensive



# Negative Roll in Contango



# Feb 2011 VIX vs. Index



CBOE



# Nov 2011 VIX vs. VIX Index

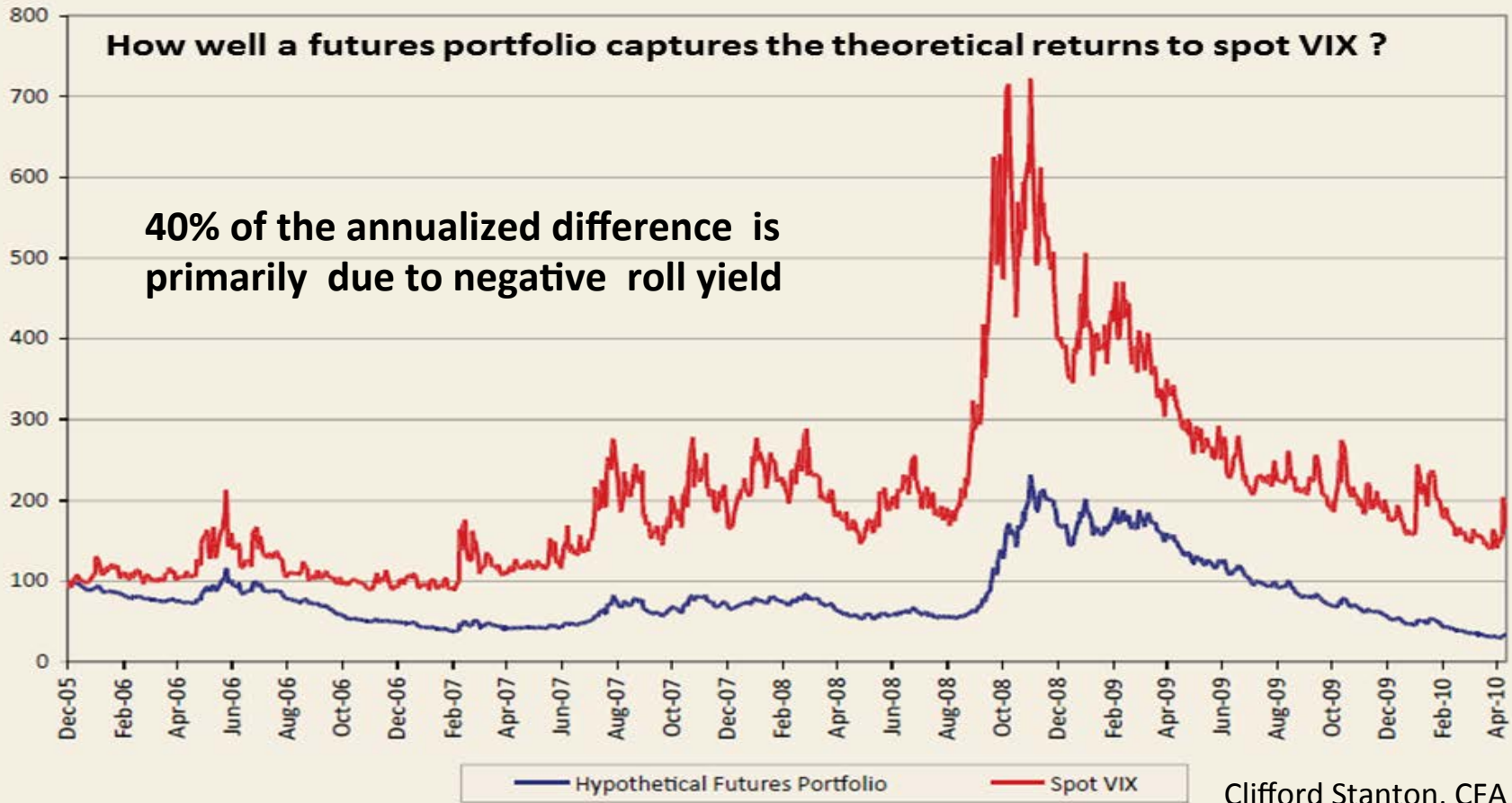


CBOE



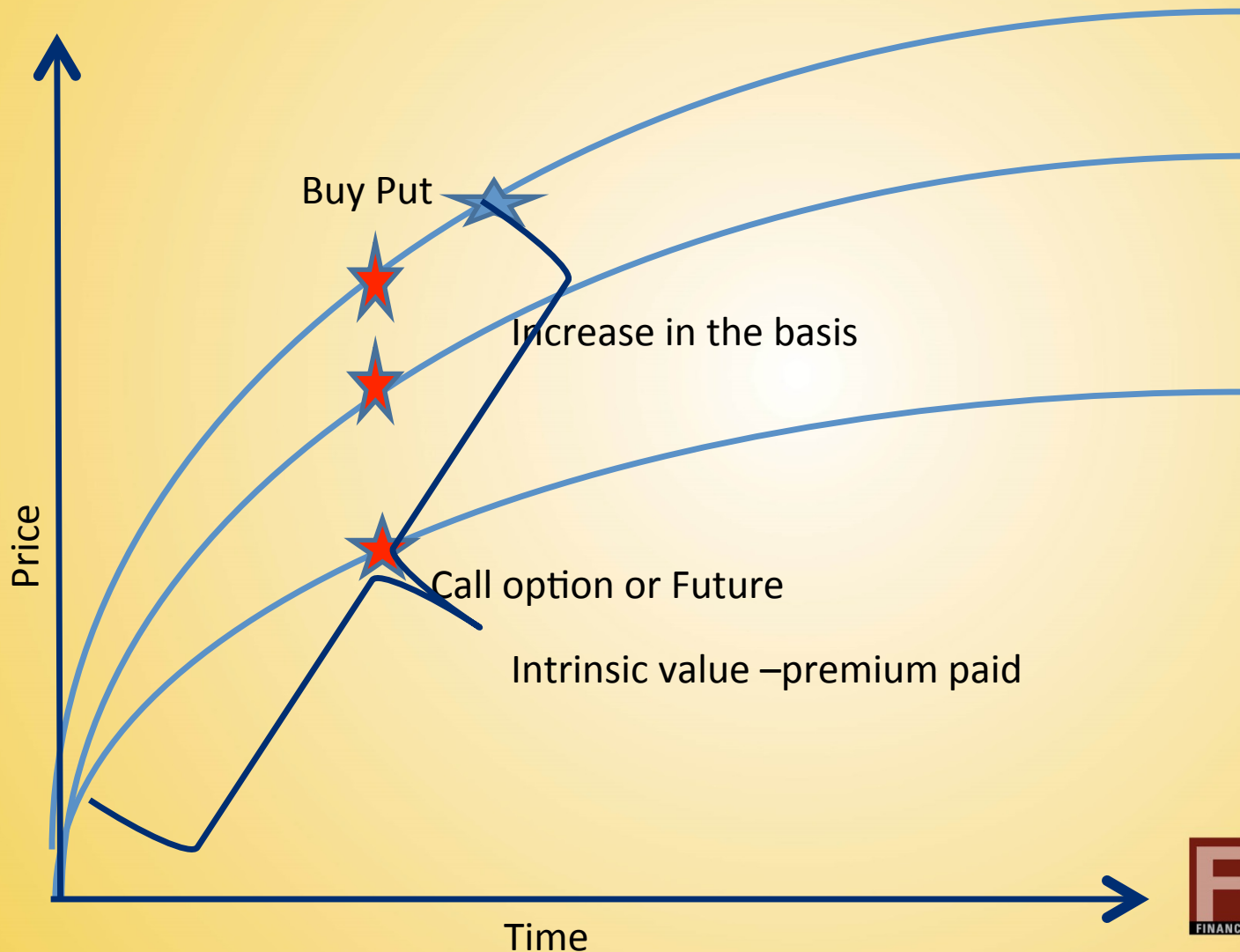
*Private Wealth*

# VXX vs Spot Vix



# Steepening of the term structure presents an opportunity

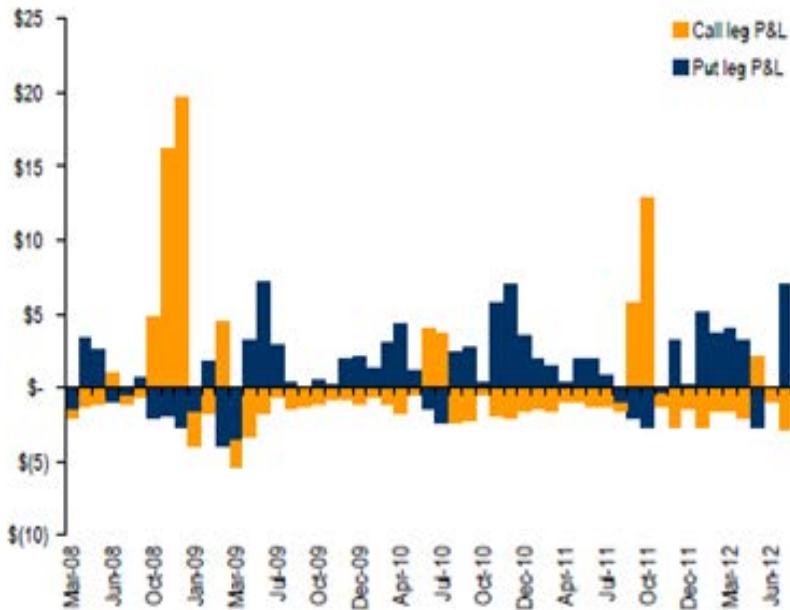
Term Structure : Difference in price between the spot and the future



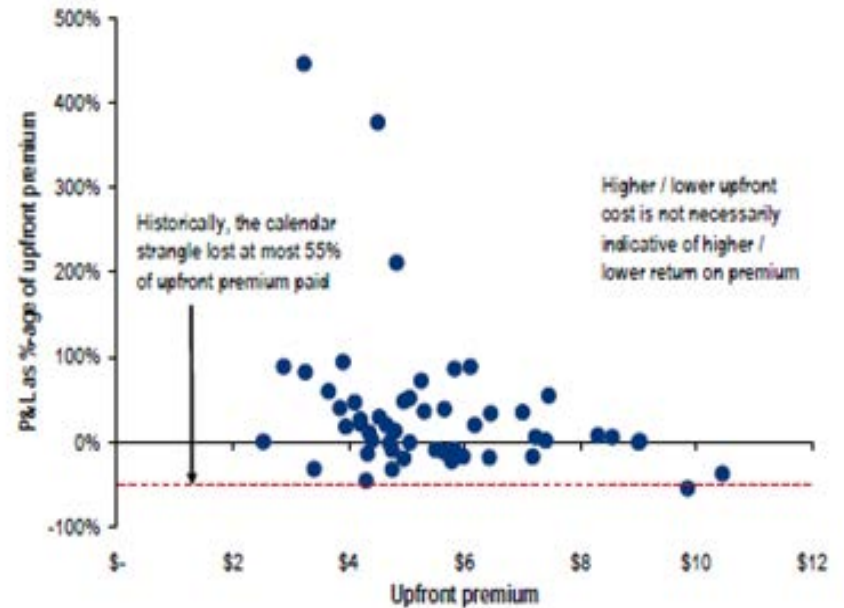


# Turn a negative carry hedge to a neutral to positive carry

Gains on one leg have more than offset losses on the other leg almost 60% of the time...



...and when they didn't, a fraction (<55%) of the premium was lost - this was independent of the cost

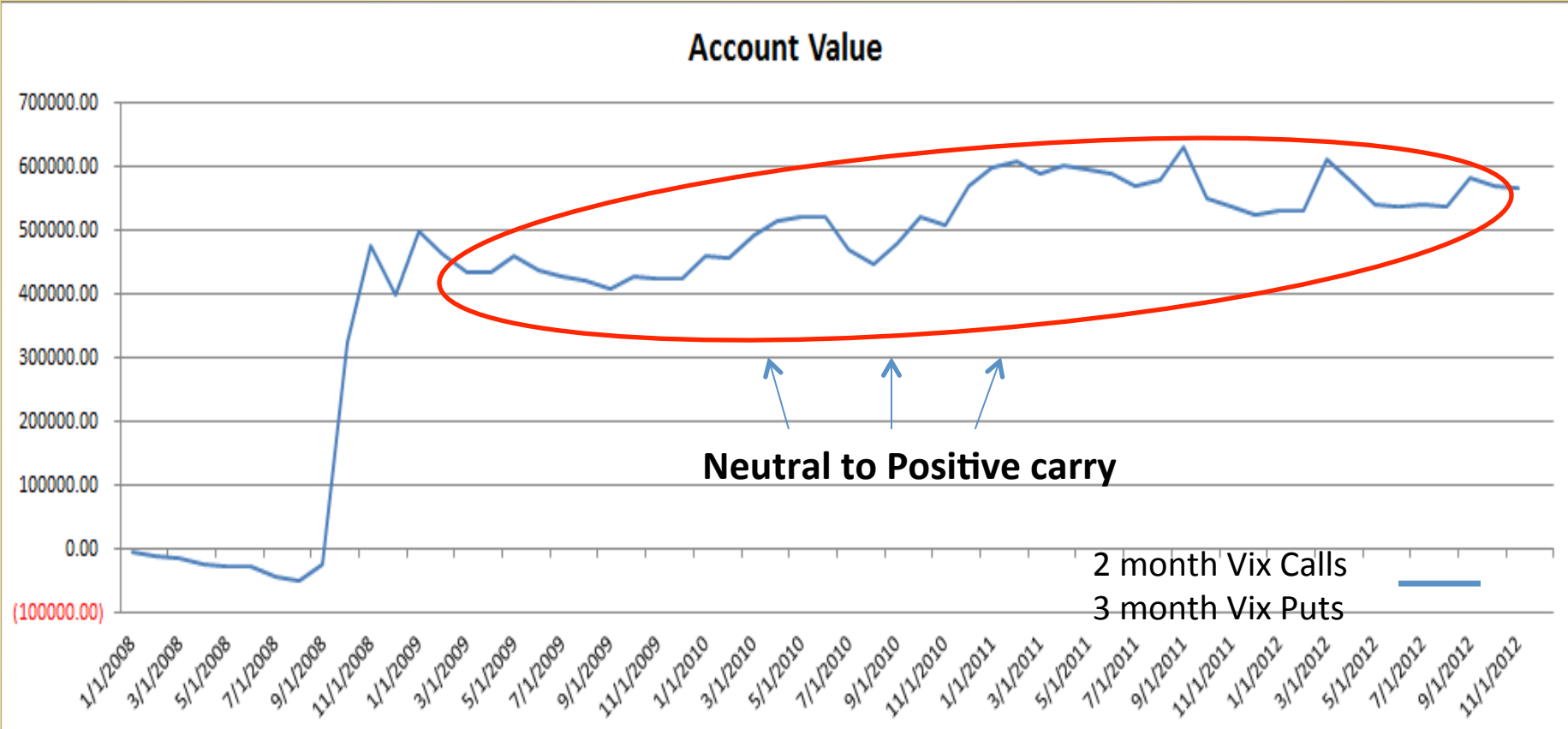


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# Calendar Strangles turns the Vix into an asset class



IPS Strategic Capital



# 60% Stock/ 37 Bond/ 3% Vix Strangle

