

Presentation  
Q2 2016

# Smart Volatility™

Understanding Dynamic Management of Volatility  
As an Asset Class; Strategies used by ABRVX

ABR Dynamic Funds  
LLC



*Dynamic Funds for a Dynamic Future*

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## Presenter

### **Taylor Lukof, Founder/CEO**

- ◆ Taylor is the founder and CEO of ABR Dynamic Funds, LLC.
- ◆ Formerly, he was a Partner at Toro Trading LLC, where he co-managed equity derivative trading strategies.
- ◆ Prior to joining Toro Trading, Taylor was a market maker for Dellacamera Capital LLC, where he was responsible for trading single name and index-related exchanged traded products.
- ◆ Taylor began his career at TANSTAAFL Research and Trading, LLC as the youngest member of the American Stock Exchange at that time.
- ◆ He graduated *Cum Laude* from Bucknell University with a BS in Business Administration.



# Major Issue Facing Wealth Advisors

## Problem

- ◆ Crises inevitably appear and we believe current “60/40” equity/bond portfolios are potentially overbought and may not be diversified enough for the next crisis

## Solution

- ◆ Volatility as an asset class can be a powerful diversification tool



# Introduction to Smart Volatility™

## Problem

- ◆ Static portfolio allocations to volatility have the potential to be problematic

## Solution

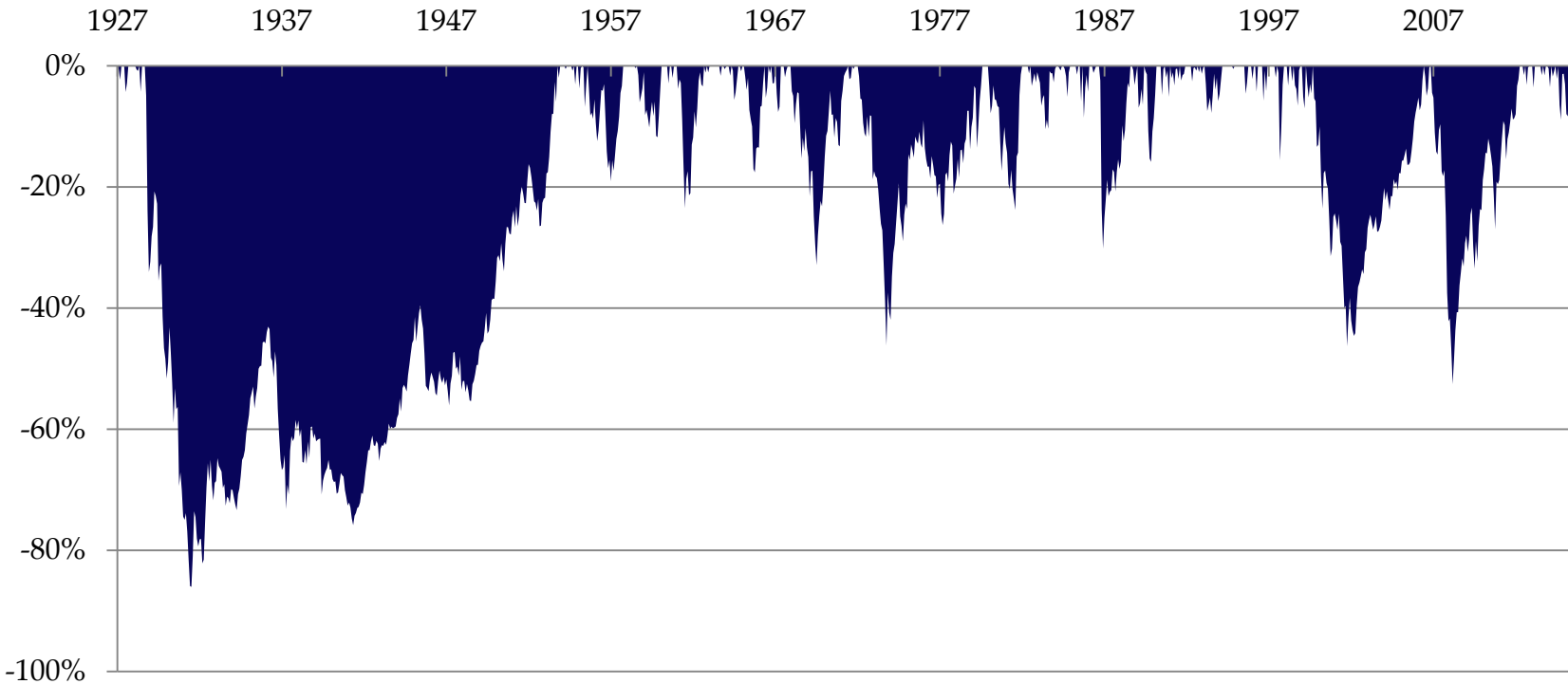
- ◆ ABR has developed a model-driven, dynamically-managed volatility method called Smart Volatility™



# Taking a Long View of the Market

In the past 90 years, the S&P 500 experienced a maximum drawdown over 80% and spent around 25% of its time in bear markets.

## S&P 500 Index Drawdowns



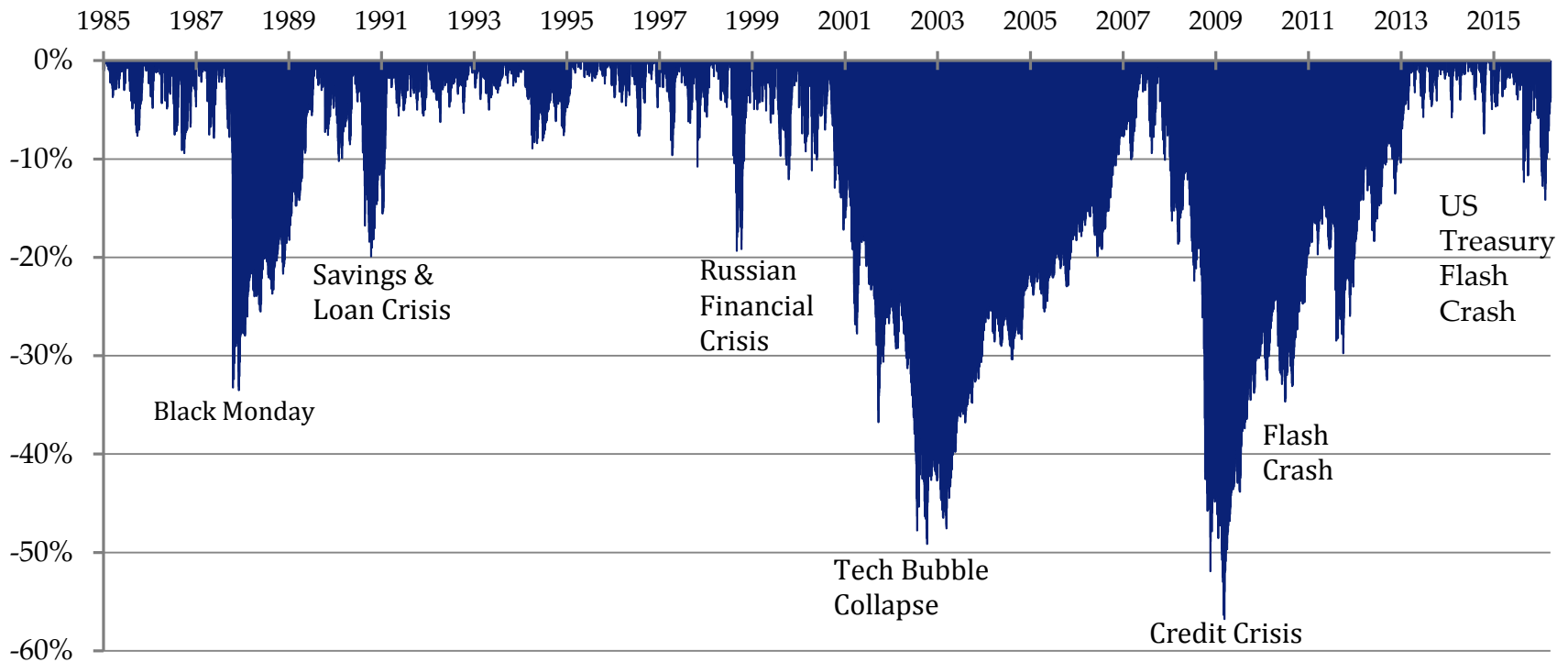
Source: Bloomberg



# Crises Occur More Often Than People Think

◆ S&P 500 averaged about one “crisis” every 5-7 years

## S&P 500 Index Drawdowns



Source: “Getting Smart About Volatility,” page 4





## What's Driving Equities & Bonds Higher?

- ◆ Current Federal Reserve monetary policy environment has created a situation with historically low yields in U.S. Treasuries
  - ◆ leading to **higher priced bonds**
  
- ◆ Low yields in Treasuries have led to low yields in Corporate Debt
  - ◆ Money is cheap, so corporations are borrowing
  
- ◆ Cheap Corporate Debt has fueled stock market buybacks
  - ◆ leading to **higher priced stocks**



# High Priced Bonds

- ◆ 10 year treasury yields are at all-time lows. In a true crisis, yields may not have much more room to fall

### U.S. 10-Year Treasury Yield



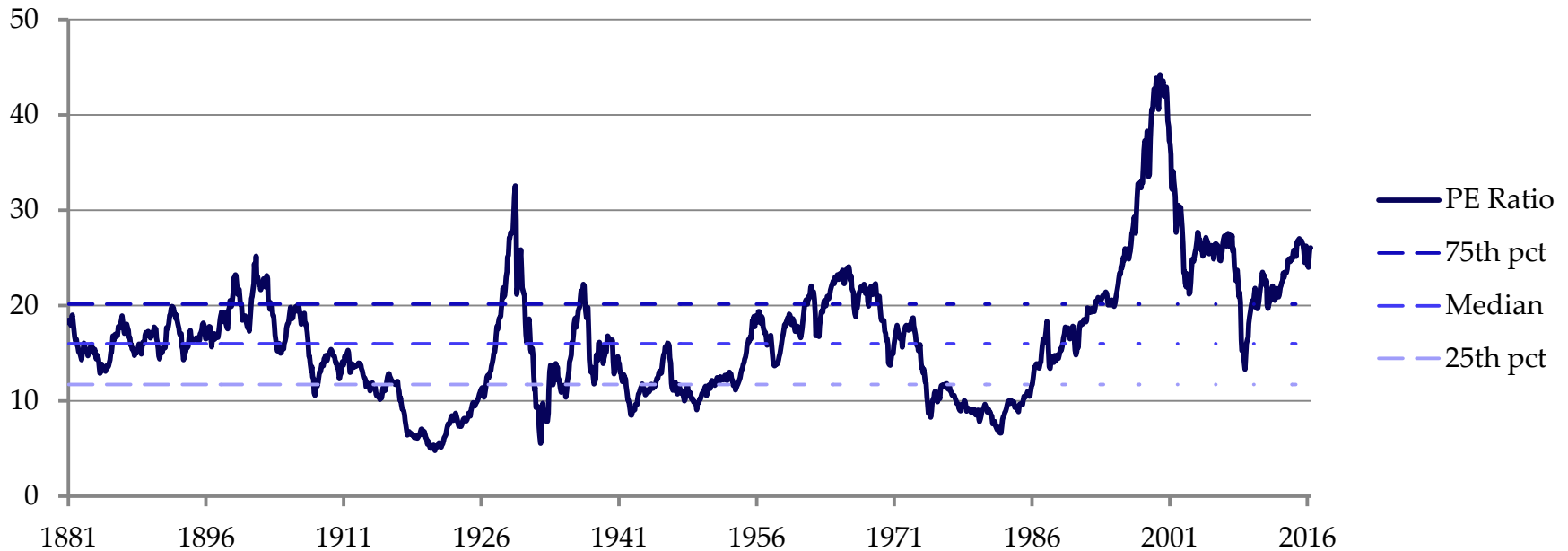
Source: Multpl.com



# High Priced Stocks

◆ Current Shiller P/E ratio shows elevated equity valuations.

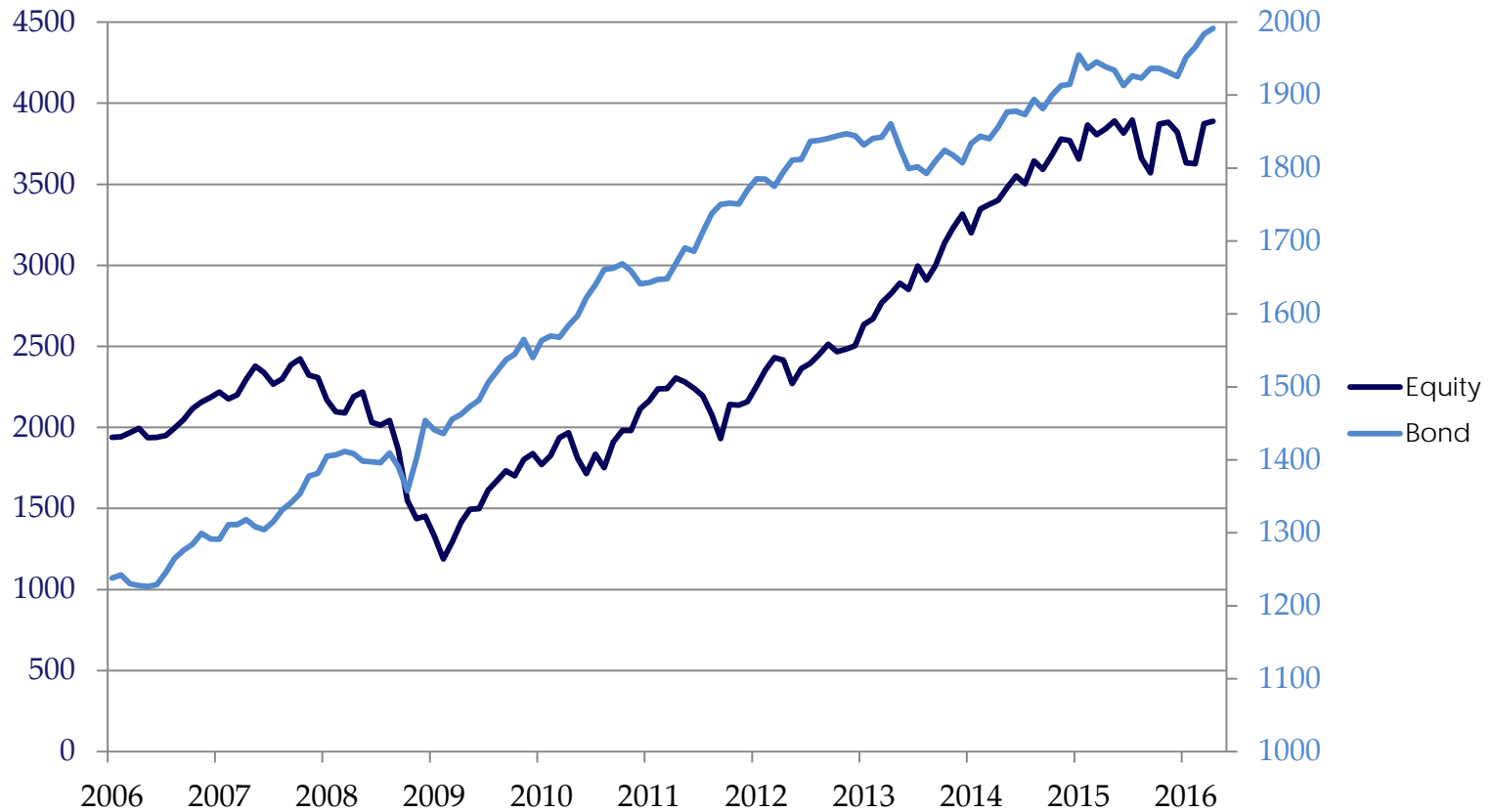
## S&P 500 Price Earnings Ratio (CAPE)



Source: Robert Shiller (Cyclically Adjusted Ratio or CAPE)



# Stocks & Bonds Are Moving in Tandem



Source: Bloomberg

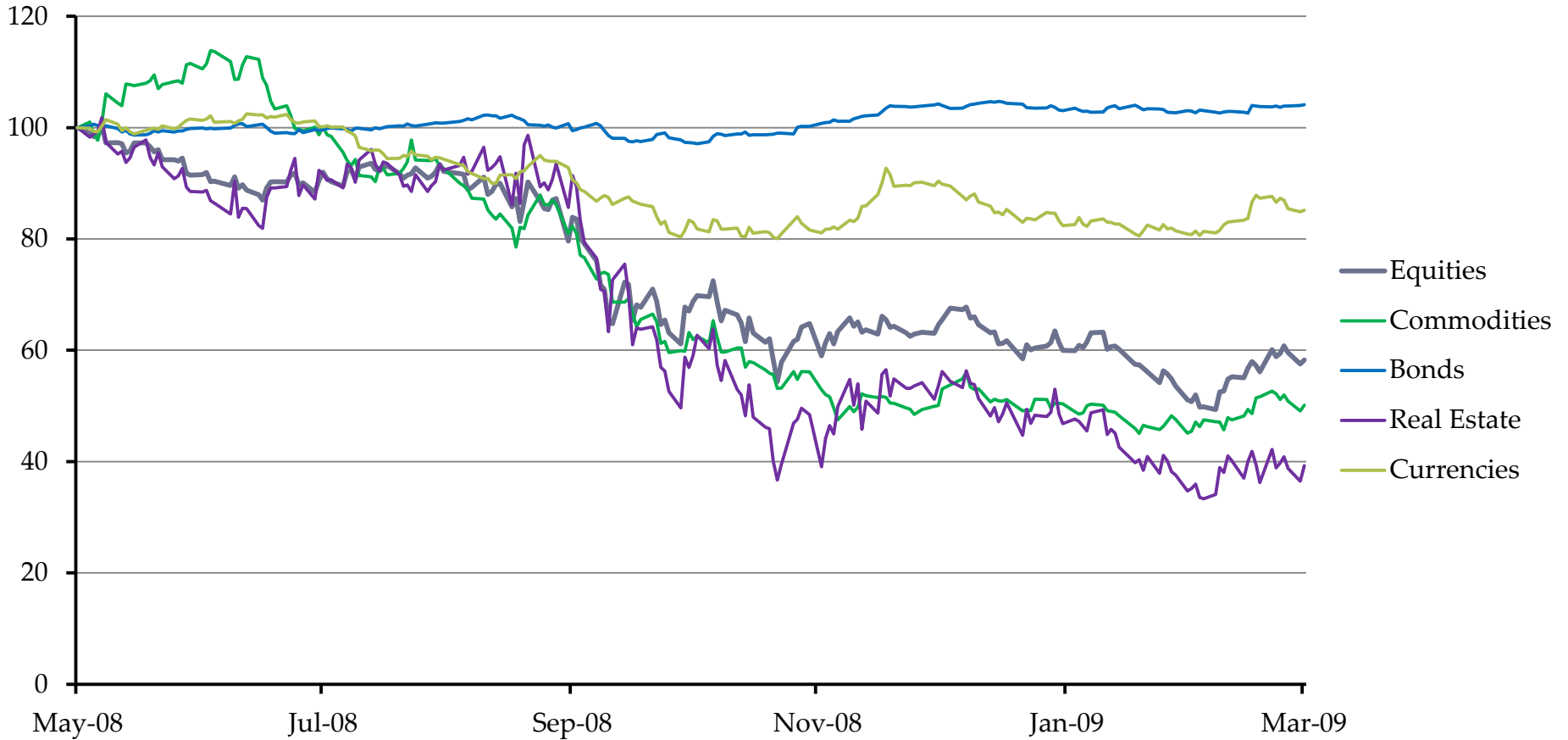


## Should Advisors Be Worried?

- ◆ Bond asset prices and equity asset prices have risen in tandem
  - ◆ In the next crisis, will both fall in tandem?
  
- ◆ Given current short-term interest rates, does the Federal Reserve have any ammunition for the next crisis?
  - ◆ Rates are nearly zero, can they go much lower?
  
- ◆ Even without these concerns, how useful were other asset classes in the financial crisis?



# 2008/2009 Crisis: Performance by Asset Class



Source: Bloomberg



## 2008/2009 Crisis: Drawdowns by Asset Class

### ◆ Equities & Bonds:

- ◆ Equities experienced a greater than 50% drawdown
- ◆ Bonds were almost flat, up only 4% in the crisis
- ◆ Diversified Equity/Bond (60%/40%) portfolios had drawdowns of around 25%

### ◆ Alternatives

- ◆ Real Estate experienced a 67% drawdown
- ◆ Commodities fell 55%

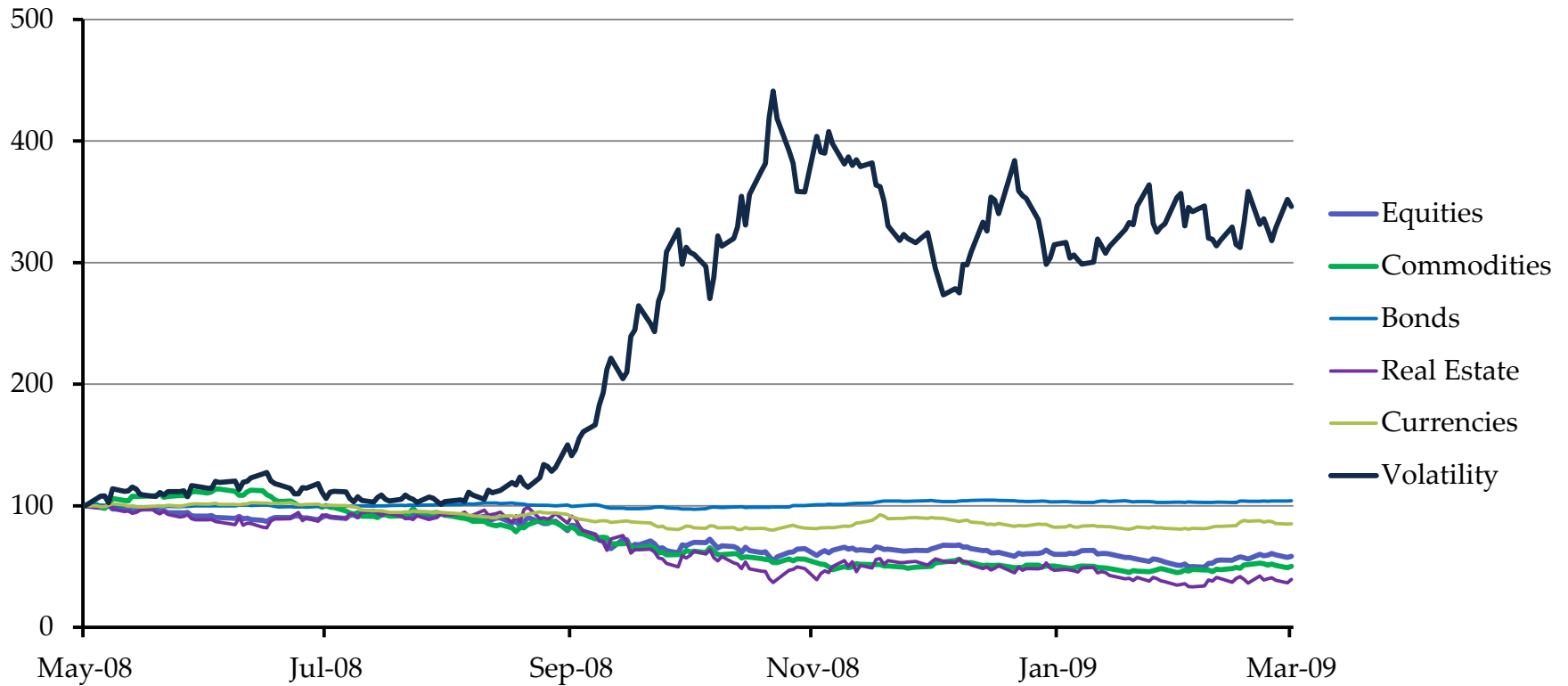
### ◆ What else can help preserve clients' portfolios?

- ◆ Instruments that track Volatility as an Asset Class



# Volatility Outperforms in a Crisis

◆ Short term Volatility gained 341% at its peak



Source: Bloomberg





## Thinking About Volatility as an Asset Class

**Volatility has tended to have a high decay rate but a strong negative correlation to equity markets**

- ◆ Buyer pays for “hedge” on the stock market
  - ◆ Pays premiums in case something bad happens to stocks
  
- ◆ Seller gets paid premiums but with large downside risk
  - ◆ If stocks drop a lot, the “Seller” will quickly have to pay out large sums, but usually the seller is happily collecting premiums.



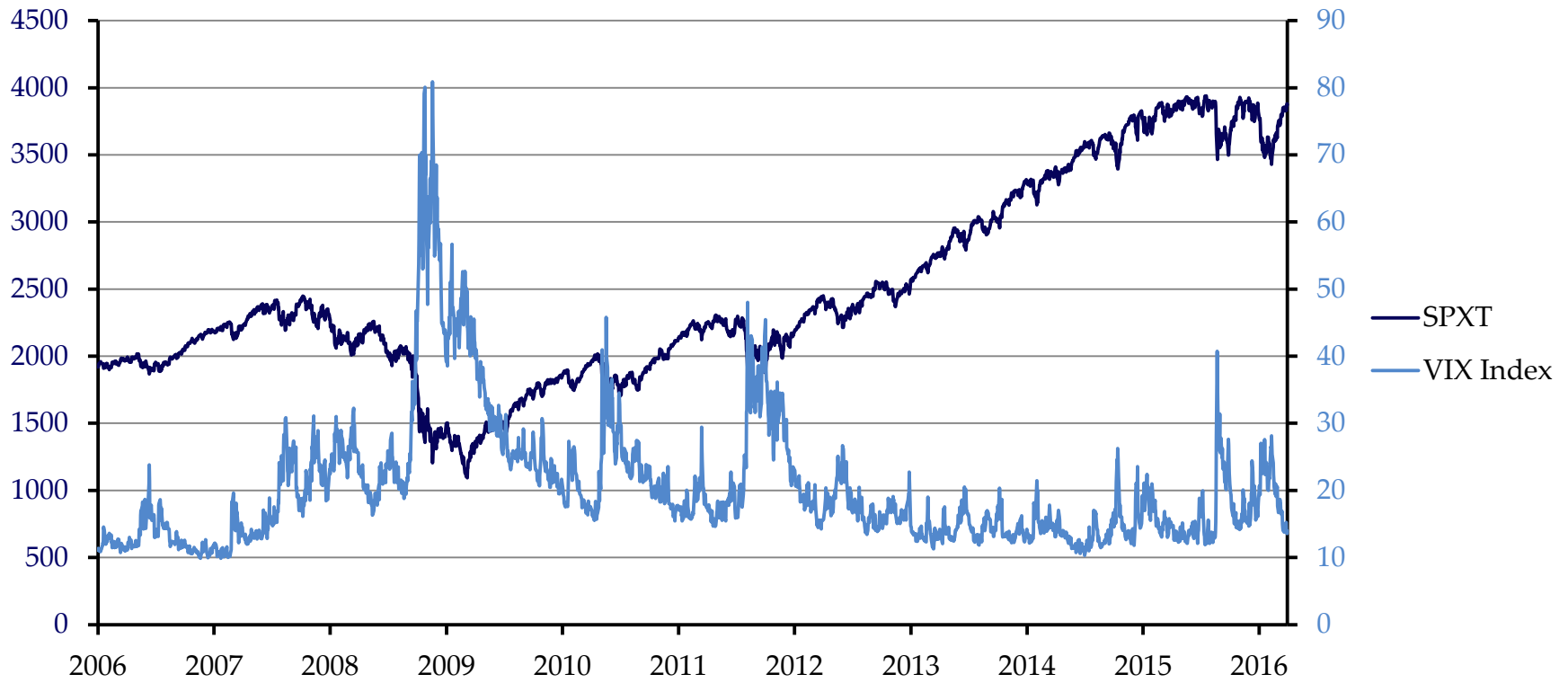
## Introduction to the VIX Index

- ◆ The VIX Index reflects the volatility of the S&P 500 Index
- ◆ VIX Index futures are liquid instruments based on the VIX Index
- ◆ VXX (Exchange-Traded Note) is based on VIX Index futures
  - ◆ started trading February 2009
  - ◆ tracks the S&P 500 VIX Short-Term Futures Total Return Index (SPVXSTR Index)
  - ◆ The SPVXSTR Index is a rolling blend of first and second month VIX Index futures intended to represent a theoretical VIX Index future which is always one month from expiration



# VIX Index vs. S&P 500 Index

◆ High VIX Index values generally mean the market is in a volatile period.



Source: Bloomberg



# Volatility is a Negatively Correlated Asset Class

- ◆ The VIX Index has a negative correlation to the market. A rising VIX Index has tended to accompany a falling S&P 500 Index.

Asset Class	Long-Term Correlation to the S&P 500 Total Return Index (SPXT) 2005-2015
Commodities	0.36
Fixed Income	<b>-0.30</b>
Real Estate	0.80
Currencies	0.29
Volatility	<b>-0.75</b>

Source: "Smart Volatility™, Dynamic Management of Volatility as an Asset Class," page 2



# Volatility is a Negatively Correlated Asset Class

- Volatility **Increased** Its Negative Correlation to Equity Markets during the last Crisis (9/30/2008 – 11/28/2008)

Asset Class	Correlation to SPXT	Change from Previous Slide
Commodities	0.48	0.12
Fixed Income	<b>0.00</b>	<b>0.30</b>
Real Estate	0.83	0.03
Currencies	0.55	0.26
Volatility	<b>-0.88</b>	<b>-0.13</b>

Source: "Smart Volatility™, Dynamic Management of Volatility as an Asset Class," page 3



# Static Volatility Strategies

Static strategies of holding volatility have the potential to be problematic:

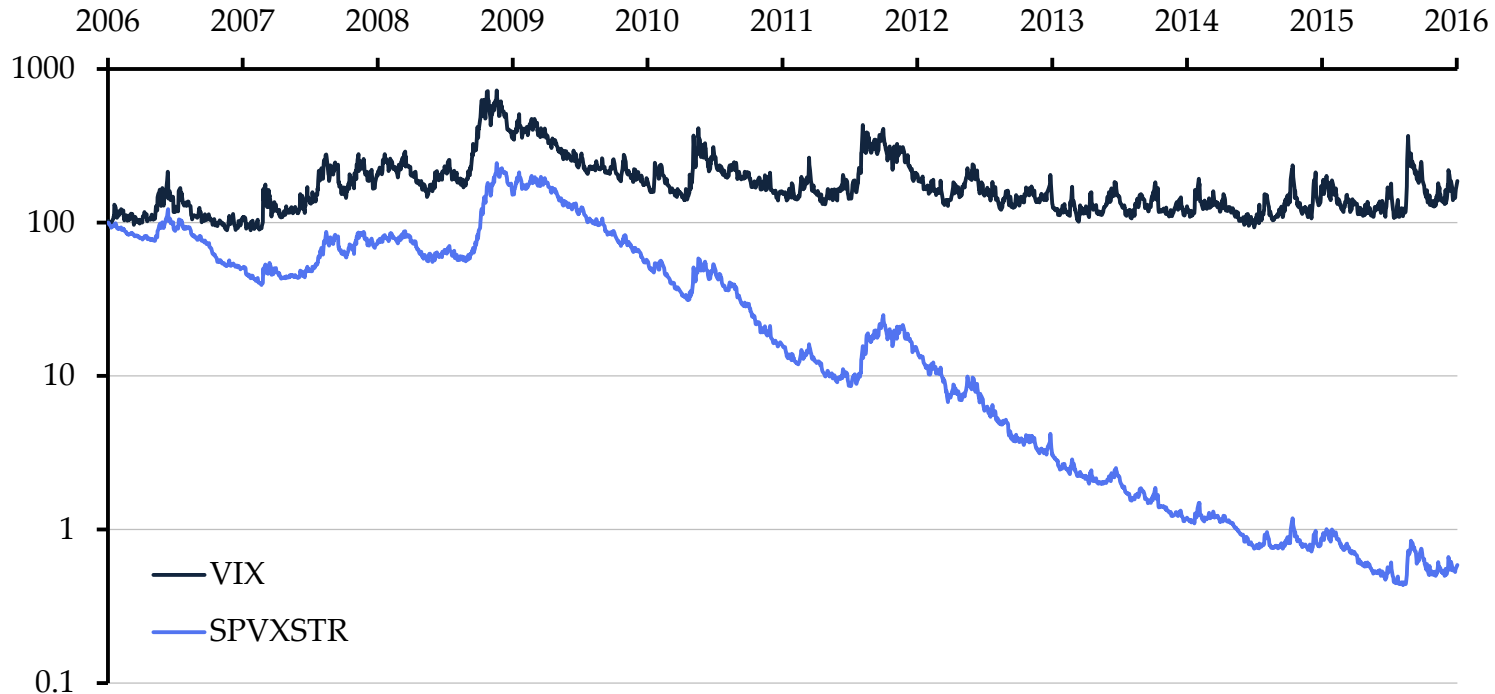
- ◆ Buy and Hold
  - ◆ “Bleed-out”
- ◆ Sell and Hold
  - ◆ “Blow-out”, even if the inverse ETF is purchased
- ◆ Buy Low, Sell High
  - ◆ Worst of both worlds: bleed-out AND blow-out

**→What could go wrong? Let’s take a look**



# Buy and Hold: “Bleed-out”

SPVXSTR has tended to decline dramatically over extended periods of time. This index\* has historically dropped 1% in value every 8 trading days! This index has a desirable feature where it has spiked in a crisis, but for this feature, the buyer has to pay reoccurring premiums.



Source: “Smart Volatility™, Dynamic Management of Volatility as an Asset Class,” page 3

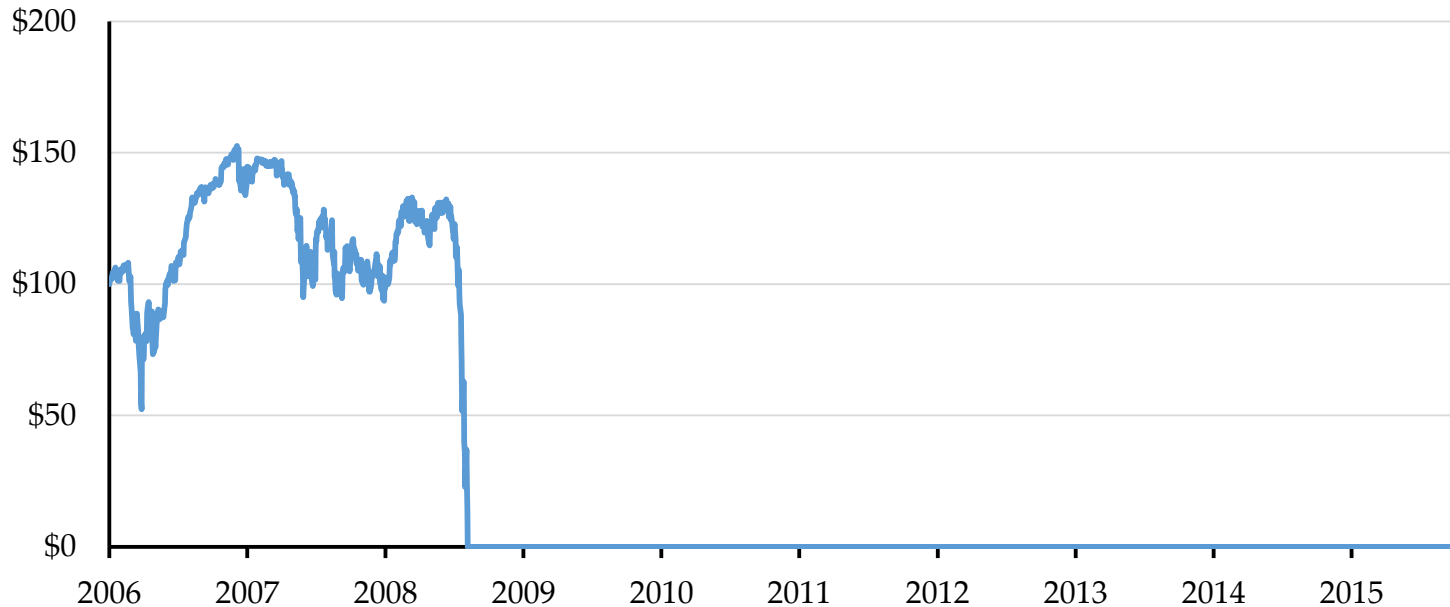
\*Note that one can not invest directly in an index



# Sell and Hold: “Blow-out”

The below graph shorts the SPVXSTR Index\* on 3/21/2006. It hit 0 on 10/24/2008. The spike in volatility during the 2008 Crisis caused the total loss of the shorted value.

**Static Short Strategy**



Source: Bloomberg

\*Note that one can not invest directly in an index





# Buying the Inverse Index

→ Sell and Hold Part 2:  
“Blown-out” again

→ The below graph is the inverse of the SPVXSTR Index\*. This suffered a 92% drawdown in 2007-2009.

**Inverse SPVXSTR Strategy**



Source: Bloomberg

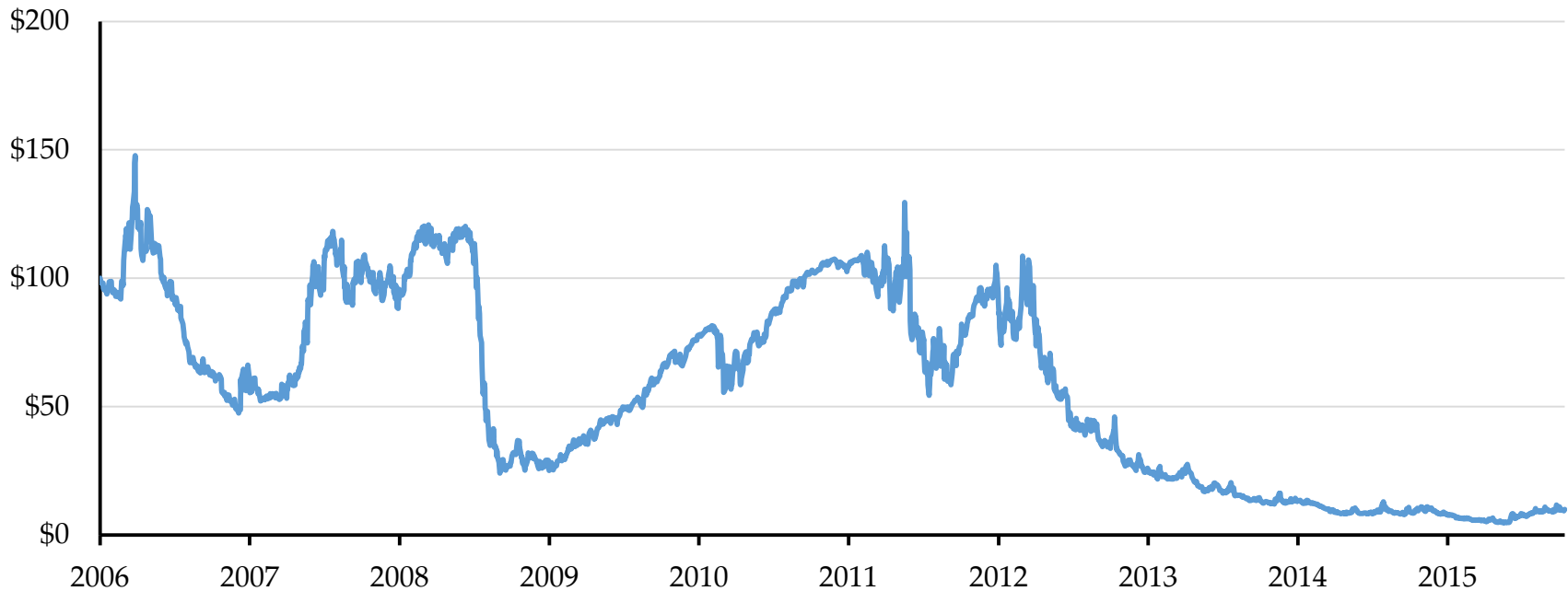
\*Note that one can not invest directly in an index



# Buy Low, Sell High: A Long, Wild Ride to Zero

→ The below graph buys SPVXSTR Index\* when the VIX Index is under 15 and shorts SPVXSTR Index when the VIX Index is over 30. This had a 96.7% drawdown by 2015.

### Buy Low, Sell High



Source: Bloomberg

\*Note that one can not invest directly in an index



## So how should volatility be managed?

Smart Volatility™ is the systematic dynamic rebalancing of volatility in a portfolio

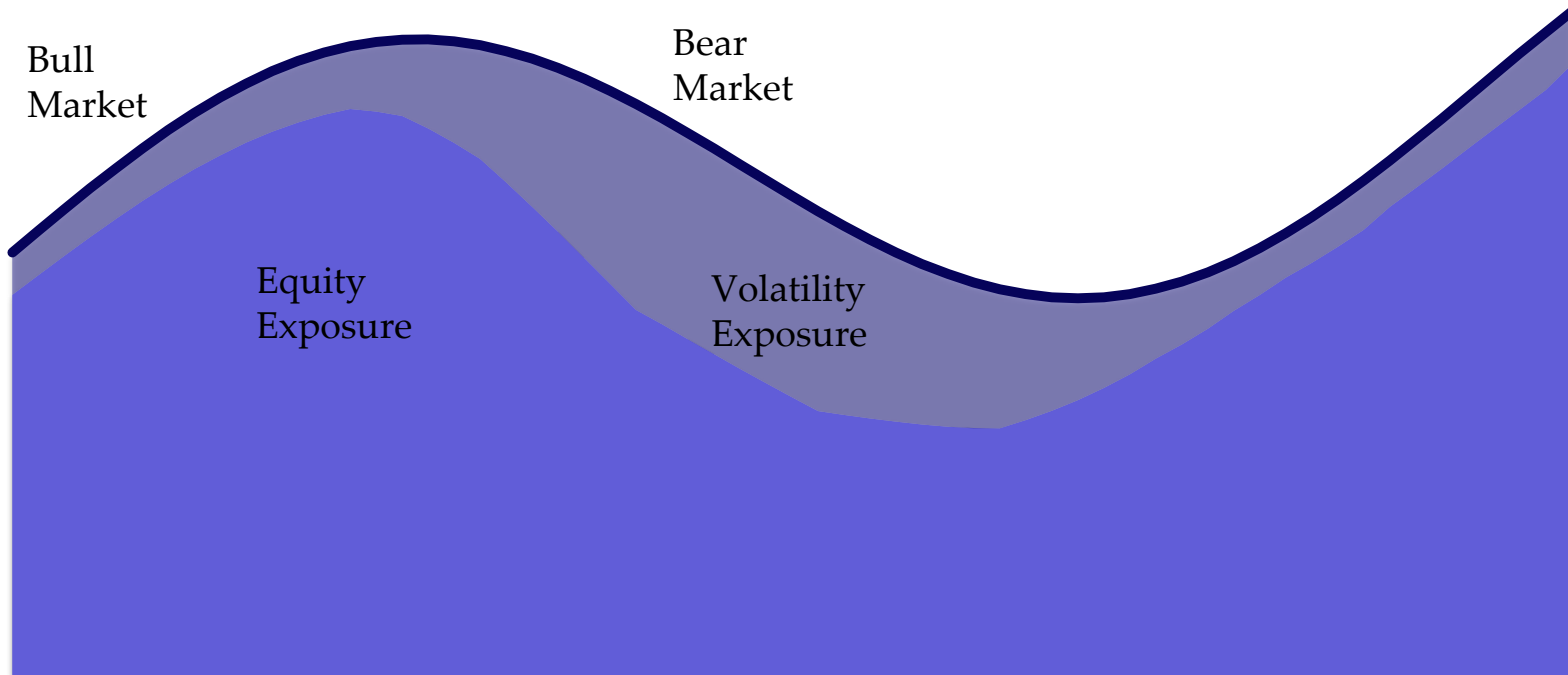
- ◆ Smart Volatility strives to capture spikes in volatility
- ◆ Smart Volatility strives to avoid decay in volatility



# How Does Smart Volatility™ Work?

Model-driven dynamic allocation to volatility based on market conditions

## Market Cycle with Sample Smart Volatility Allocations





# What Signals Does Smart Volatility™ Use?

The short answer is: Momentum

Momentum is a well-known factor found in Equities, Futures, FX, and Commodities.

Below are some momentum signals in volatility:

- ◆ Implied Volatility and the VIX Index
  - ◆ “Buy High, Sell Low”
- ◆ Autocorrelation of Realized Volatility Changes
  - ◆ “The Trend is Your Friend”
- ◆ Implied Volatility Ratios
  - ◆ “Something Doesn’t Smell Right”
- ◆ Realized Volatility
  - ◆ “Fear is Contagious”



## Signal #1: Buy High, Sell Low

Buying volatility when the VIX price is high has generally led to better results. The time period for below table is from 12/30/2005 to 12/31/2015.

VIX Index Price	Percentage of Trading Days	Next Day Return of Volatility
0 – 30	88%	-0.16%
30 or higher	<b>12%</b>	<b>0.10%</b>

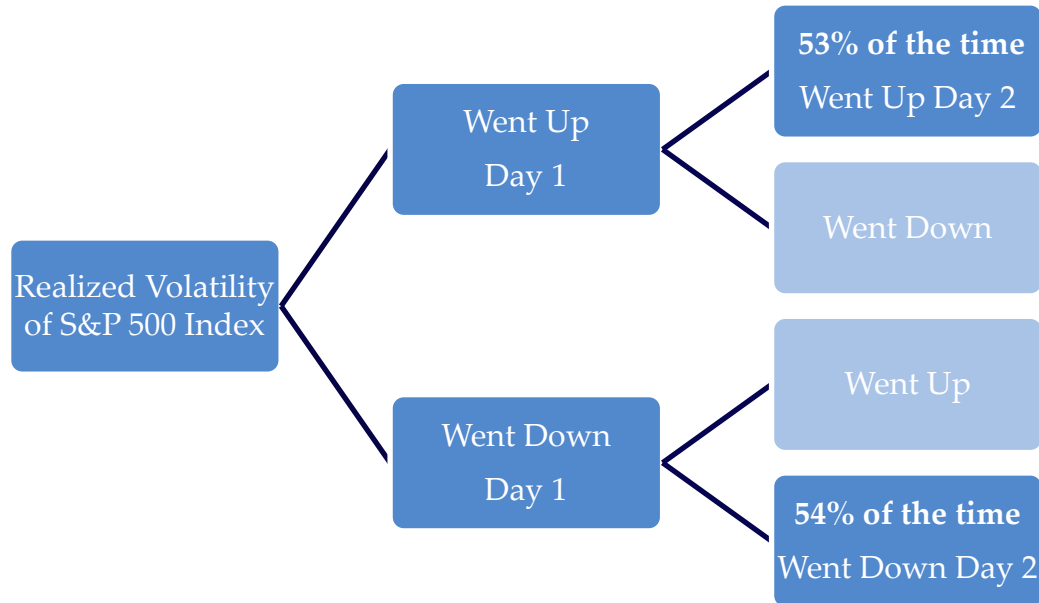
Source: "Smart Volatility™, Dynamic Management of Volatility as an Asset Class," page 4



## Signal #2: The Trend is Your Friend

This usually works much better in volatility than equities or bonds:

- ◆ Realized volatility of S&P 500 Index moved in the same direction 54% of the time as the change in realized volatility. The time period for below chart is from 12/30/2005 to 12/31/2015.



Data Source: "Smart Volatility™, Dynamic Management of Volatility as an Asset Class," page 5



## Signal #3: Something Doesn't Smell Right

When the ratio of short-term to mid-term volatility is “off”, volatility may be a “buy”. The time period for below table is from 12/30/2005 to 12/31/2015.

<b>Short-Term vs. Mid-Term Volatility Ratio</b>	<b>Percentage of Trading Days</b>	<b>Average Daily Return of Volatility</b>
Below 1	85%	-0.21%
Above 1	<b>15%</b>	<b>0.36%</b>

Source: “Smart Volatility™, Dynamic Management of Volatility as an Asset Class,” page 6





## Signal #4: Fear Is Contagious

Volatility may beget more volatility. The time period for below table is from 12/30/2005 to 12/31/2015.

<b>S&amp;P 500 Index Realized Volatility</b>	<b>Percentage of Trading Days</b>	<b>Average Daily Return of Volatility</b>
0% - 30%	90%	-0.18%
30% or higher	<b>10%</b>	<b>0.37%</b>

Source: "Smart Volatility™, Dynamic Management of Volatility as an Asset Class," page 6



## Key Take-Aways

- ◆ There have been times of crisis, when static holdings in volatility have been a losing proposition with large drawdowns
  - ◆ “Blow-out” or “bleed-out”
- ◆ We believe that the system should be completely rules-based
  - ◆ Removes human elements of fear & greed from the decision-making process
- ◆ Momentum signals in volatility can help decide when to buy more volatility
  - ◆ Smart Volatility<sup>TM</sup>



## Conclusion: Advisors Need Volatility as an Asset Class

- ◆ During a crisis, volatility can be a powerful portfolio management tool because of its consistent negative correlation to equity markets
- ◆ “60/40” portfolios may have significant drawdowns given current market conditions
- ◆ Our research indicates volatility should not be held as a static allocation in a portfolio
- ◆ Smart Volatility™ offers a dynamic volatility management system
- ◆ ABR builds systematic quantitative investment strategies. Learn more about us at [www.abrfunds.com](http://www.abrfunds.com)



## Questions?

For further information about the fund, its past performance, and white papers, please feel free to reach out to us. Learn more at [www.volfunds.com](http://www.volfunds.com)

Please feel free to contact the presenter:

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- ◆ 212-918-4664