THE BEST OFFENSE IS A GOOD DEFENSE

AN OVERVIEW OF DEFENSIVE EQUITY (DE) STRATEGIES

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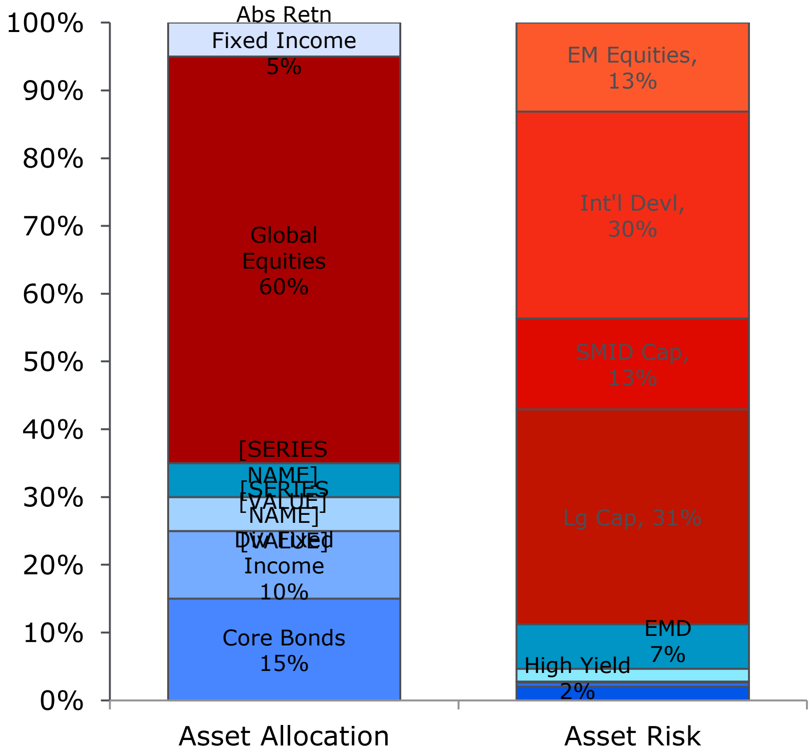
INTRODUCTION

- **This presentation covers**
  - The Strategic and Tactical Case for DE
  - The Spectrum of DE strategies
  - Focus on Options and Low Volatility strategies
  - How can I use it in my portfolio?
  - Considerations

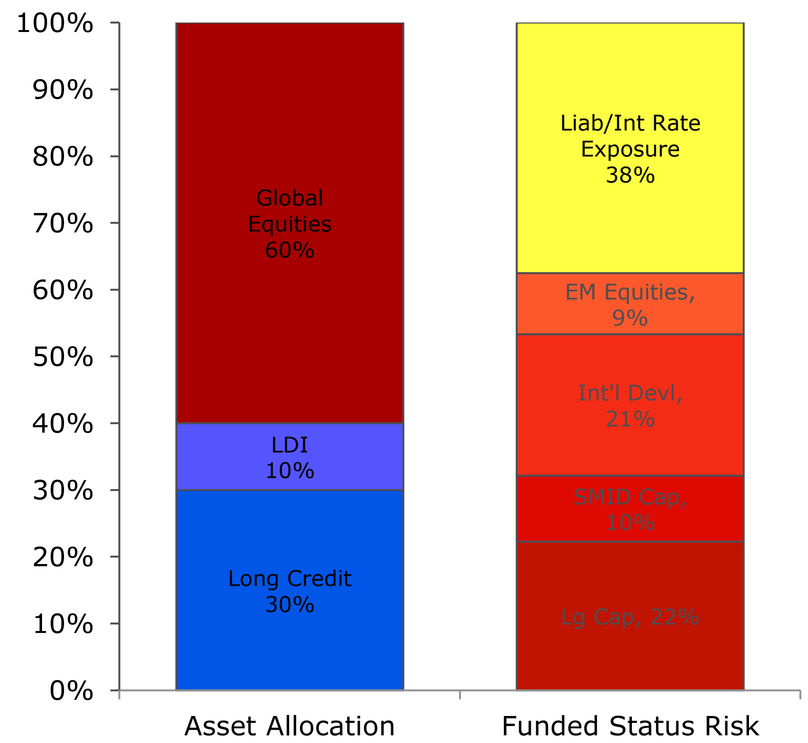
STRATEGIC SUPPORT FOR DEFENSIVE EQUITY

- **Equities are typically the largest contributor to portfolio risk**

Total Return Portfolio
60% equity allocation equals
About 90% of portfolio risk



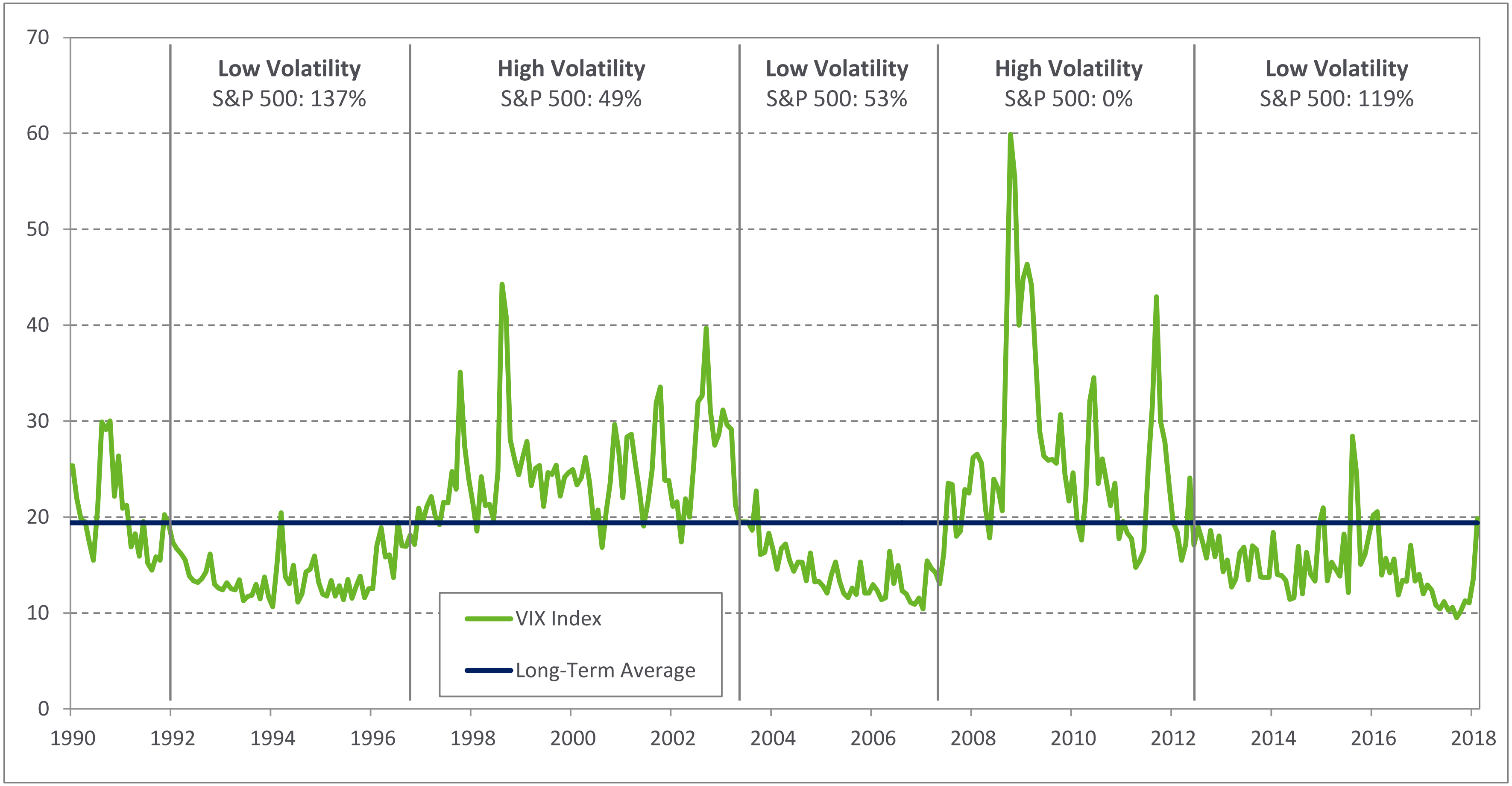
Liability Driven Portfolio
60% equity allocation equals
About 60% of funded status risk



Assumptions:
Sample Total Return Portfolio: 60% Global Equity / 40% Diversified Fixed Income
Sample LDI Portfolio: 60% Equity / 40% Long Duration, 80% Funded status, 12 year duration

TACTICAL SUPPORT FOR DEFENSIVE EQUITY

- **Extended period of low volatility starting to turn**



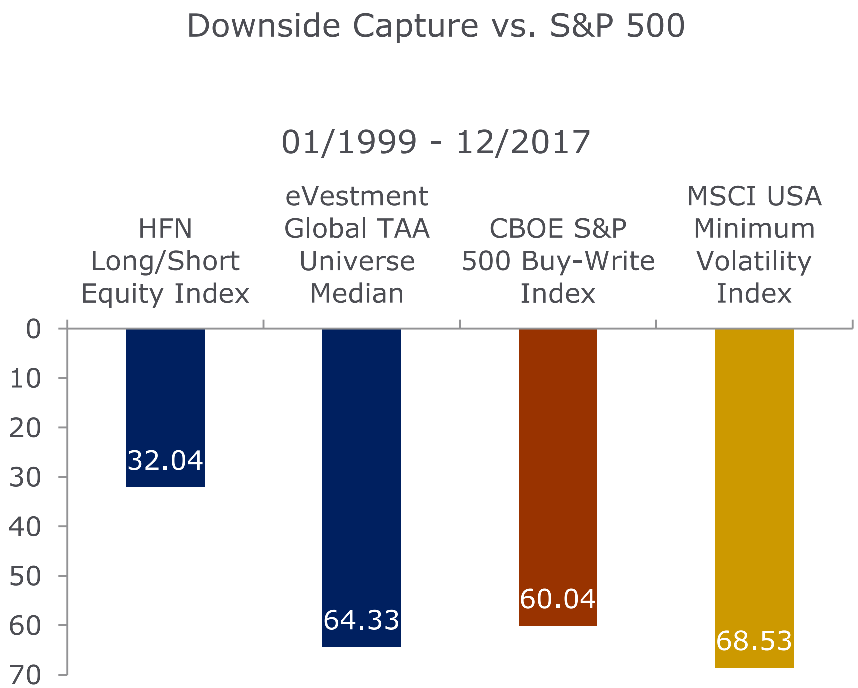
Source: S&P, CBOE, Bloomberg, NEPC
S&P 500 return is cumulative

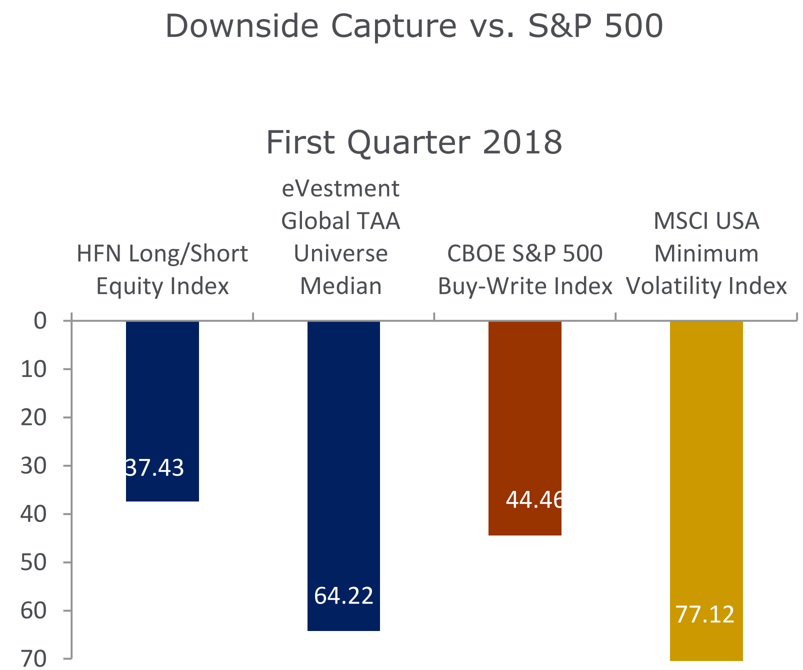
SPECTRUM OF DEFENSIVE EQUITY STRATEGIES

	Equity Long/Short	Multi-Asset	Options-Based	Traditional	Low Volatility
Typical Strategies	• Fund of funds • Direct strategies	• Traditional, Global 60/40 benchmark focused • Absolute return focused (liquid alternatives to HFs) • Completion – niche exposures	• Combines market exposure with option selling • Market exposure varies and can be customized depending on the manager, account size	• Long only • Bottom-up fundamental or quantitative approaches • Stock selection focused • Quality/Value/ Dividend-focused	• Long only • Index or active strategies focused on stocks trading with the least volatility historically or prospectively
Rationale	• Combine downside protection with manager skill (alpha potential) • Meaningfully lower beta	• Can be similar to Equity Long/Short plus; • Diversification • Lower fees • Greater liquidity • Good downside protection	• Exposure to Volatility Risk Premium – diversified return source • Good downside protection	• Simpler • Cheaper • Greater liquidity • Good downside protection depending on strategy	• Simpler • Cheaper • Greater liquidity • Good downside protection
Challenges	• Liquidity • Fees • Complexity	• Complexity • Benchmarking • Contrarian approaches – high tracking error	• Complexity • Limited universe of managers	• Benchmarking, tracking error • Less downside protection expected vs. alternatives	• Benchmarking, tracking error • Less downside protection expected vs. alternatives • Unintended exposures?

USING DE STRATEGIES IN A PORTFOLIO

- **Downside capture vs. the S&P 500 ranges from 30% to 70% across the different strategies over the last 18 years**





Source: eVestment Alliance

USING DE STRATEGIES IN A PORTFOLIO

- **Compensation for underwriting an unknown risk – i.e. selling options**
- **Selling insurance works! - most of the time**

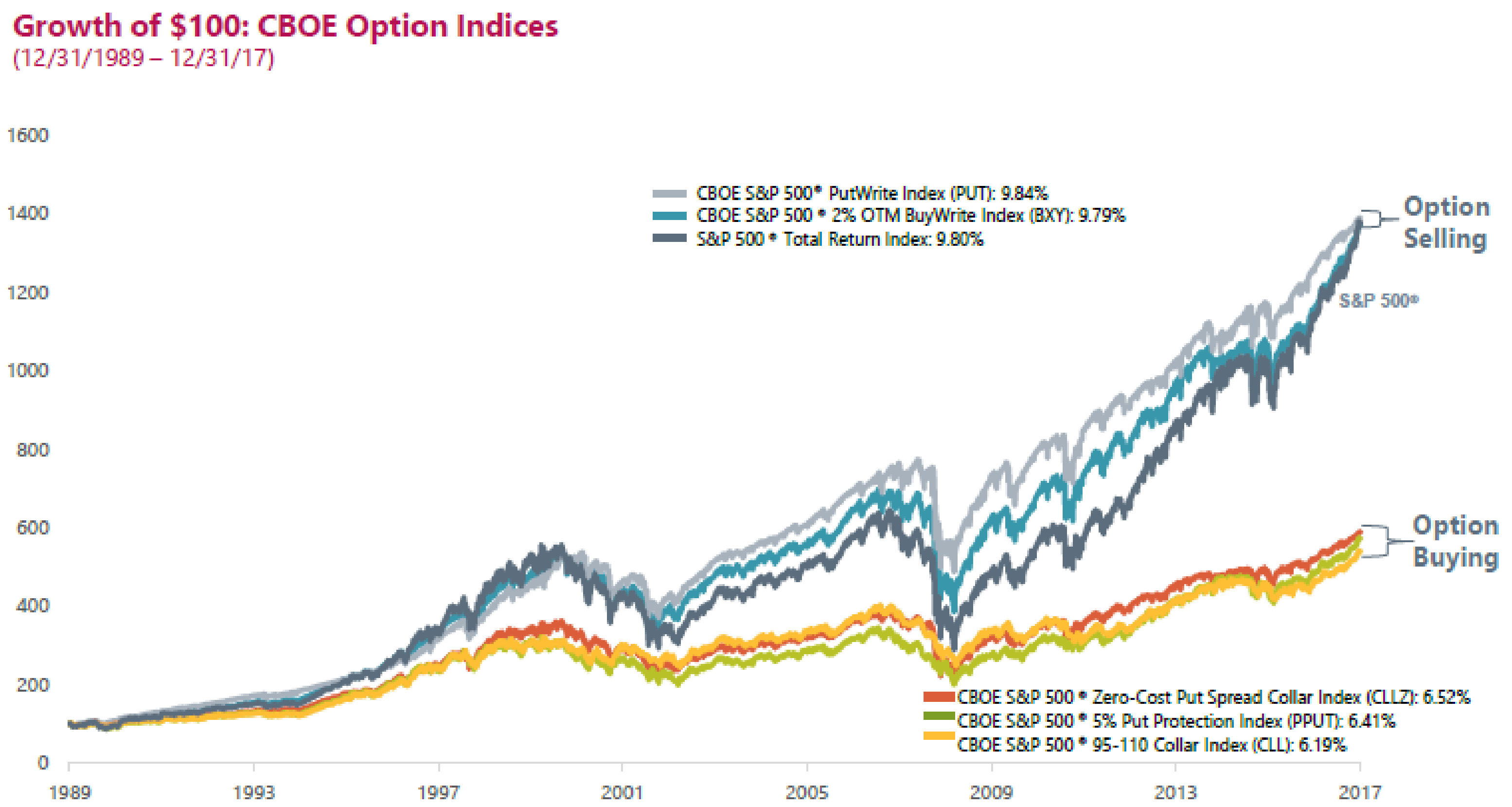
Index options may be thought of as insurance contracts

	Position	Risk	Expected Return Long-Term	Expected Utility
Option Buyers	Insurance Buyer	Known	Negative	**Positive**
Option Sellers	Insurance Underwriter	Unknown	Positive	**Positive**

Source: Parametric

USING DE STRATEGIES IN A PORTFOLIO

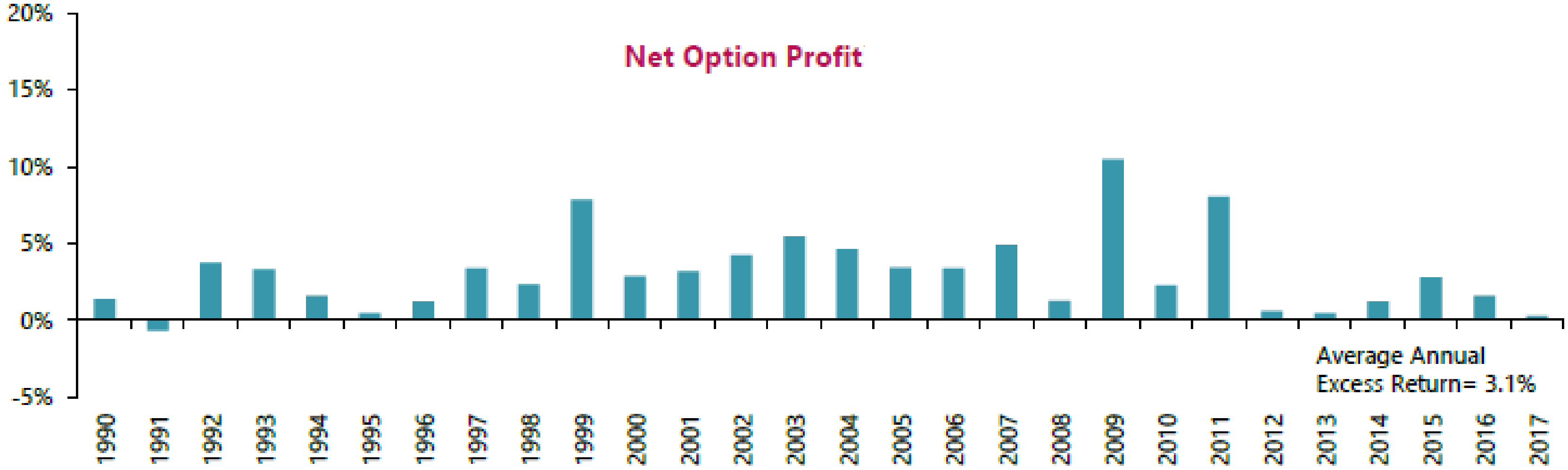
- **Option sellers win over time**
- **Long-term performance in line with the S&P 500 with better performance in down markets**



Source: *Parametric*

USING DE STRATEGIES IN A PORTFOLIO

- **NEPC preferred manager annual profit from selling S&P calls and puts**
- **Long-term return of 3% with low correlation to major asset classes**

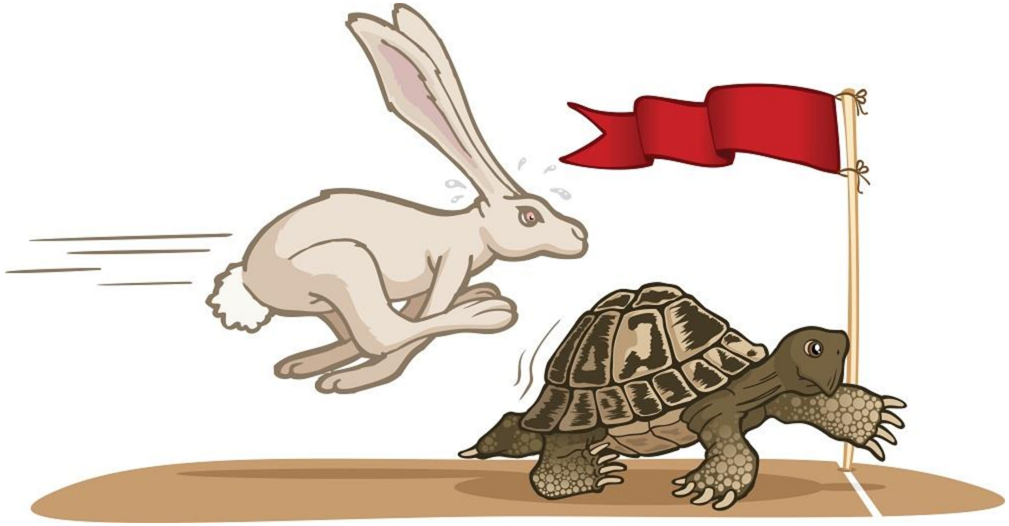


	S&P 500®	MSCI EAFE	GSCI	Bloomberg Barclays Long Treasury	Bloomberg Barclays Credit	Bloomberg Barclays High Yield
Correlation to Net Option Profits[2]	0.11	0.12	0.07	(0.01)	0.11	0.24

Source: Parametric

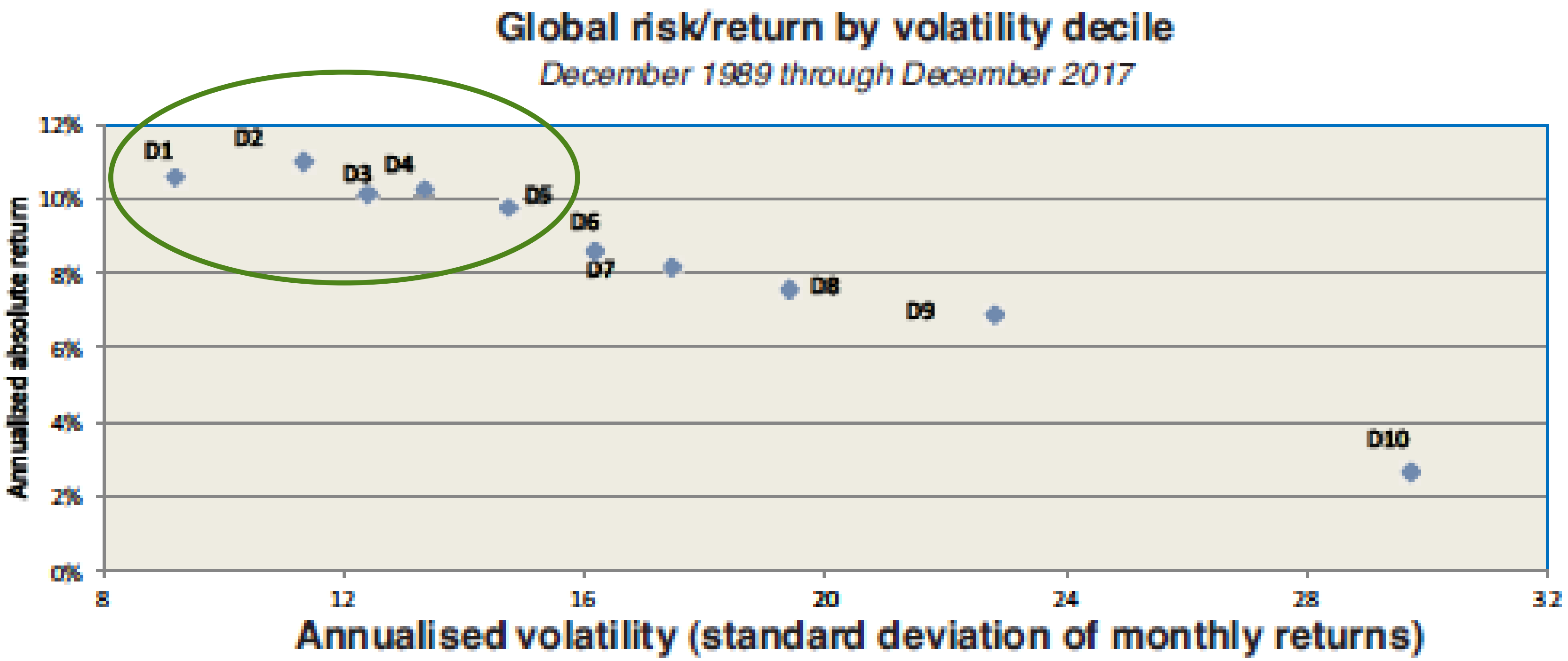
USING DE STRATEGIES IN A PORTFOLIO

- **Why does it work? - Industry incentives and investor behavior**
- **Active management is typically focused on beating a market capitalization-weighted benchmark**
- **Focus on cap-weighted leads to performance chasing among high risk/high reward stocks – "lottery effect"**



USING DE STRATEGIES IN A PORTFOLIO

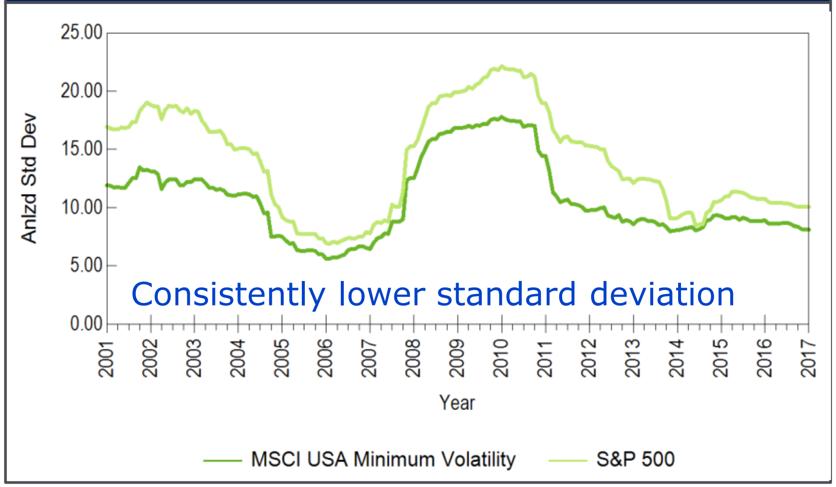
- **Over the last 28 years, low risk stocks outperformed high risk**
- **Based on the performance of the largest 2800 global stocks sorted into deciles by volatility**



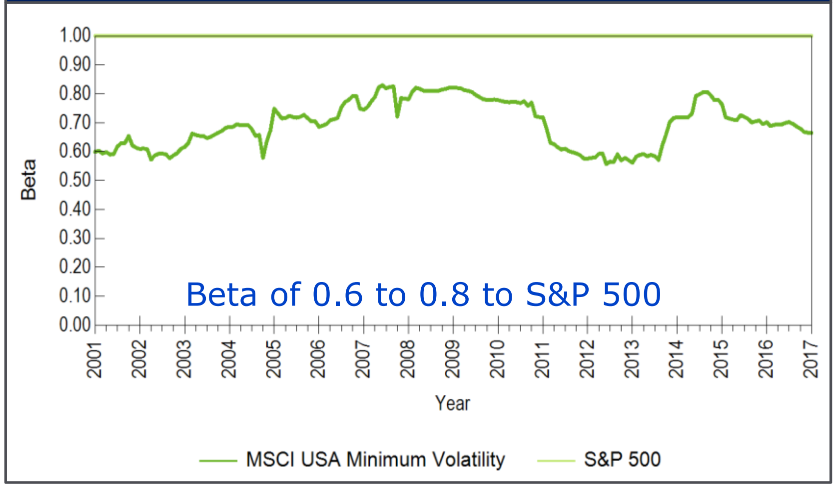
Source: MFS

MSCI US MINIMUM VOLATILITY VS. S&P 500

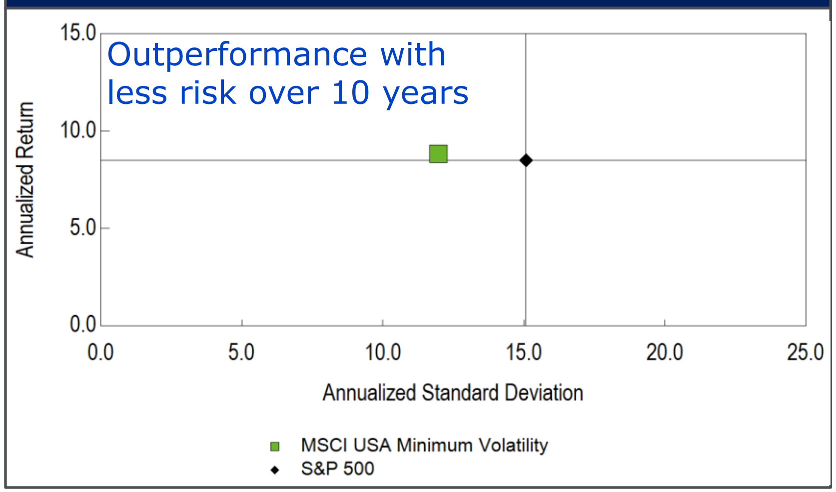
Rolling 3-year Standard Deviation



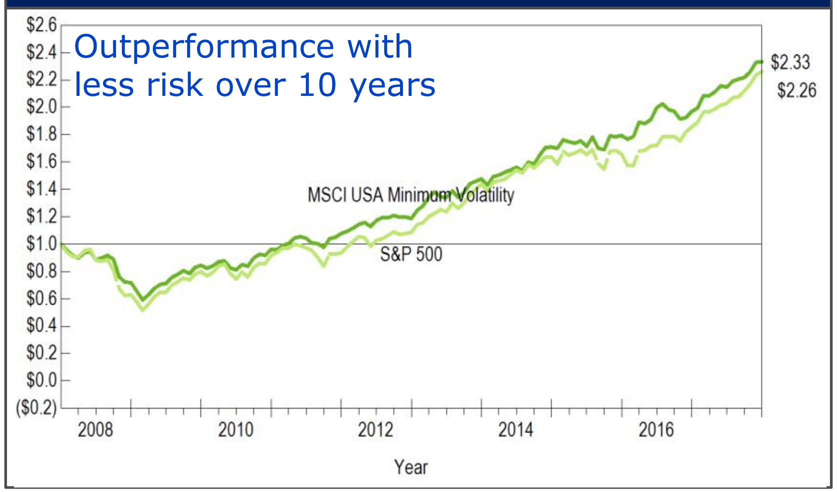
Rolling 3-year Beta – MSCI relative to S&P



10-year Risk/Return



10-year Growth of $



USING DE STRATEGIES IN A PORTFOLIO

SEVERAL POTENTIAL USES

1. Part of a funded status de-risking strategy

2. Reallocating risk

3. Conservative asset pools

4. Hedge fund replacements/alternatives

5. Part of a diversified manager lineup

USING DE STRATEGIES IN A PORTFOLIO

- **Pros and cons with all DE strategies**
  - Risk reduction is primary benefit
  - Opportunity cost in strong rising markets a consideration

- **Strategy and sizing depends on your goals, objectives and governance structure**

- **Pick the right benchmark**

- **DE strategies may not provide meaningful protection on a daily basis or for abrupt corrections**

- **Merits of DE are revealed over more severe or protracted drawdowns**

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