



**Passive Strategy Portfolio Presentation:**  
Dimensional Fund Advisors

## Principles

- **Markets work.** Capital markets do a good job of fairly pricing all available information and investor expectations about publicly traded securities.
- **Diversification is key.** Comprehensive, global asset allocation can neutralize the risks specific to individual securities.
- **Risk and return are related.** The compensation for taking on increased levels of risk is the potential to earn greater returns.
- **Portfolio structure explains performance.** The asset classes that comprise a portfolio and the risk levels of those asset classes are responsible for most of the variability of portfolio returns.

## **Warren E. Buffett**

Chairman and CEO, Berkshire Hathaway, Inc.

“Most investors, both institutional and individual, will find that the best way to own common stocks is through an index fund that charges minimal fees.”

# Efficient Markets Hypothesis

Eugene F. Fama, University of Chicago

## The Hypothesis States:

- Current prices incorporate all available information and expectations.
- Current prices are the best approximation of intrinsic value.
- Price changes are due to unforeseen events.
- “Mispricings” do occur but not in predictable patterns that can lead to consistent outperformance.

## Implications

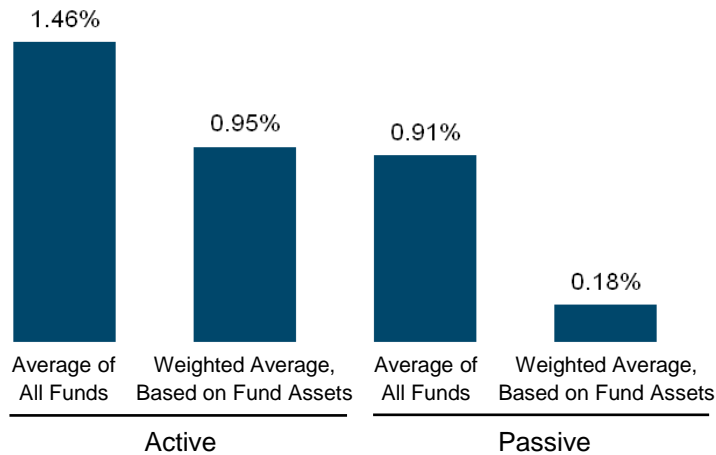
- Active management strategies cannot consistently add value through security selection and market timing.
- Passive investment strategies reward investors with capital market returns.

## Mutual Fund Expenses

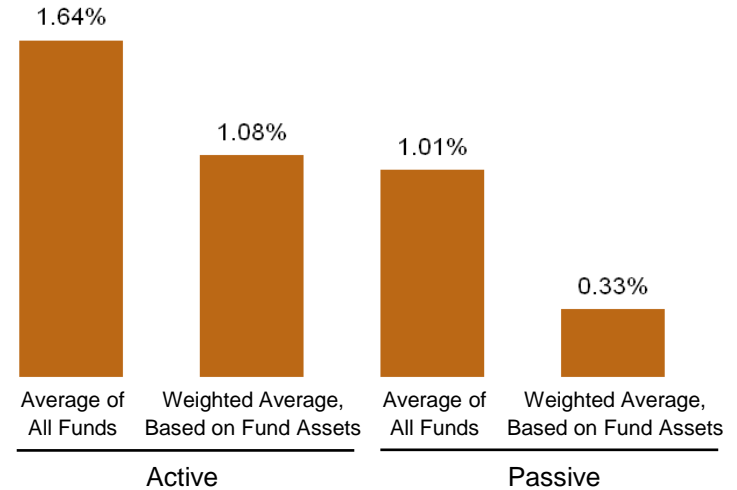
“After costs, the return on the average actively managed dollar will be less than the return on the average passively managed dollar for any time period.”

—William F. Sharpe, 1990 Nobel Laureate

**Domestic Mutual Fund Expense Ratios**



**International Mutual Fund Expense Ratios**

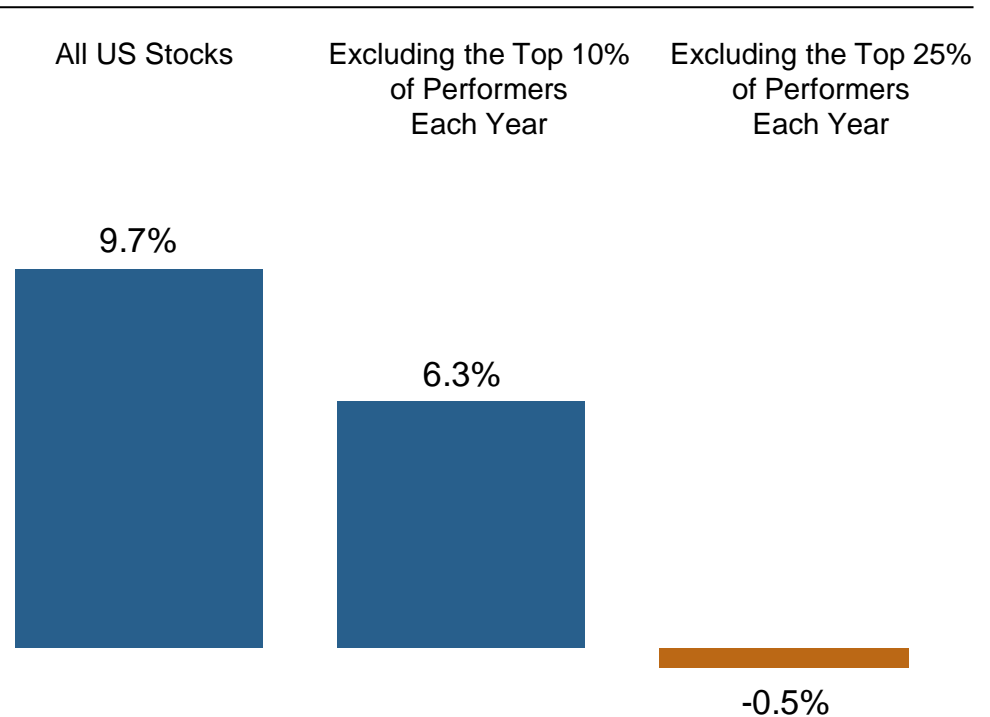


William F. Sharpe, “The Arithmetic of Active Management,” *Financial Analysts Journal* 47, no. 1 (January/February 1991): 7-9.  
 Mutual fund expense ratios as of April 9, 2010. Asset weighting based on net assets as of December 31, 2008. Data provided by Morningstar, Inc.  
 Passive funds are those coded by Morningstar as Index Funds.

# Missing Opportunity

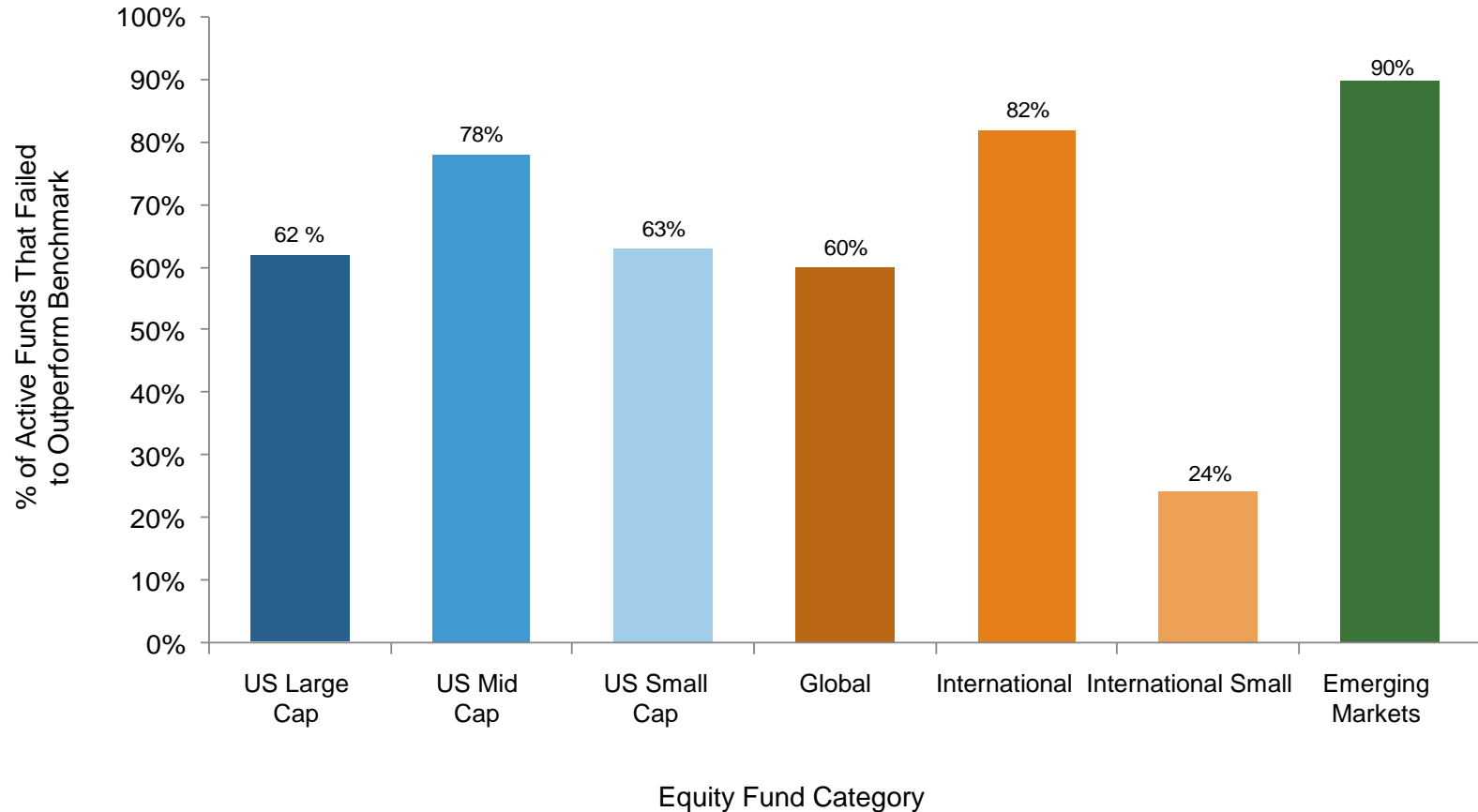
## Compound Average Annual Returns: 1926-2010

- Strong performance among a few stocks accounts for much of the market's return each year.
- There is no evidence that managers can identify these stocks in advance—and attempting to pick them may result in missed opportunity.
- Investors should diversify broadly and stay fully invested to capture expected returns.



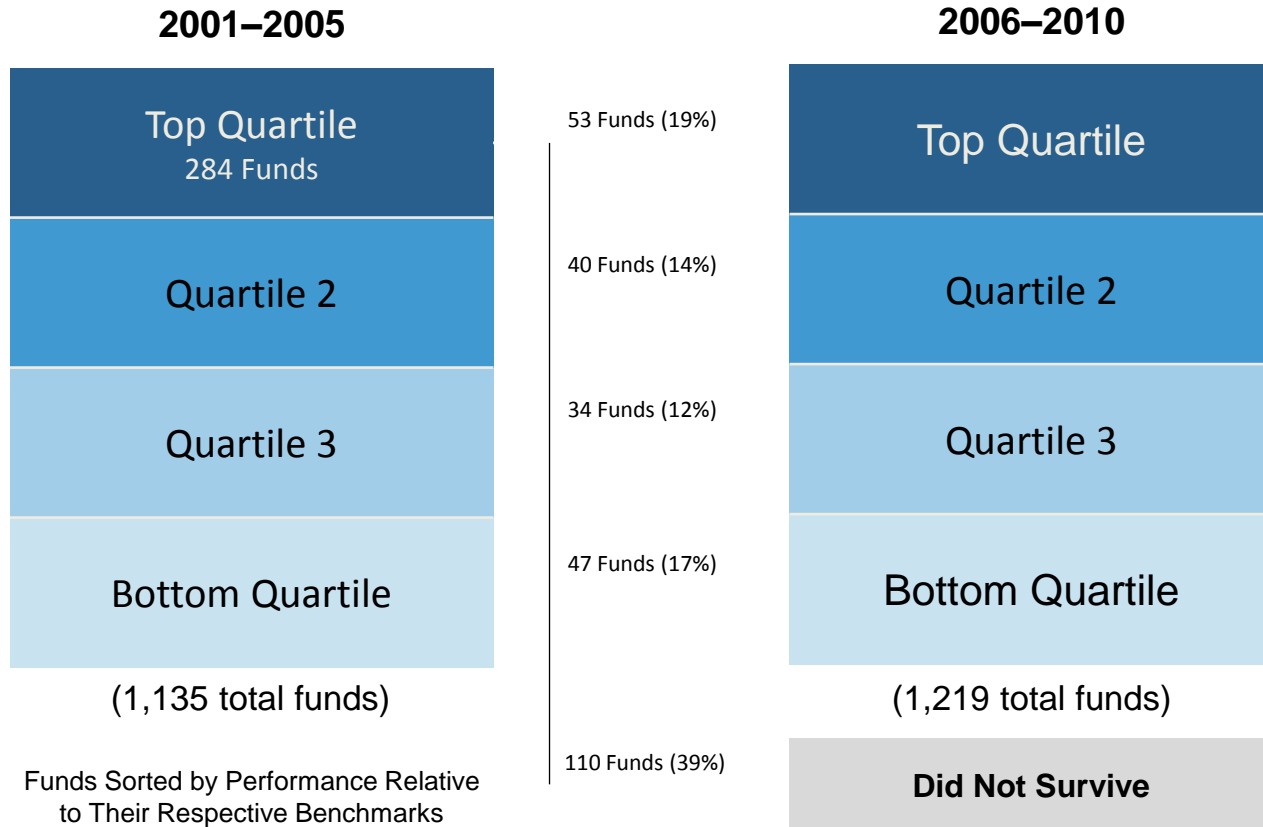
## The Failure of Active Management

### Percentage of Active Public Equity Funds That Failed to Beat the Index Five Years as of December 2010



Source: Standard & Poor's Indices Versus Active Funds Scorecard, year end 2010. Index used for comparison: US Large Cap—S&P 500 Index; US Mid Cap—S&P MidCap 400 Index; US Small Cap—S&P SmallCap 600 Index; Global Funds—S&P Global 1200 Index; International—S&P 700 Index; International Small—S&P Developed ex. US SmallCap Index; Emerging Markets—S&P IFCI Composite. Data for the SPIVA study is from the CRSP Survivor-Bias-Free US Mutual Fund Database.

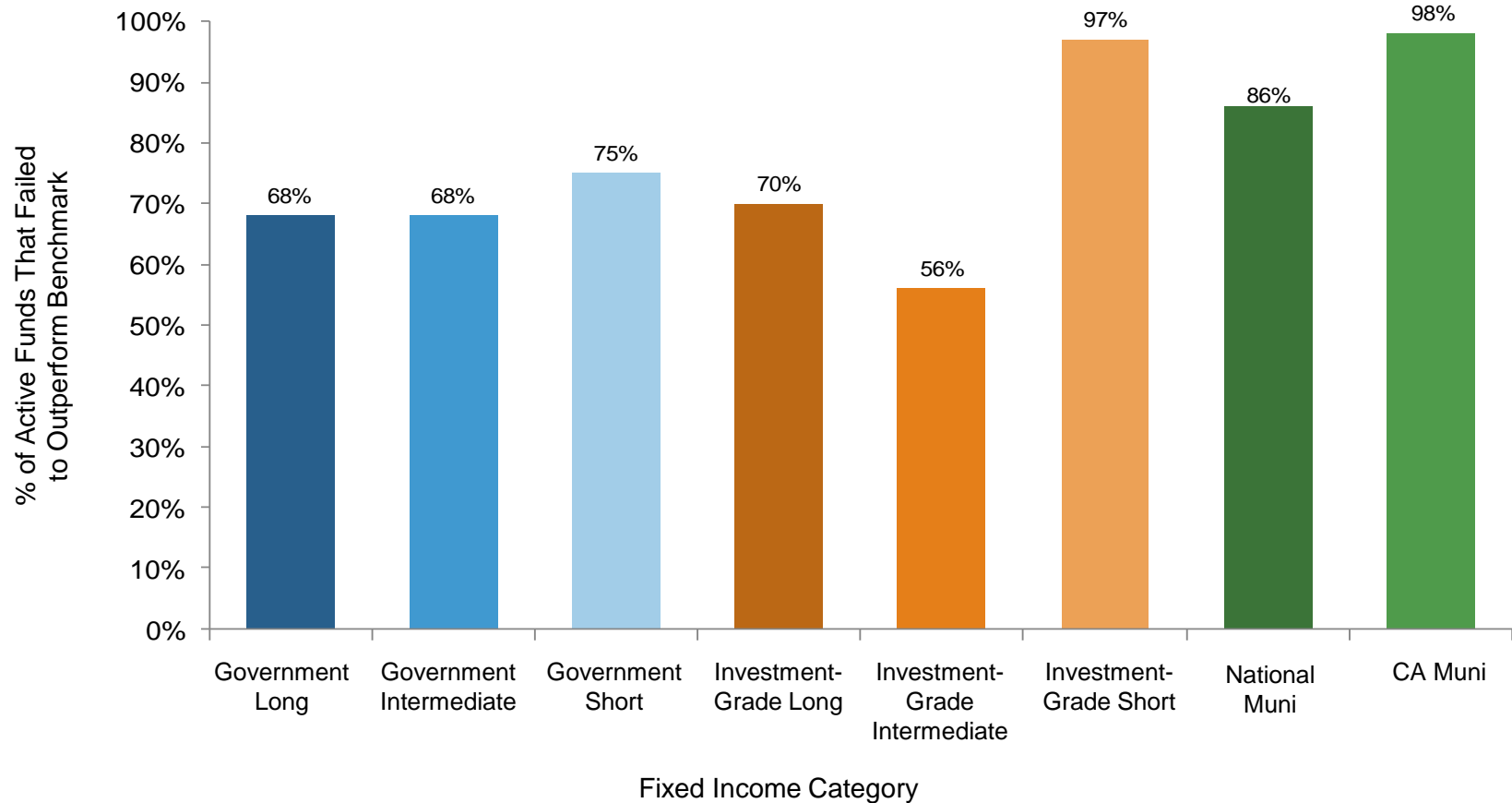
## Subsequent Performance of Top 25% of US Equity Funds As of December 31, 2010



The left column represents all US equity funds in the CRSP Mutual Fund Database with a complete return history for 2001–2005. The funds are sorted by performance relative to their benchmarks. Funds in the top quartile are then tracked and directed to their subsequent performance quartiles in the following 5-year period (2006–2010), or to the “Did Not Survive” category. Quartiles in the following period reflect all funds with a complete return history. Percentages may not total 100% due to rounding.

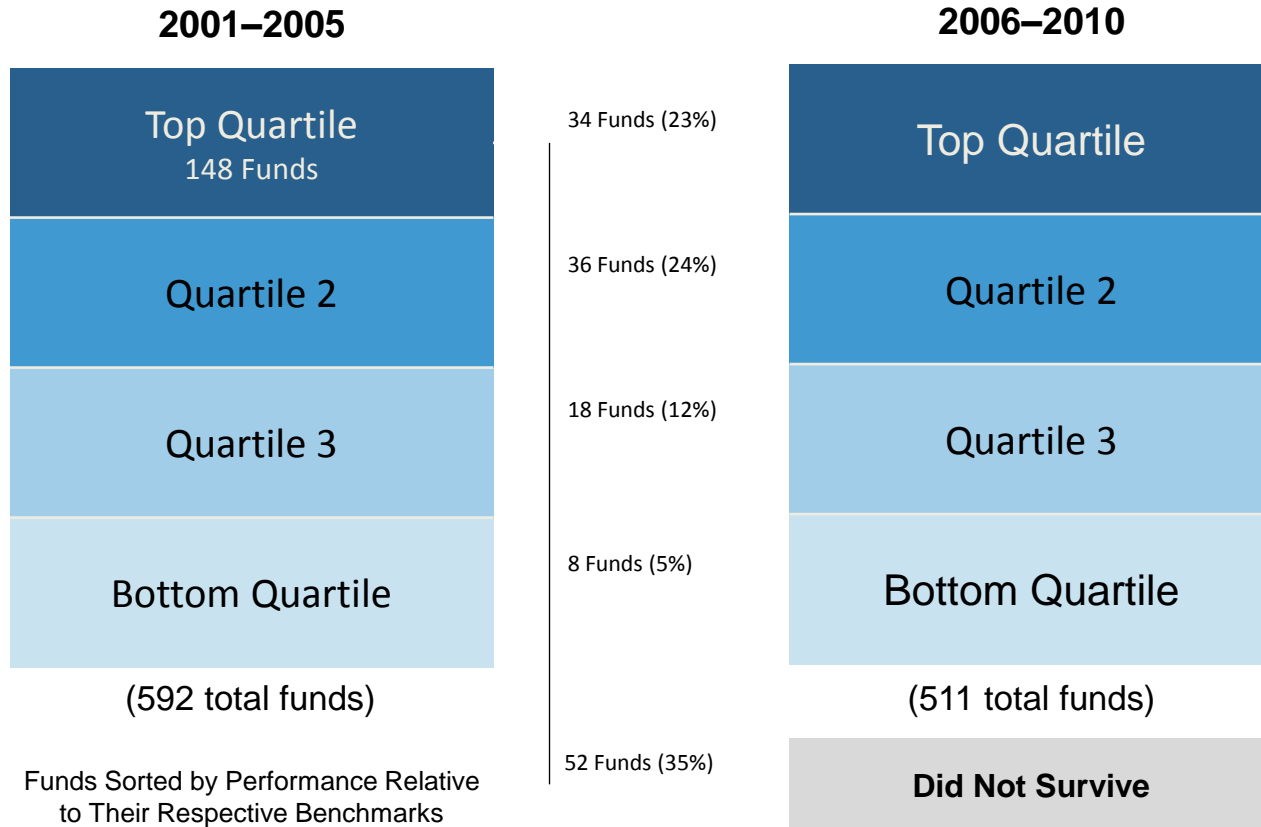
## The Failure of Active Management

### Percentage of Active Public Fixed Income Funds That Failed to Beat the Index Five Years as of December 2010



Source: Standard & Poor's Indices Versus Active Funds Scorecard, year end 2010. Index used for comparison: Government Long—Barclays Capital US Long Government Index; Government Intermediate—Barclays Capital US Intermediate Government Index; Government Short—Barclays Capital US 1-3 Year Government Index; Investment Grade Long—Barclays Capital US Long Government/Credit; Investment Grade Intermediate—Barclays Capital US Intermediate Government/Credit; Investment Grade Short—Barclays Capital US 1-3 Year Government/Credit; National Muni—S&P National Municipal Bond Index; CA Muni—S&P California Municipal Bond Index. Data for the SPIVA study is from the CRSP Survivor-Bias-Free US Mutual Fund Database. Barclays Capital data, formerly Lehman Brothers, provided by Barclays Bank PLC.

## Subsequent Performance of Top 25% of US Bond Funds As of December 31, 2010



The left column represents all US equity funds in the CRSP Mutual Fund Database with a complete return history for 2001–2005. The funds are sorted by performance relative to their benchmarks. Funds in the top quartile are then tracked and directed to their subsequent performance quartiles in the following five-year period (2006–2010), or to the “did not survive” category. Quartiles in the following period reflect all funds with a complete return history. Percentages may not total 100% due to rounding.

# The Importance of Long-Term Discipline

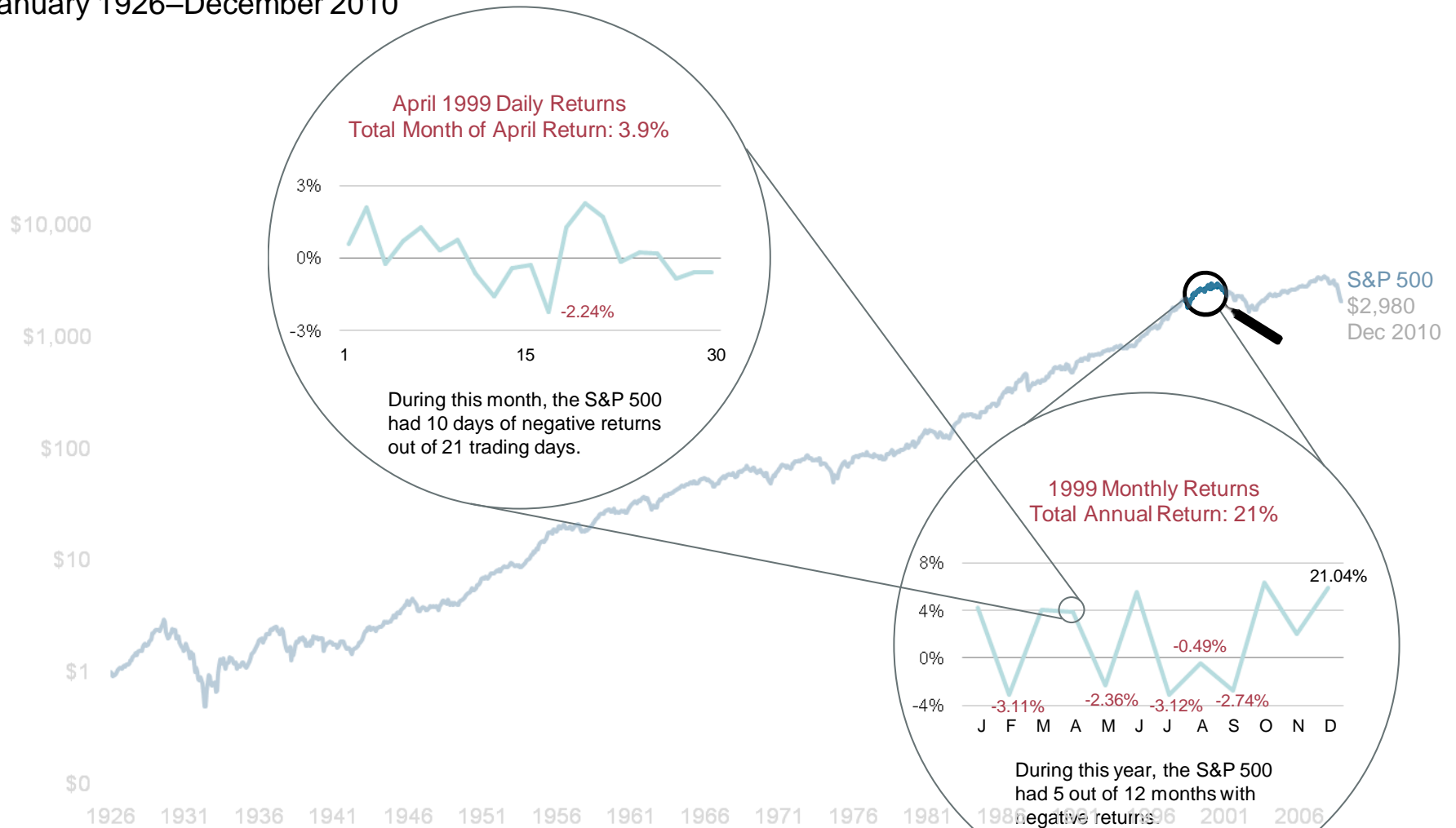
<b>Annualized Compound Returns (%)</b>	<b>1926-2010</b>	<b>1965-1981</b>	<b>1982-2010</b>
<b>S&amp;P 500 Index</b>	9.87	6.33	11.30
<b>One-Month US Treasury Bills</b>	3.62	6.66	4.81

The S&P data are provided by Standard & Poor's Index Services Group. One-Month US Treasury Bills data © Stocks, Bonds, Bills, and Inflation Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld).

For illustrative purposes only. Indexes are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Values change frequently and past performance may not be repeated. There is always the risk that an investor may lose money.

# Stocks vs. the Risk-Free Rate

January 1926–December 2010



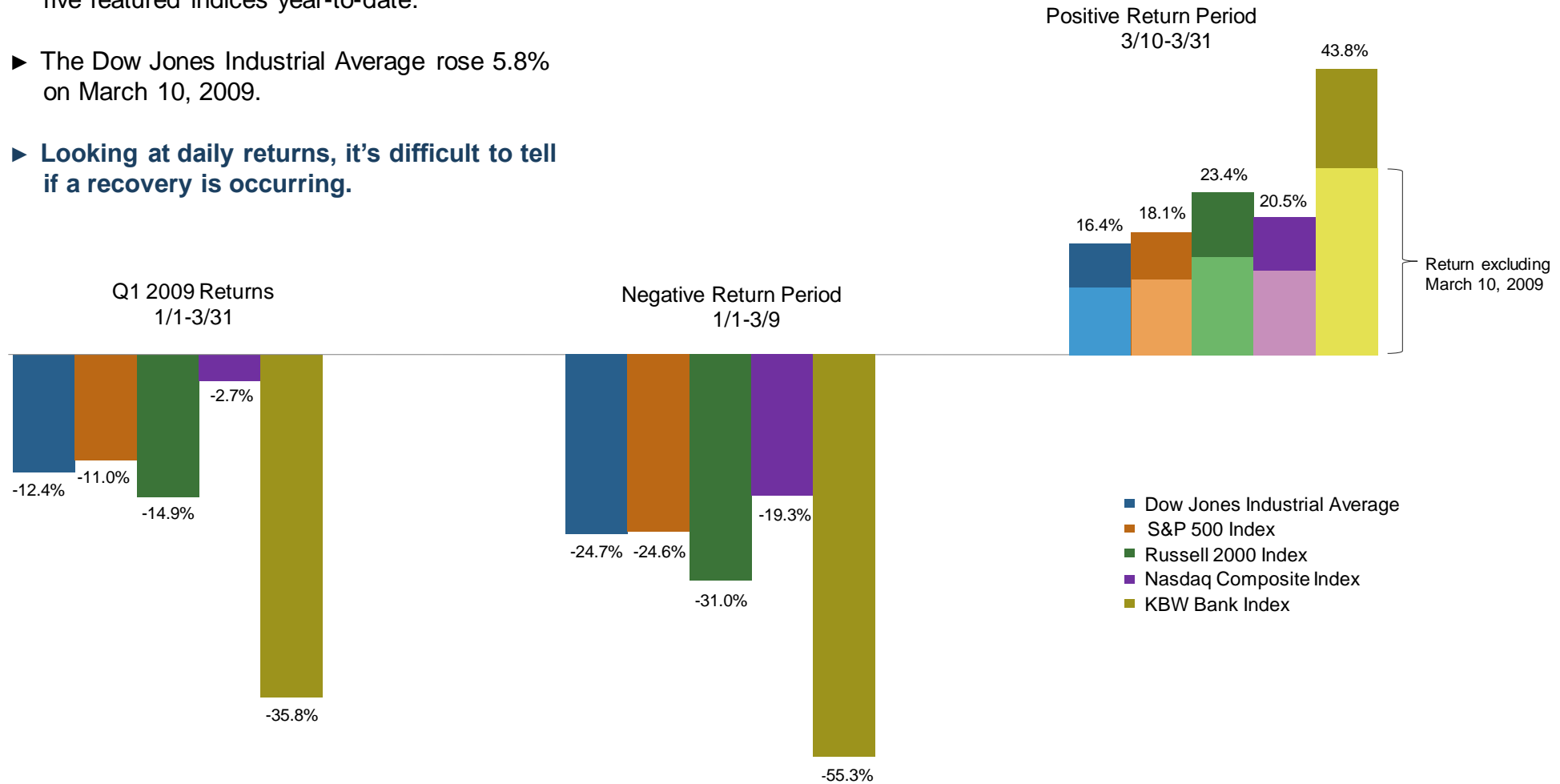
- Even during periods of positive stock returns, investors may experience substantial volatility.
- Short-term volatility is a typical characteristic of stock market investing.
- Long-term returns are the sum of short-term volatility.

The S&P data are provided by Standard & Poor's Index Services Group. Indexes are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Not to be construed as investment advice.

# Perils of Market Timing

## A Case Study of Q1 2009

- ▶ March 9 was the low closing date for four of the five featured indices year-to-date.
- ▶ The Dow Jones Industrial Average rose 5.8% on March 10, 2009.
- ▶ **Looking at daily returns, it's difficult to tell if a recovery is occurring.**



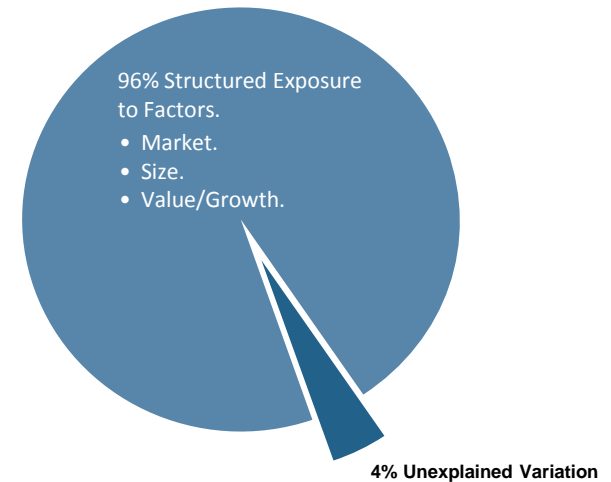
Returns are from market-close to market-close. Indices are not available for direct investment; their performance does not reflect the expenses associated with the management of an actual portfolio. The S&P data are provided by Standard & Poor's Index Services Group. Dow Jones data provided by Dow Jones Indexes. Russell data copyright © Russell Investment Group 1995-2010 all rights reserved. Mutual fund universe statistical data and non-Dimensional money managers' fund data provided by Morningstar, Inc. Nasdaq Composite Index data provided by The Nasdaq Stock Market, Inc. KBW Bank Index data provided by Keefe, Bruyette & Woods, Inc. (KBW). Past performance is not a guarantee of future results.

## Investment Considerations

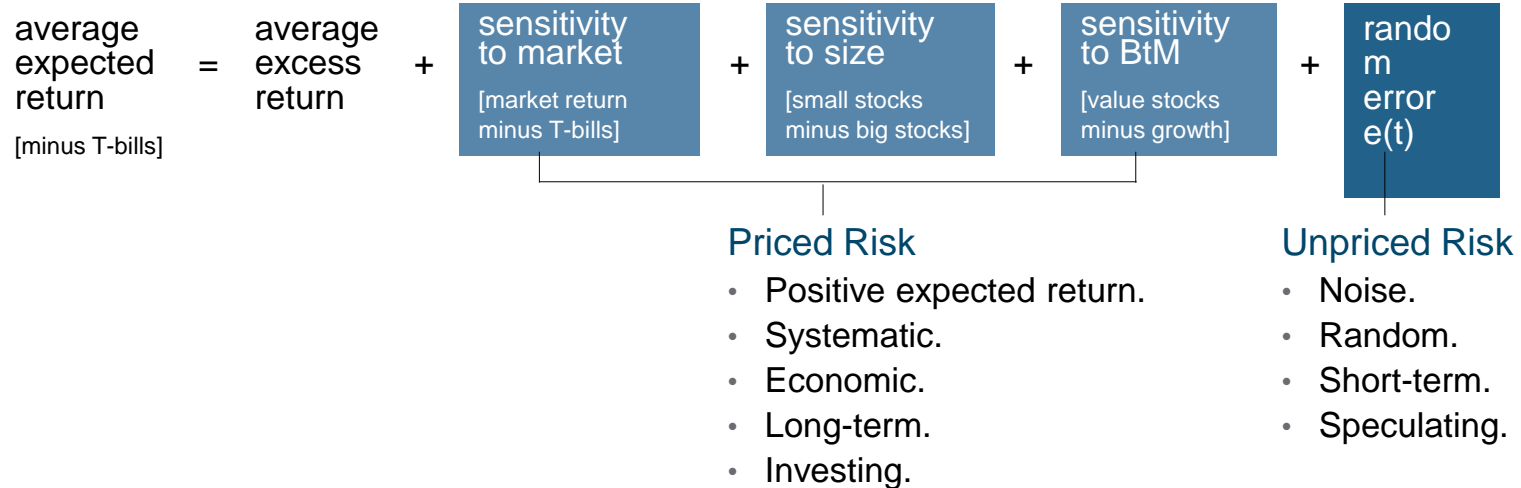
- Reduce expenses.
- Diversify systematically.
- Minimize taxes and turnover.
- Think long-term.
- Apply discipline.
- Hold low-cost funds.
- Maintain asset allocation.

## Structure Determines Performance

- Over 96% of the variation in returns is due to risk factor exposure.
- After fees, traditional management typically reduces returns.



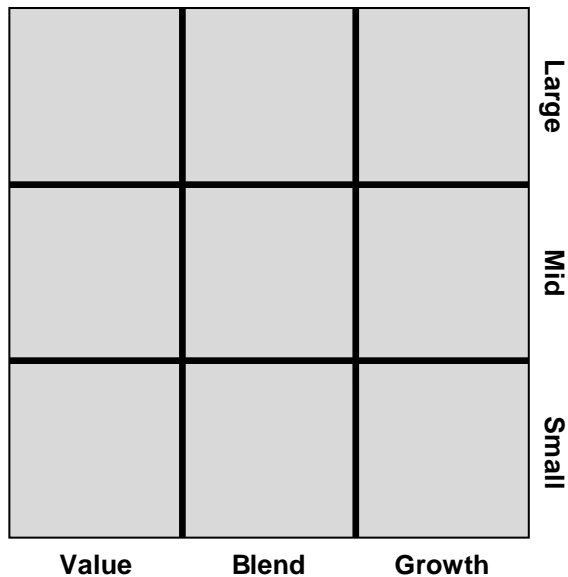
### THE MODEL TELLS THE DIFFERENCE BETWEEN INVESTING AND SPECULATING



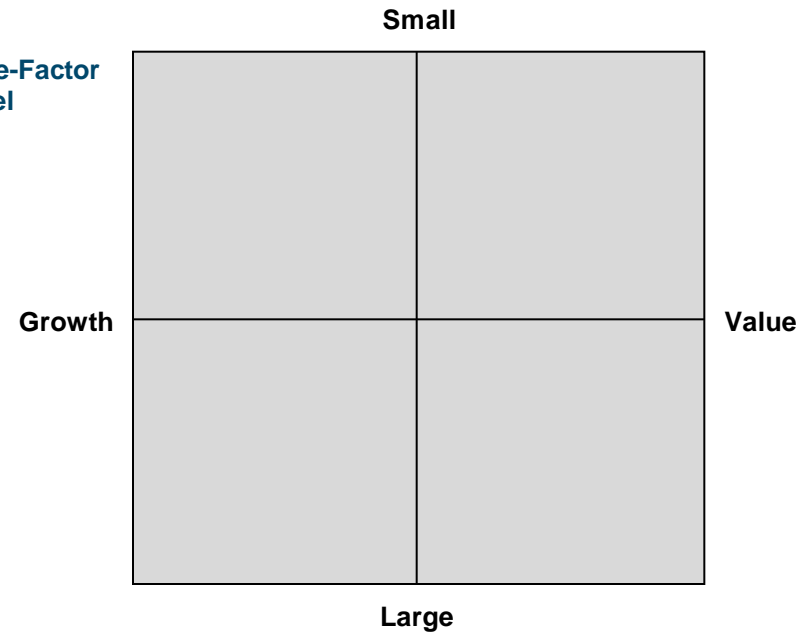
Source: Dimensional Fund Advisors study (2002) of 44 institutional equity pension plans with \$452 billion total assets. Factor analysis run over various time periods, averaging nine years. Total assets based on total plan dollar amounts as of year end 2001. Average explanatory power ( $R^2$ ) is for the Fama/French equity benchmark universe.

# Precision in Portfolios

Traditional  
Consulting  
Style Box



Three-Factor  
Model



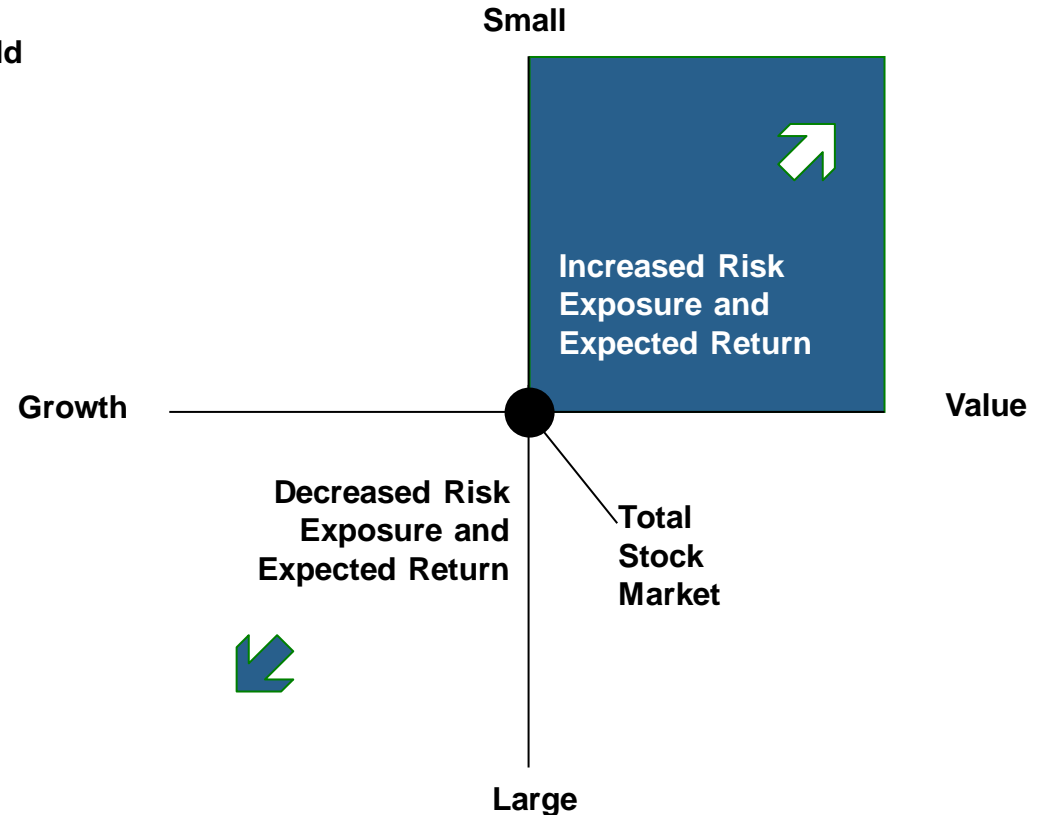
- Traditionally, “products” have been classified into rigid and sometimes arbitrary categories.
- Style boxes force crude strategic allocation.

- Using the three-factor model, the total portfolio is measured by factors that determine risk and expected return.
- Freedom from brittle definitions allows precisely tuned portfolios.

# Risk and Return Are Related

## Three Dimensions of Stock Returns around the World

- **Equity Market**  
(complete value-weighted universe of stocks)  
Stocks tend to have higher expected returns than fixed income over time.
- **Company Size**  
(measured by market capitalization)  
Small company stocks tend to have higher expected returns than large company stocks over time.
- **Company Price**  
(measured by ratio of company book value to market equity)  
Lower-priced “value” stocks tend to have higher expected returns than higher-priced “growth” stocks over time.



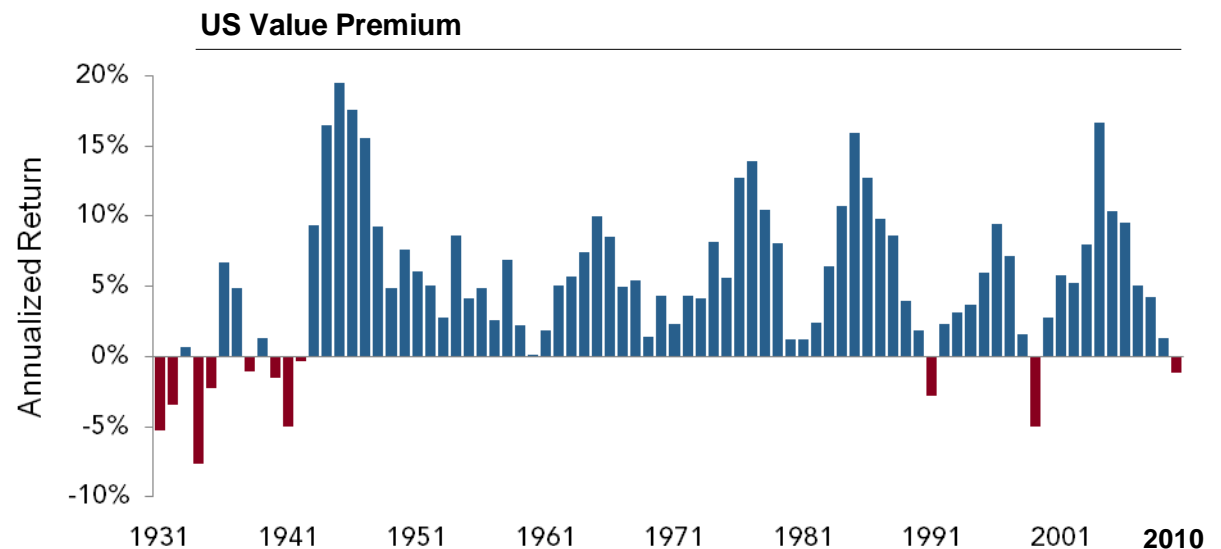
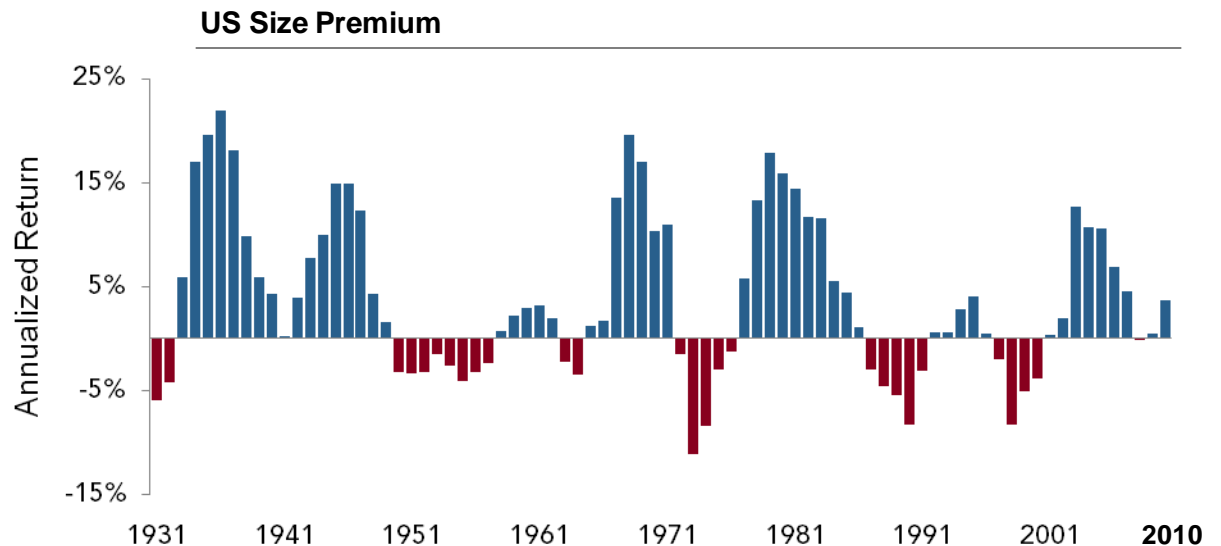
Eugene F. Fama and Kenneth R. French, “The Cross-Section of Expected Stock Returns,” *Journal of Finance* 47, no. 2 (June 1992): 427-65.

Eugene F. Fama and Kenneth R. French are consultants for Dimensional Fund Advisors. This page contains the opinions of Eugene F. Fama and Kenneth R. French but not necessarily of Dimensional Fund Advisors or DFA Securities LLC, and does not represent a recommendation of any particular security, strategy, or investment product. The opinions expressed are subject to change without notice. This material is distributed for educational purposes only and should not be considered investment advice or an offer of any security for sale. Dimensional Fund Advisors (“Dimensional”) is an investment advisor registered with the Securities and Exchange Commission. All materials presented are compiled from sources believed to be reliable and current, but accuracy cannot be guaranteed. This article is distributed for educational purposes, and it is not to be construed as an offer, solicitation, recommendation, or endorsement of any particular security, products or services described. ©2011 by Dimensional Fund Advisors. All rights reserved.

# Five-Year Moving Average of the US Size and Value Premiums

Annual: 1927–2010

- On an annualized basis, small cap and value stocks have had more positive than negative five-year periods relative to large cap and growth stocks.
- These periods typically offer stronger performance relative to large cap and growth.
- Small cap and value stocks are still subject to extended periods of underperformance.

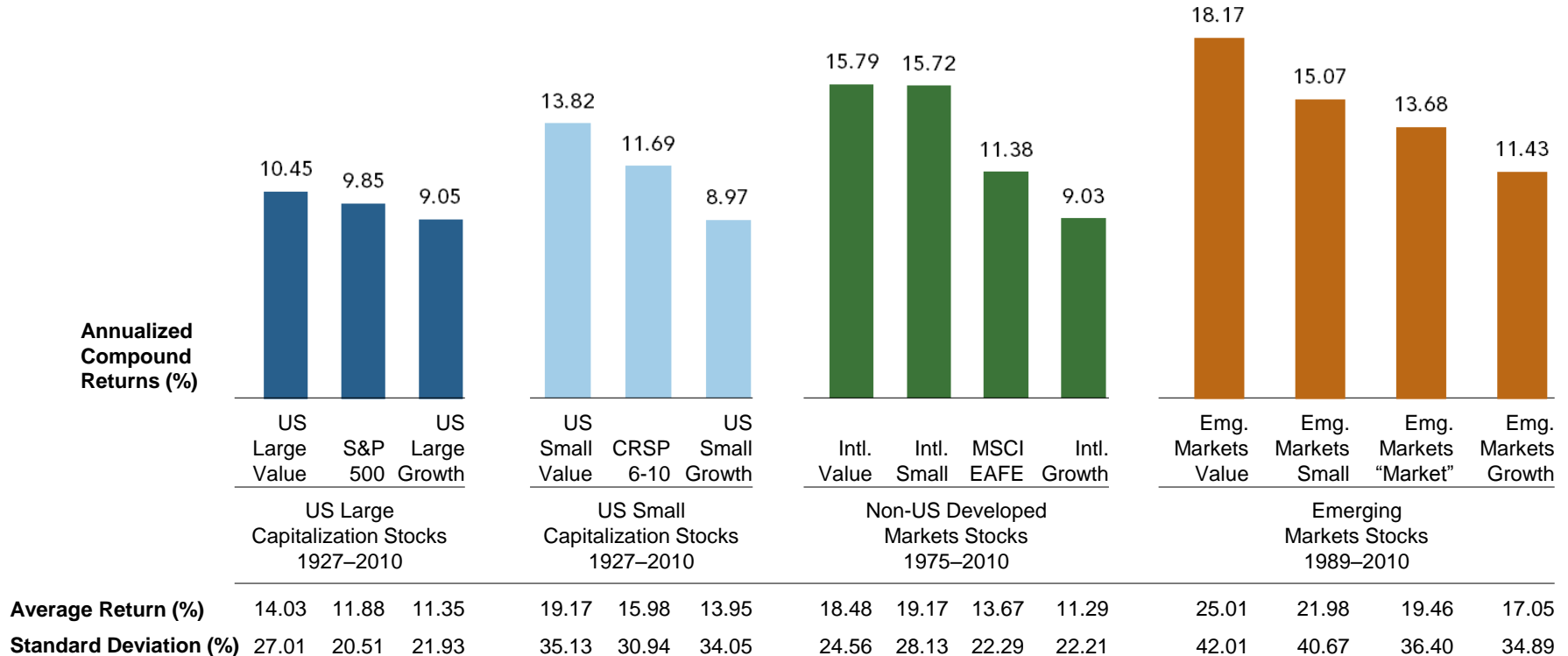


Multifactor data provided by Fama/French. SmB and HmL research factors.

Past performance is not a guarantee of future results. Values change frequently and past performance may not be repeated. There is always the risk that an investor may lose money. Securities of small firms are often less liquid than those of large companies. As a result, small company stocks may fluctuate relatively more in price. Even a long-term investment approach cannot guarantee a profit. Economic, political, and issuer-specific events will cause the value of securities, and the funds that own them, to rise or fall. Because the value of investments will fluctuate, there is a risk that investors will lose money.

# Size and Value Effects Are Strong around the World

Annual Index Data



In US dollars. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. US value and growth index data (ex utilities) provided by Fama/French. The S&P data are provided by Standard & Poor's Index Services Group. CRSP data provided by the Center for Research in Security Prices, University of Chicago. International Value data provided by Fama/French from Bloomberg and MSCI securities data. International Small data compiled by Dimensional from Bloomberg, StyleResearch, London Business School, and Nomura Securities data. MSCI EAFE Index is net of foreign withholding taxes on dividends; copyright MSCI 2011, all rights reserved. Emerging markets index data simulated by Fama/French from countries in the IFC Investable Universe; simulations are free-float weighted both within each country and across all countries.

Indexes are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Values change frequently and past performance may not be repeated. There is always the risk that an investor may lose money. *Small company risk:* Securities of small firms are often less liquid than those of large companies. As a result, small company stocks may fluctuate relatively more in price. *Emerging markets risk:* Numerous emerging countries have experienced serious, and potentially continuing, economic and political problems. Stock markets in many emerging countries are relatively small, expensive, and risky. Foreigners are often limited in their ability to invest in, and withdraw assets from, these markets. Additional restrictions may be imposed under other conditions. *Foreign securities and currencies risk:* Foreign securities prices may decline or fluctuate because of: (a) economic or political actions of foreign governments, and/or (b) less regulated or liquid securities markets. Investors holding these securities are also exposed to foreign currency risk (the possibility that foreign currency will fluctuate in value against the US dollar).

## Value Added: Efficient Market Investing

### Asset Class Management

- Grounded in the efficiency of capital markets.
- Captures specific dimensions of risk identified by academic research.
- Minimizes transaction costs and enhances returns through trading and engineering.

### Active Management

- Attempts to beat the market through security selection and market timing.
- Undermines asset class exposure to keep up with the most “promising” securities.
- Generates higher fees, trading costs, and tax consequences due to increased turnover.

### Index Management

- Accepts asset class returns.
- Allows commercial benchmarks to define strategy.
- Sacrifices transaction costs and turnover in favor of tracking.