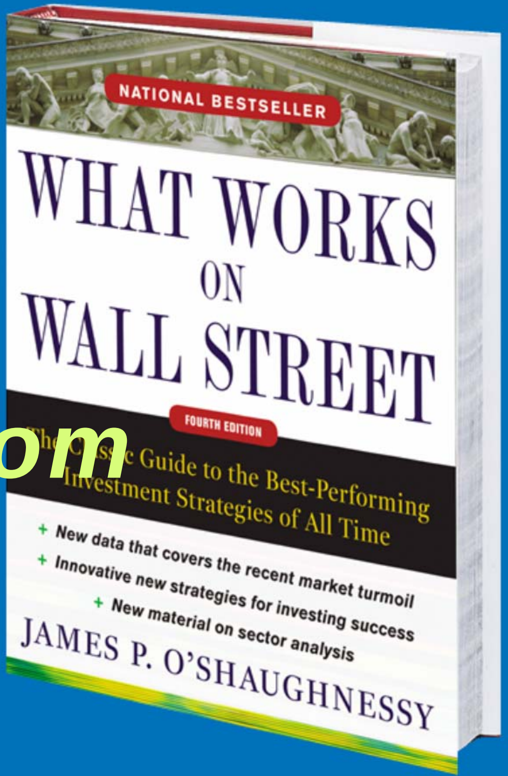
# Successful Active Investing is Hard.

*Lessons from*

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O'Shaughnessy
ASSET MANAGEMENT

“A long-term perspective is required.

Yet, the odds are stacked against us!”

“The fault, dear Brutus,
is not in our stars.

But in ***ourselves***,
that we are underlings.”

— William Shakespeare, *Julius Caesar*

**"The biases of judgment and decision-making have sometimes been called cognitive illusions. Like *visual* illusions, the mistakes of intuitive reasoning are not easily eliminated… merely *learning about* illusions does not eliminate them."**

— Daniel Kahneman, Nobel Laureate in Economic Science


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45%

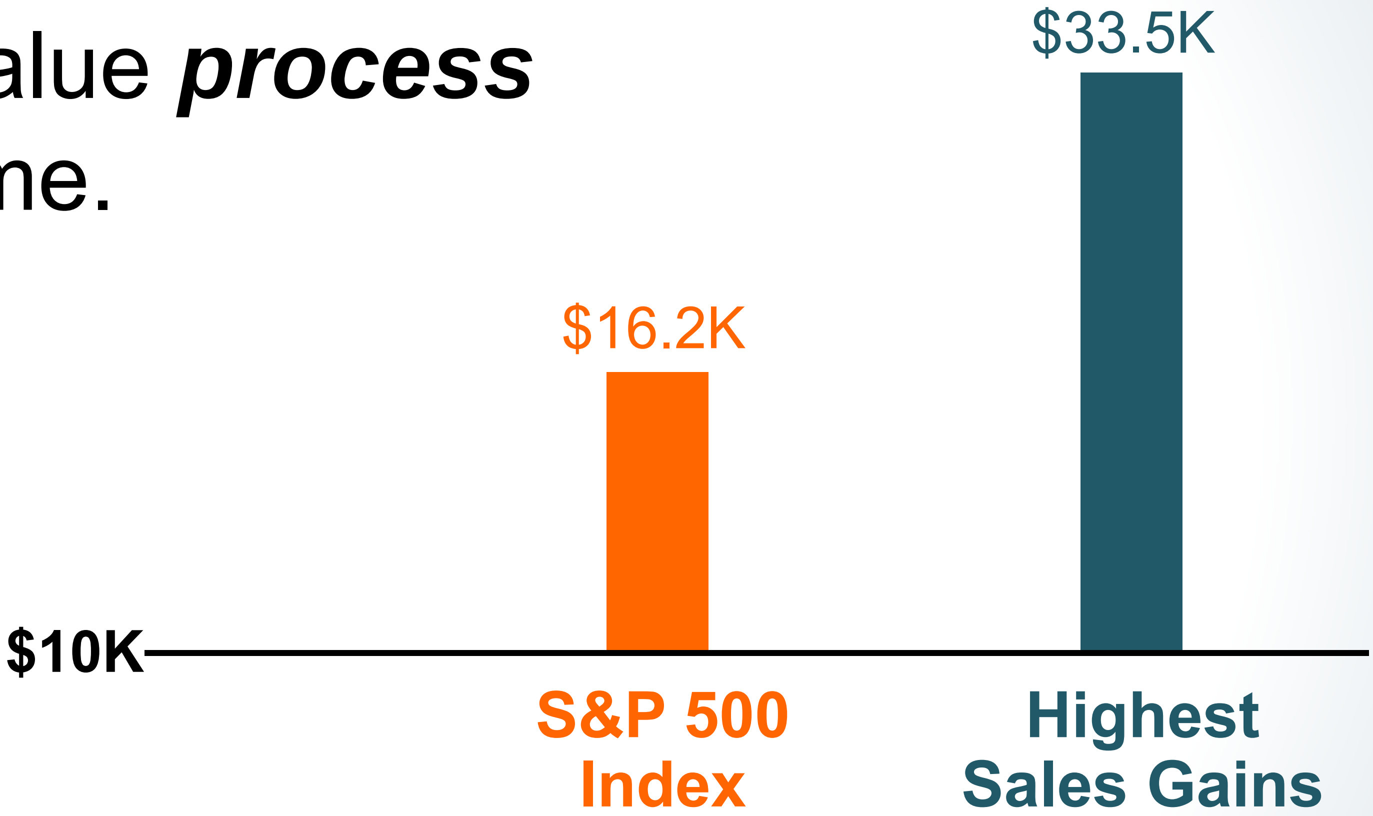
**"We find that a long list of investment biases — for example, the reluctance to realize losses, performance chasing, and the home bias — are *human*, in the sense that we are born with them. Genetic factors explain up to 45% of the variation in these biases across individuals. We cannot find any evidence that education is a significant moderator of genetic investment behavior."**

— Henrik Cronqvist & Stephan Siegel,
"Why Do Individuals Exhibit Investment Biases?"

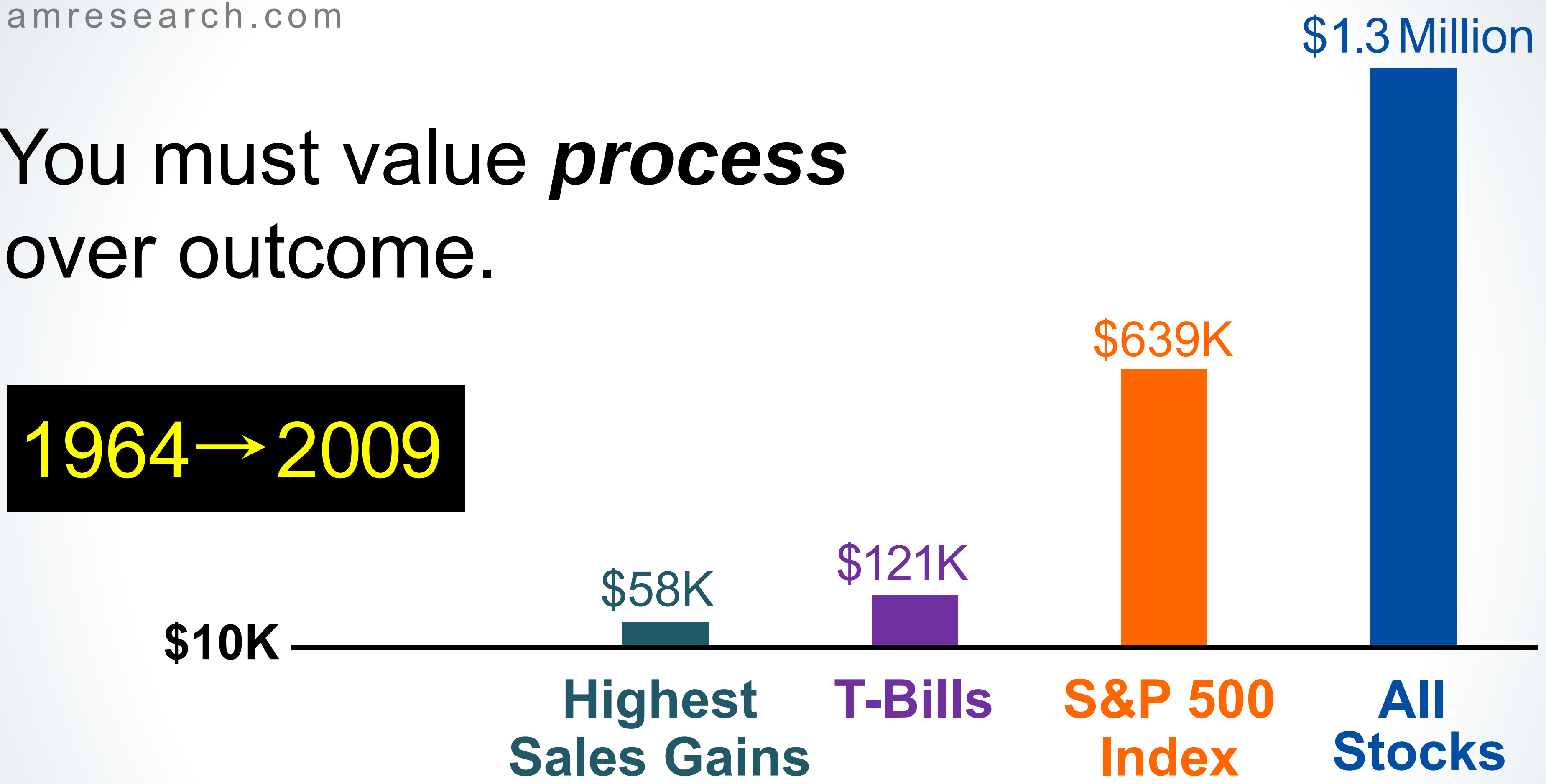
# You must value ***process*** over outcome.

**5-year**

(As of 2009)



# You must value ***process*** over outcome.

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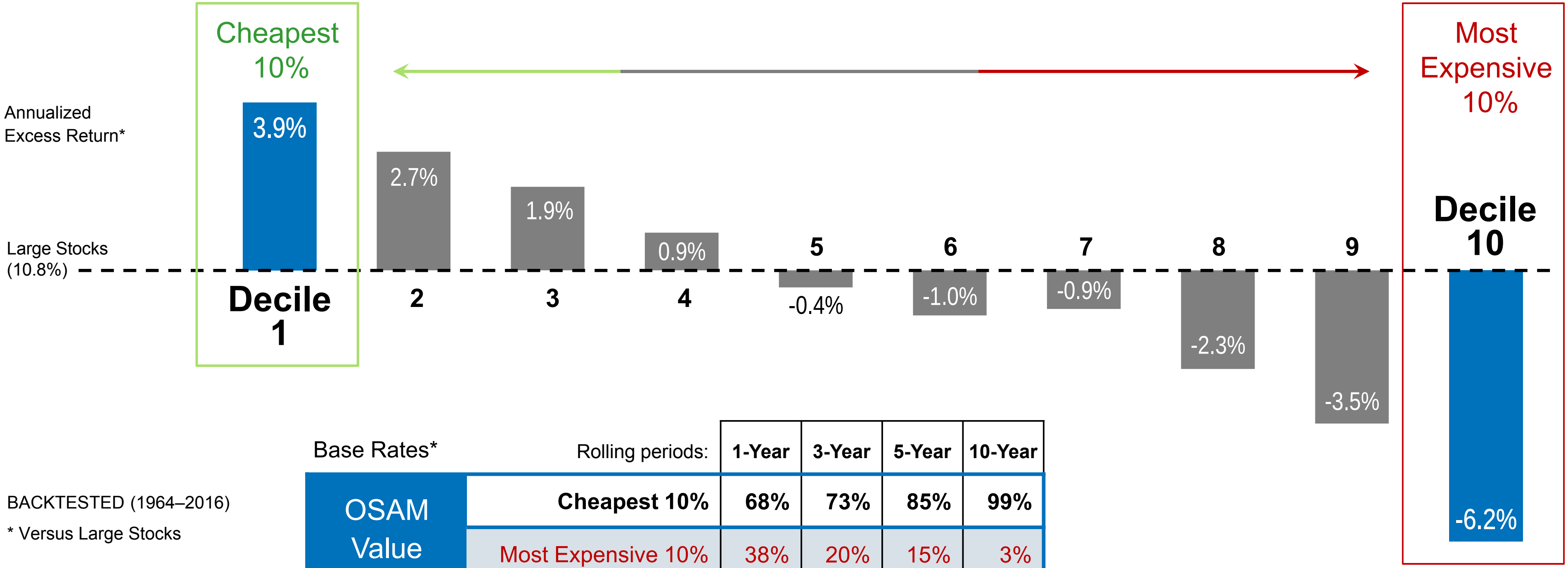
# Long-term data is essential.




Base Rates*

| OSAM Value | Rolling periods: | 1-Year | 3-Year | 5-Year | 10-Year |
|---|---|---|---|---|---|
| | **Cheapest 10%** | **68%** | **73%** | **85%** | **99%** |
| | Most Expensive 10% | 38% | 20% | 15% | 3% |

BACKTESTED (1964–2016)

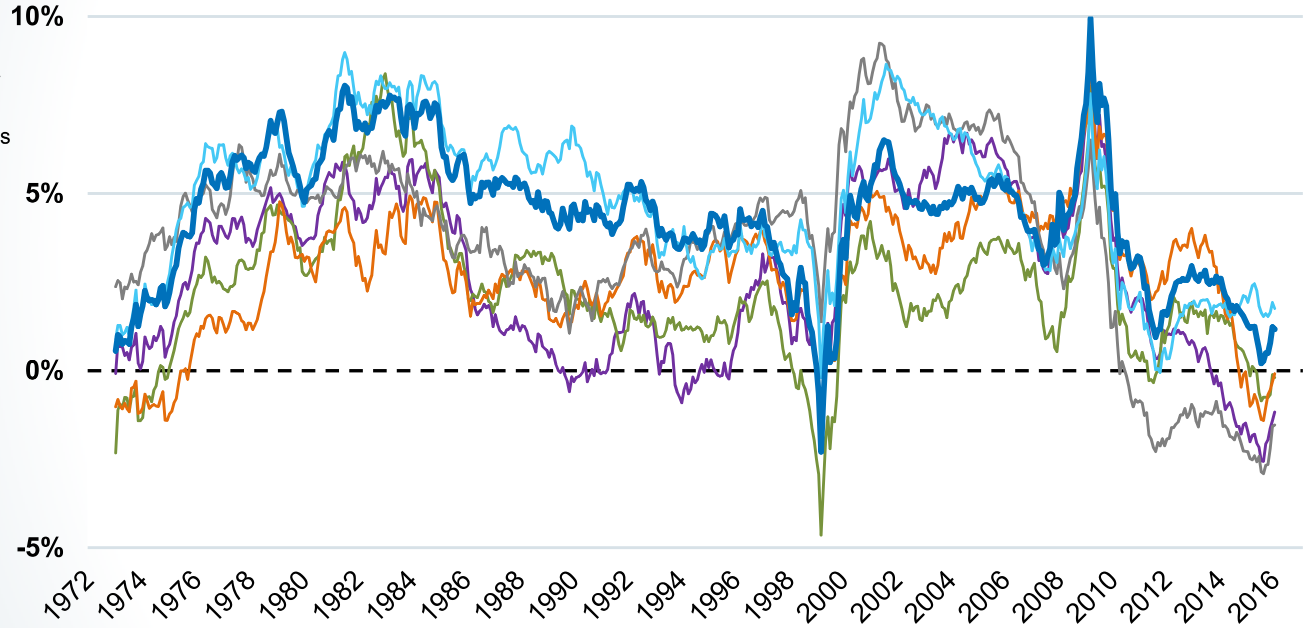
* Versus Large Stocks

# Individual factors move in & out of favor.

Rolling 10-Year Excess Return vs. Large Stocks

BACKTESTED

(1964–2016)




| Legend: | Annualized Return Highest Decile |
|---|---|
| Shareholder Yield | 14.9% |
| **OSAM Value** | **14.6%** |
| Free Cash Flow-to-Enterprise Value | 14.1% |
| Price-to-Earnings | 13.1% |
| EBITDA-to-Enterprise Value | 12.9% |
| Price-to-Sales | 12.7% |
| ---- Large Stocks | 10.8% |

The Value Composite outperforms its individual components in **74%** of rolling 10-year periods.

# Combining factors gives a better signal.

## 4 of our multi-factor composites:

We rank each factor from 1 to 100 and take the average.

**Value**
- Price-to-Sales
- EBITDA-to-Enterprise Value
- Price-to-Earnings
- Free Cash Flow-to-Enterprise Value
- Shareholder Yield

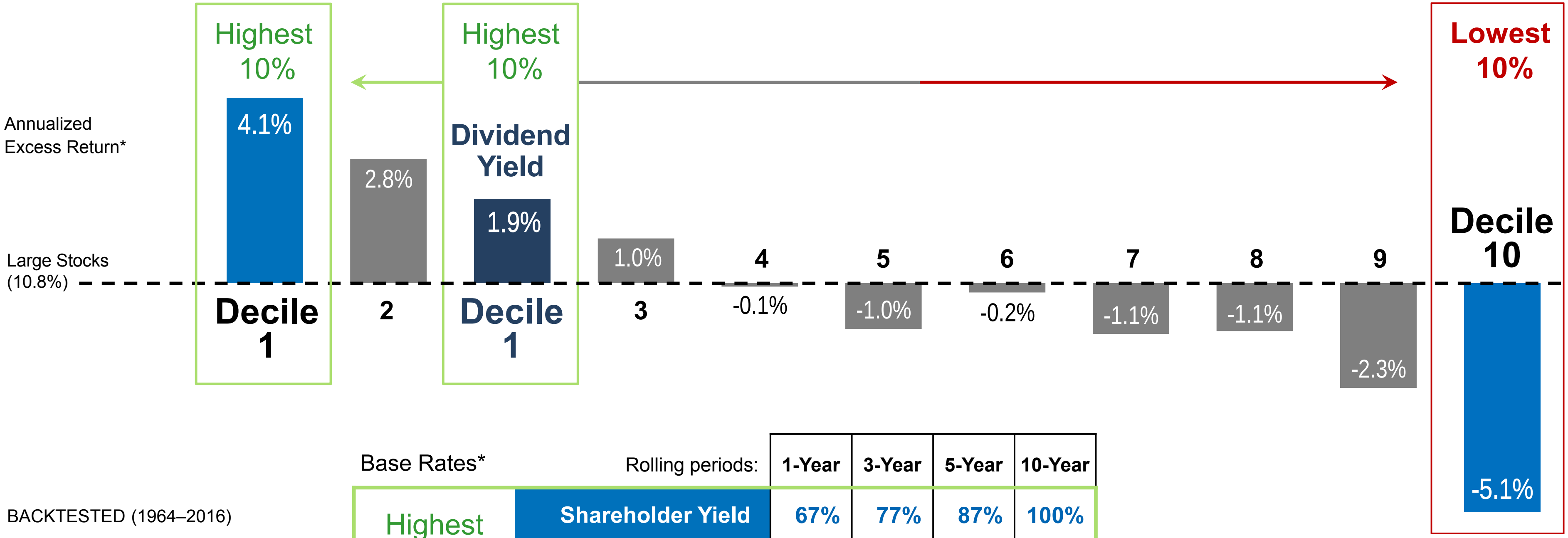
The lower the number, the better the score.

**Financial Strength**
- External Financing
- Debt-to-Cash Flow
- Leverage
- 1-Year Change in Debt

**Earnings Quality**
- Current Accruals-to-Assets
- Change in Operating Assets
- Depreciation-to-CapEx

**Earnings Growth**
- 1-Year Earnings Growth
- Unexpected Earnings
- Profitability

# Shareholder Yield (Dividend Yield + Buyback Yield)




Base Rates*

| | Rolling periods: | 1-Year | 3-Year | 5-Year | 10-Year |
|---|---|---|---|---|---|
| Highest 10% | Shareholder Yield | 67% | 77% | 87% | 100% |
| | Dividend Yield | 57% | 61% | 67% | 84% |

BACKTESTED (1964–2016)

* Versus Large Stocks

Past performance is no guarantee of future results. Please see important information at the end of this presentation.

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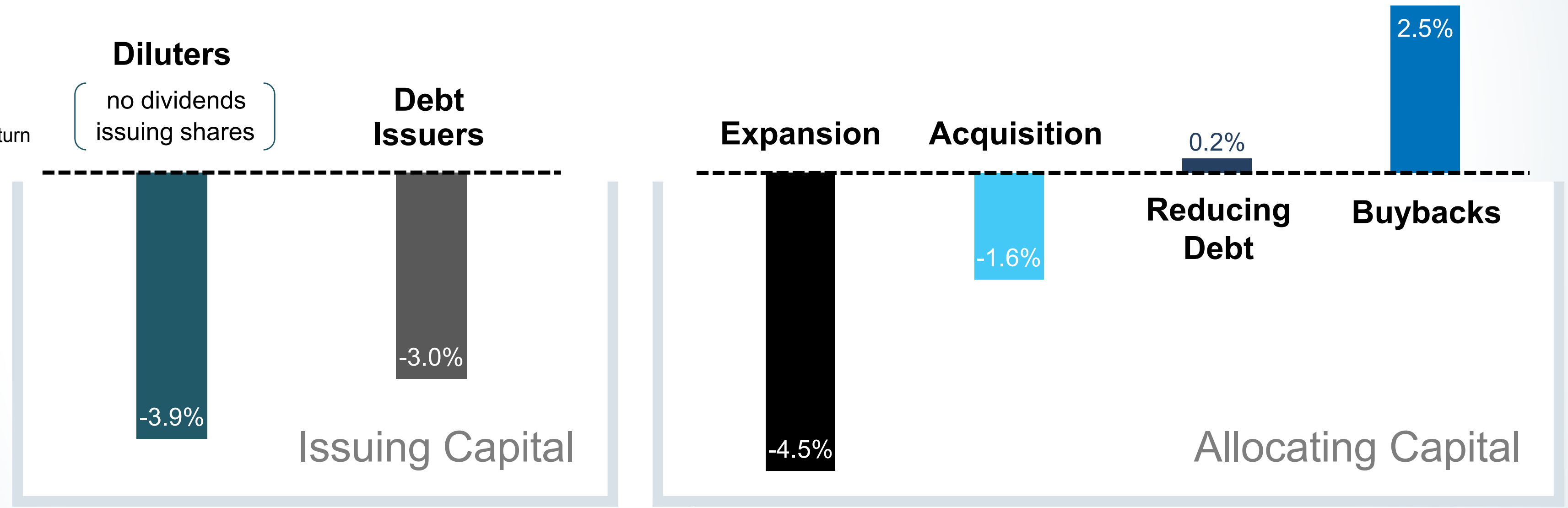
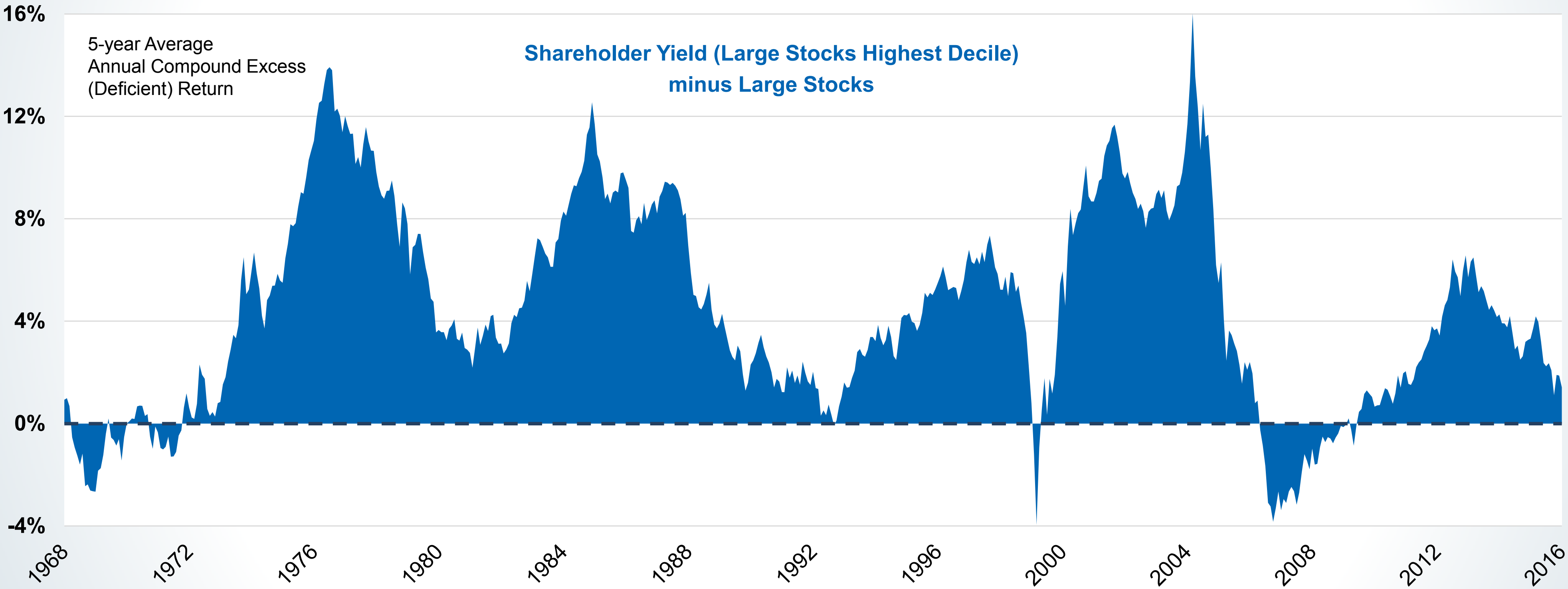
# Companies returning capital to shareholders historically outperform:

BACKTESTED (1986–2016)
Annualized Excess Return vs. Large Stocks
(Large Stocks: 11.0%)

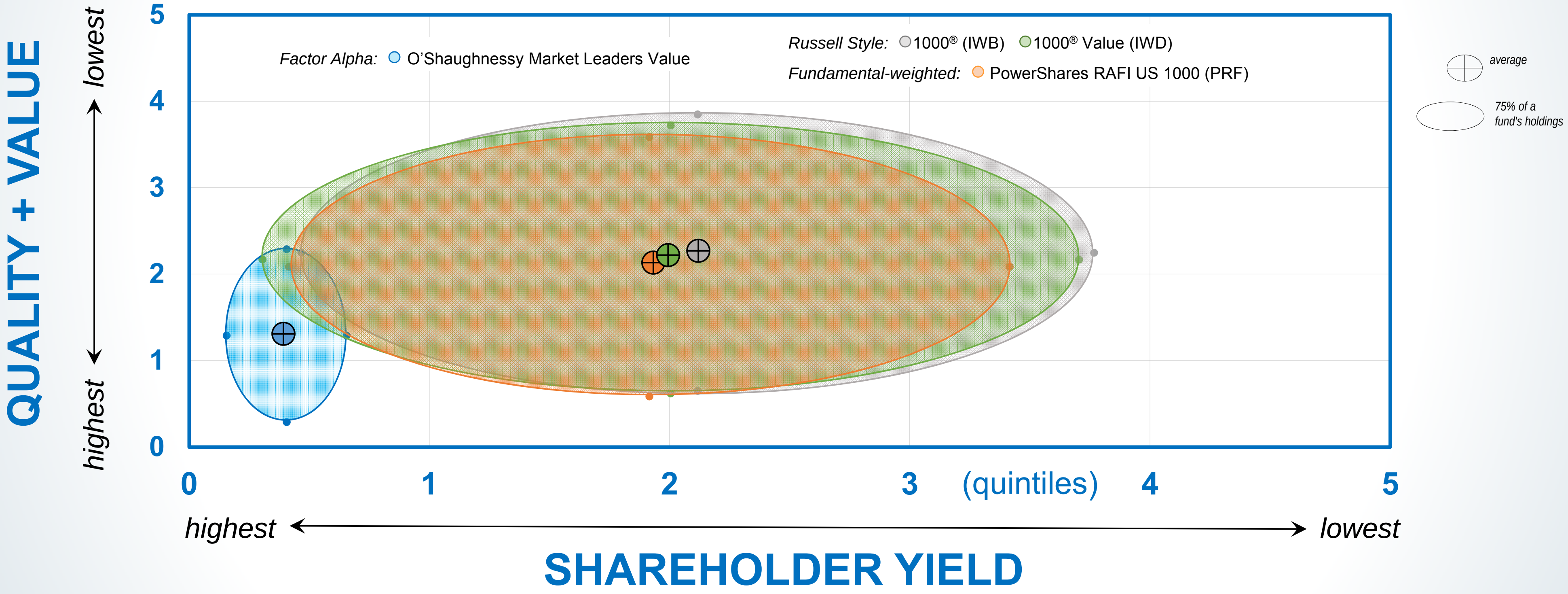



Note: **Diluters** represented by the quintile of stocks that are issuing shares and/or paying no dividends. **Debt Issuers** represented by the quintile of stocks with the largest year-over-year change in debt outstanding. **Buybacks** represented by the quintile of stocks with the greatest percentage reduction in shares outstanding. **Reducing Debt** represented by quintile of stocks by year over year debt reduction. **Acquisition** represented by quintile of stocks with highest year over year growth in goodwill. **Expansion** represented by quintile of stocks with highest year over year growth in CapEx.

# ***Consistency*** of returns: Shareholder Yield



# Smart *Factor Alpha* vs. Smart Beta




(As of 2/29/16)
Source: Patrick O'Shaughnessy, "Alpha or Assets? — Factor Alpha vs. Smart Beta" (April-2016, osamlibrary.com)

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Successful active investors
generally ***ignore*** forecasts & predictions.

**“I don’t let people do projections for me because I don’t like throwing up on the desk.”**

— Charlie Munger

# Successful active investors are ***patient*** & ***persistent***.

## Buffett's "SEO" algorithm:

- ✓ Recognizable brands with a wide market
- ✓ Simple, easy to understand products & services
- ✓ Consistent, solid earnings over a long time period
- ✓ Low & manageable debt
- ✓ Good ROE and other solid ratios

## The results:

| Base Rates* | | Won | Lost | Base Rate | Average Annualized Excess Return |
|---|---|---|---|---|---|
| Rolling Periods | **1-Year** | 29 | 11 | 73% | **9.9%** |
| | **3-Years** | 34 | 4 | 89% | **16.4%** |
| | **5-Years** | 33 | 3 | 92% | **15.0%** |
| | **7-Years** | 33 | 1 | 97% | **13.6%** |
| | **10-Years** | 31 | 0 | 100% | **12.8%** |

* Berkshire Hathaway Inc. Class A (BRK.A) vs. S&P 500 Index (1977–2016)

# CXO Advisory Group:

CXO tracked the results of 6,582 predictions,

from 68 different investing gurus, made between 1998 and 2012

Despite having some well-known names in the sample,

the average of the gurus' accuracy (47%) didn't beat a coin toss

42 gurus had accuracy scores below 50%

Successful active investors
think in terms of ***probabilities***.

**"You don't want to believe in luck,**
**you want to believe in *odds*."**

— Charlie Munger

# The 50 lowest 10-year real returns, and what followed:

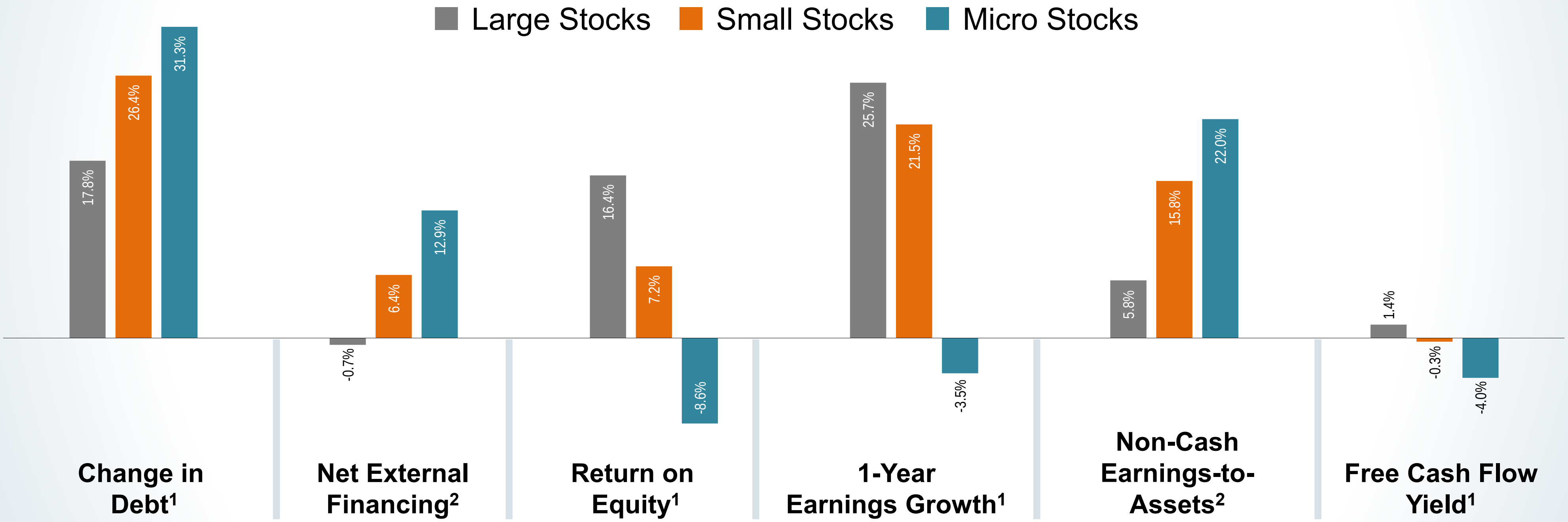
**181 out of 189 subsequent returns have been positive: a 96% base rate.**

| 10 Years Ending: | 10-Year Real Avg. Annual Return (%) | Real Average Annual Return (%) over the Next: 1-Year | 3-Years | 5-Years | 10-Years |
|---|---|---|---|---|---|
| May 1920 | -6.09 | 16.04 | 17.63 | 17.40 | 20.64 |
| February 2009 | -5.86 | 50.40 | 22.76 | 20.75 | — |
| December 1920 | -5.72 | 24.33 | 18.06 | 21.33 | 16.05 |
| June 1920 | -5.72 | 13.26 | 16.81 | 17.46 | 18.77 |
| November 1920 | -5.55 | 21.17 | 16.94 | 20.18 | 16.68 |
| January 1921 | -5.49 | 21.75 | 16.79 | 19.92 | 16.11 |
| March 2009 | -5.43 | 46.38 | 20.64 | 18.91 | — |
| December 1919 | -5.35 | -18.84 | 9.67 | 11.13 | 16.23 |
| June 1921 | -5.33 | 40.34 | 17.00 | 18.81 | 15.43 |
| February 1921 | -5.31 | 26.87 | 15.84 | 18.52 | 17.33 |
| July 1920 | -5.28 | 14.69 | 14.67 | 17.37 | 19.23 |
| March 1921 | -5.27 | 33.34 | 16.38 | 17.18 | 16.55 |
| August 1920 | -5.18 | 6.30 | 15.14 | 17.25 | 19.07 |
| April 1920 | -5.14 | 2.83 | 14.43 | 14.27 | 19.59 |
| July 1921 | -5.13 | 40.52 | 17.62 | 19.53 | 14.30 |
| October 1920 | -5.13 | 4.35 | 12.79 | 18.82 | 15.87 |
| February 1920 | -5.10 | -4.92 | 14.33 | 14.25 | 18.25 |
| January 2009 | -5.06 | 29.74 | 16.50 | 16.98 | — |
| April 1921 | -5.00 | 33.72 | 15.38 | 16.79 | 15.11 |
| September 1920 | -5.00 | 7.48 | 13.14 | 17.58 | 16.91 |
| August 1921 | -4.97 | 55.48 | 20.04 | 21.29 | 15.03 |
| May 1921 | -4.94 | 33.85 | 13.88 | 16.65 | 13.34 |
| April 2009 | -4.88 | 35.80 | 16.87 | 16.83 | — |
| November 1919 | -4.79 | -19.53 | 9.51 | 10.62 | 15.68 |
| June 2009 | -4.74 | 13.22 | 14.30 | 16.64 | — |

| 10 Years Ending: | 10-Year Real Avg. Annual Return (%) | Real Average Annual Return (%) over the Next: 1-Year | 3-Years | 5-Years | 10-Years |
|---|---|---|---|---|---|
| October 1921 | -4.74 | 48.84 | 19.39 | 20.30 | 11.81 |
| January 1920 | -4.70 | -10.37 | 11.63 | 12.40 | 17.48 |
| November 1921 | -4.35 | 34.70 | 19.32 | 19.13 | 10.13 |
| September 1921 | -4.35 | 45.72 | 18.68 | 20.52 | 10.52 |
| December 1921 | -4.34 | 30.71 | 18.87 | 19.09 | 8.36 |
| September 1974 | -4.29 | 28.08 | 12.51 | 8.11 | 7.47 |
| March 1920 | -4.21 | -12.04 | 10.30 | 10.97 | 18.28 |
| May 2009 | -4.16 | 18.58 | 12.58 | 16.10 | — |
| January 1922 | -4.11 | 27.47 | 18.02 | 17.93 | 7.88 |
| August 2010 | -4.09 | 14.20 | 15.97 | 13.93 | — |
| June 2010 | -3.87 | 26.19 | 16.05 | 15.50 | — |
| November 1978 | -3.82 | 4.85 | 3.86 | 8.62 | 9.76 |
| December 2008 | -3.81 | 23.12 | 11.40 | 15.49 | — |
| July 1982 | -3.80 | 55.63 | 22.98 | 25.79 | 14.94 |
| August 1919 | -3.80 | -21.69 | 8.98 | 7.57 | 19.76 |
| December 1974 | -3.77 | 28.20 | 9.61 | 6.12 | 6.92 |
| September 1919 | -3.75 | -19.87 | 7.86 | 7.56 | 19.00 |
| October 1919 | -3.71 | -21.01 | 7.05 | 7.00 | 16.17 |
| July 2009 | -3.69 | 12.43 | 12.03 | 14.56 | — |
| October 1978 | -3.56 | 2.71 | 3.17 | 8.59 | 10.15 |
| June 1982 | -3.54 | 56.97 | 22.03 | 23.95 | 14.20 |
| February 1922 | -3.49 | 23.89 | 17.30 | 17.83 | 7.94 |
| November 1974 | -3.48 | 26.79 | 8.67 | 5.41 | 6.39 |
| May 1982 | -3.48 | 47.27 | 20.32 | 22.13 | 14.06 |
| November 2008 | -3.46 | 23.13 | 11.75 | 15.47 | — |
| Average | -4.60 | 20.46 | 14.75 | 15.93 | 14.55 |
| Median | -4.74 | 23.51 | 15.61 | 17.08 | 15.68 |

Rolling 10-Year Equity Market Returns (1871 to Present) Source: Goetzmann NYSE price-weighted index (1871–1925), S&P 500 Total Return Index (1926–Present), Sahr inflation estimates (1871–1912), U.S. Bureau of Labor Statistics Consumer Price Index (1912–Present)

# Value traps — quality matters:




(As of 12/31/16) Source: Compustat, OSAM Research [1] Begin date: 12/31/69 [2] Begin date: 9/30/71

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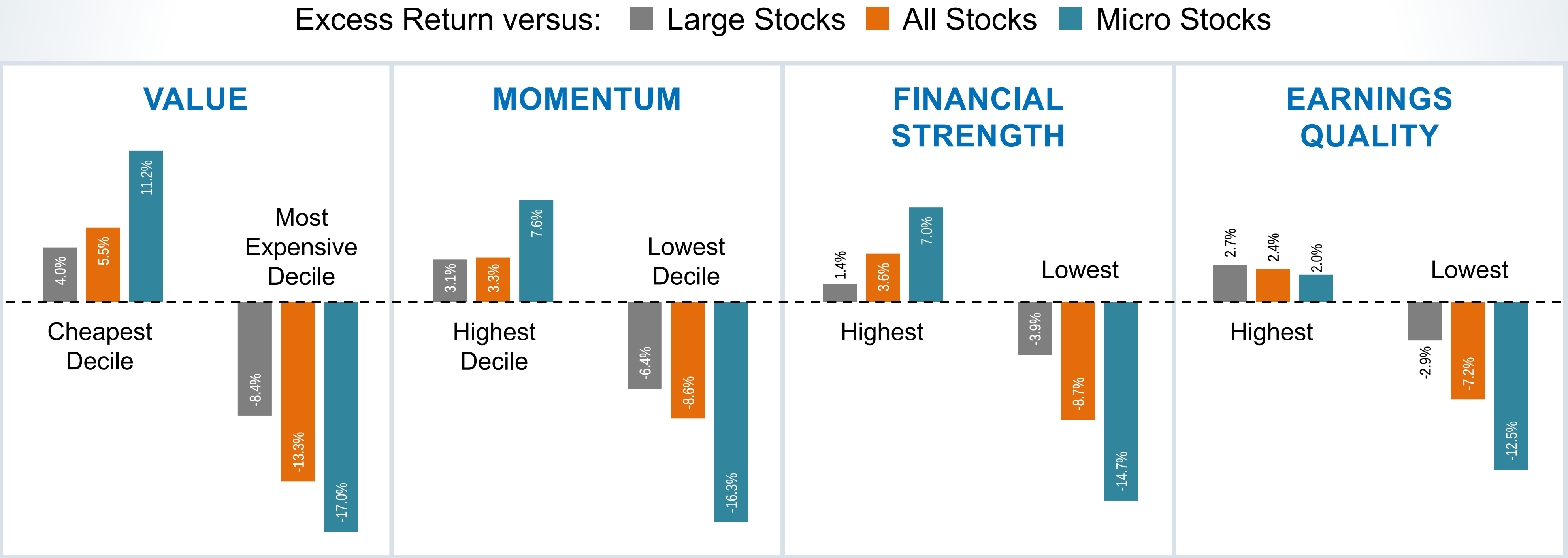
# Multi-factor composites increase efficacy.




(1981–2016) Source: Compustat, OSAM Research Large Stocks Universe: 12.0% | All Stocks Universe: 11.9% | Microcap Stocks Universe: 8.9%



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# “The (Only) **5 Fears** We All Share”

According to a March 2012 *Psychology Today* article:

1. **extinction**
2. **mutilation**
3. **loss of autonomy**
4. **separation**
5. **ego-death**

# I believe:

## Factors drive returns.

Unique application of multi-factor themes Value, Shareholder Yield, Quality, and Momentum results in unique holdings and returns

## What you don’t own matters.

Factors should be applied from the bottom up to build more concentrated, high active share portfolios, not to build "smart" indexes

## Discipline wins.

Process must be consistent & repeatable

## Risk matters.

Calculated stock positions mindful of risk groups

# Q&A

# General Legal Disclosures & Hypothetical and/or Backtested Results Disclaimer

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The risk-free rate used in the calculation of Sortino, Sharpe, and Treynor ratios is 5%, consistently applied across time.

The universe of All Stocks consists of all securities in the Chicago Research in Security Prices (CRSP) dataset or S&P Compustat Database (or other, as noted) with inflation-adjusted market capitalization greater than $200 million as of most recent year-end. The universe of Large Stocks consists of all securities in the Chicago Research in Security Prices (CRSP) dataset or S&P Compustat Database (or other, as noted) with inflation-adjusted market capitalization greater than the universe average as of most recent year-end. The stocks are equally weighted and generally rebalanced annually.

Hypothetical performance results shown on the preceding pages are backtested and do not represent the performance of any account managed by OSAM, but were achieved by means of the retroactive application of each of the previously referenced models, certain aspects of which may have been designed with the benefit of hindsight.

The hypothetical backtested performance does not represent the results of actual trading using client assets nor decision-making during the period and does not and is not intended to indicate the past performance or future performance of any account or investment strategy managed by OSAM. If actual accounts had been managed throughout the period, ongoing research might have resulted in changes to the strategy which might have altered returns. The performance of any account or investment strategy managed by OSAM will differ from the hypothetical backtested performance results for each factor shown herein for a number of reasons, including without limitation the following:

- Although OSAM may consider from time to time one or more of the factors noted herein in managing any account, it may not consider all or any of such factors. OSAM may (and will) from time to time consider factors in addition to those noted herein in managing any account.
- OSAM may rebalance an account more frequently or less frequently than annually and at times other than presented herein.
- OSAM may from time to time manage an account by using non-quantitative, subjective investment management methodologies in conjunction with the application of factors.
- The hypothetical backtested performance results assume full investment, whereas an account managed by OSAM may have a positive cash position upon rebalance. Had the hypothetical backtested performance results included a positive cash position, the results would have been different and generally would have been lower.
- The hypothetical backtested performance results for each factor do not reflect any transaction costs of buying and selling securities, investment management fees (including without limitation management fees and performance fees), custody and other costs, or taxes – all of which would be incurred by an investor in any account managed by OSAM. If such costs and fees were reflected, the hypothetical backtested performance results would be lower.
- The hypothetical performance does not reflect the reinvestment of dividends and distributions therefrom, interest, capital gains and withholding taxes.
- Accounts managed by OSAM are subject to additions and redemptions of assets under management, which may positively or negatively affect performance depending generally up on the timing of such events in relation to the market's direction.
- Simulated returns may be dependent on the market and economic conditions that existed during the period. Future market or economic conditions can adversely affect the returns.