Combining the Best of Passive and Active Investing

BY PATRICK O'SHAUGHNESSY, CFA: MARCH 2013

"WHENEVER YOU FIND YOURSELF ON THE SIDE OF THE MAJORITY, IT IS TIME TO PAUSE AND REFLECT."

MARK TWAIN

OSAM RESEARCH TEAM

Jim O'Shaughnessy
Chris Meredith, CFA
Scott Bartone, CFA
Travis Fairchild, CFA
Patrick O'Shaughnessy, CFA
Ehren Stanhope, CFA
Manson Zhu, CFA

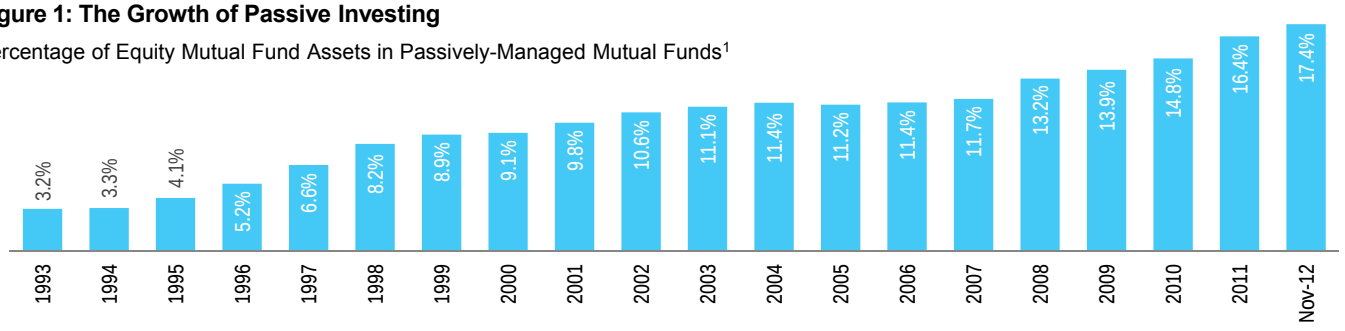
CONTENTS

Should investors pay higher fees to active managers in an attempt to beat the market? Or should they instead buy cheap passive index funds or exchange-traded funds (ETFs)—thereby surrendering to the compelling long-term evidence that successful money managers are few and far between and very difficult to identify. It is an important and ongoing debate because the choice between the passive or active approach to investing can have a huge impact on long-term results. In this paper, we evaluate the arguments for each style, and argue for an approach that combines the strengths of both the passive and active approaches.

Mutual funds are a great way to gain insight into the passive versus active investing landscape because there is so much historical data on equity funds to analyze. Based on equity mutual fund assets, a significant majority of investor dollars still reside in actively managed funds, but the trend is strongly in favor of passive index funds. As shown in Figure 1, in 1993 only 3.2 percent of assets were invested in passive index funds (all U.S. and world equity mutual funds), but by November 2012, that number had risen to roughly 17.4 percent and assets under management in equity index funds crossed the trillion dollar mark.[1] Index-based ETFs have also become extremely popular. Equity ETFs have roughly $1 trillion in assets with the majority of those assets in index strategies. For example, the top 20 ETFs by assets (with a combined total of $541 billion investor dollars) represent more than half of total equity ETF assets, and 17 of those 20 passively track traditional indices. The other three, representing $34 billion in assets, follow dividend strategies.[2]

Figure 1: The Growth of Passive Investing

Percentage of Equity Mutual Fund Assets in Passively-Managed Mutual Funds[1]



[1] Source: Investment Company Institute (ICI), The Leuthold Group [2] Approximations based on data from FactSet, OSAM calculations.

OSAM CONTACT INFORMATION:

Financial advisory firms & advisors please contact Ari Rosenbaum at 203.975.3340, or Ari.Rosenbaum@osam.com
Institutions please contact Chris Loveless at 203.975.3304, or Chris.Loveless@osam.com

O'Shaughnessy Asset Management, LLC ■ Six Suburban Avenue ■ Stamford, CT 06901 ■ 203.975.3333 Tel ■ 203.975.3310 Fax

This consistent trend out of active funds and into passive index funds and ETFs makes sense because proponents of passive investing build a strong case for their strategy. Here is John Bogle, the patriarch of index investing, stating the case:

> Over the past 20 years, a simple, low-cost, no-load stock market index fund based on the S&P 500 index delivered an annual return of 12.8 percent—just a hair short of the 13.0 percent return of the index itself. During the same period the average equity mutual fund delivered a return of just 10.0 percent, a shortfall to the index fund of 2.8 percentage points per year, and less than 80 percent of the market's return. Compounded over that period, each $1 invested in the index fund grew by $10.12—the magic of compounding returns—while each $1 in the average fund grew by just $5.73, not 80 percent of the market's return, but a shriveled-up 57 percent—a victim of the tyranny of compounding costs.[3]

In a separate analysis using data from Morningstar, we calculated that for all 10-year periods between 1991 and 2009, only 30 percent of actively managed funds beat the S&P 500 after fees—and this weak percentage does not include funds that were deleted from Morningstar's database because they did not survive,[4] so the true percentage is likely even lower. These studies suggest that an investment in an *average* active manager has been, and will likely continue to be, a losing proposition. Taken at face value, all of this evidence does appear to be damning to active management. But, it is important to remember that these arguments are based on averages, and do not address those funds that *are* successful in beating the market over long periods. It is these funds, and the investment strategies driving their success, that are of keen interest.

When Tom Wolfe wrote about Cold War era test pilots who had "the right stuff," he highlighted that—despite the fact that there was a 23 percent chance of death while test flying planes—elite pilots who had the right stuff did not fear death because figures like this one-in-four death rate "were averages, and averages applied to those with average stuff." There is much to be learned from the funds and strategies that have had the investment equivalent of the right stuff.

Advantages & Disadvantages of Index Investing

The rise of index funds and ETFs, and the strong performance they have delivered to investors relative to the average active manager, can be attributed to three key advantages that the passive style of investing has over the active style: lower fees, a reliably consistent strategy, and (in some cases) superior tax management. But as we shall see, while these advantages are formidable, they cannot overcome one huge weakness: the inferior strategy used by most indices to select and weight stocks.

Passive index funds and ETFs cost considerably less than their actively managed counterparts. According to the Investment Company Institute's *2012 Investment Company Fact Book*, the average expense ratio of an actively managed mutual fund was 0.93 percent, which is more than six times as expensive as the average index fund fee of 0.14 percent. The SPY, which tracks the S&P 500 and is the world's largest ETF with $130 billion in assets, has an even lower expense ratio of 0.09 percent.

The effect of this difference in fees can be huge. For example, if you had invested in an S&P 500 index fund 20 years ago that charged a fee of 0.14 percent, you would have achieved a total return of 371 percent. If the same index fund charged a fee of 0.93 percent, your return would have 303 percent—a very large cumulative total return difference of 68 percent. The power of compounding makes fees very important over long periods.[5]

Passive index funds also implement a consistent strategy: indices are built using a rules-based approach, and the rules do not change much—if at all—over time. This is not to say that the strategy employed by most passive managers is a good one, because it is not, but rather that consistency of strategy is very important to long-term investing success. In the absence of a consistent and disciplined strategy, it is very easy to get caught up in the hottest asset of the day, like technology stocks in 1999 and real estate in 2006. The impact of such deviations can be huge. In 1999 the top 10 percent of mutual funds by net inflows took in $286 billion, while remaining 90 percent of funds had net outflows of $109 billion. This represented an unusually high concentration of flows to the top funds and the highest such concentration in a decade. This top 10 percent of funds with the highest net inflows had an average position in the technology sector of 30 percent—twice as high as the position for funds with the largest outflows.[6] As we all know, large bets on technology stocks did not work out! The managers of these funds were undoubtedly subject to the same psychological pitfalls that have ruined investors since the Dutch Tulipmania and The South Sea Bubble.

[3] John Bogle, *Don't Count on it! Reflections on Investment Illusions, Capitalism, "Mutual" Funds, Indexing, Entrepreneurship, Idealism, and Heroes* (2010)

[4] James P. O'Shaughnessy, *What Works on Wall Street, Fourth Edition* (Nov. 2011)

[5] Total Returns of 371.24 percent vs. 302.65 percent (20 years ending 12/31/2012)

[6] Reid and Millar, "Mutual Fund Assets and Flows in 1999" Investment Company Institute® *Perspective*

Stock Selection Strategy: The Key Vulnerability of Passive Investing

The main weakness of most passive index funds and ETFs, and the reason that we advocate an active approach to investing, is that they own and weight stocks in the portfolio according only to their size. There are many indices that are built using factors other than just market capitalization (*e.g.*, equal weighted), but passive funds and ETFs with the most assets under management focus on indices that use market capitalization as the primary or only factor in determining a stock's weight in the index. As such, we focus our attention on market cap weighted indices.

The goal of the S&P 500 index, or any other broad market index, is to give investors a share of American, or global, businesses. The weight of each company in most indices, and in the funds and ETFs owned by passive investors, is based only on the market capitalization of the underlying companies. No one picks favorites; the index simply owns the biggest companies. But the long-term evidence makes it very clear that buying a stock—or holding more of a stock—just because of its market cap is a losing strategy.

Sector Leaders vs. Sector Bargains

To illustrate the problem with the strategy of weighting stocks according to market cap, imagine two simple portfolios. The first, called "Sector Leaders," simply holds the largest U.S. stock in each of the ten economic sectors by market capitalization at all times—this is similar to an index approach. With an average market cap of $210 billion, the current list of "Sector Leaders" shown in Table 1 is a who's who of American business, and together represents a significant 15.5 percent of the S&P 500.[7]

The second strategy ("Sector Bargains") is just the cheapest U.S. large cap stock[8] in each sector at any given time as measured by the O'Shaughnessy Value Composite,[9] which identifies stocks trading at very cheap prices relative to their sales, earnings cash flows, and dividends. These strategies are both reconstituted annually in the same fashion as many indices. The current Sector Leaders and Sector Bargains shown below are probably familiar to most, but the Sector Bargains are less glamorous by any measure. Not many investors faced with these two options would choose the list of Sector Bargains as the bedrock of their portfolio.

Yet here is the amazing fact: since 1963, the Sector Leaders—those titans of industry—have delivered an annualized return of 8.54 percent. That's 1.3 percent per year *lower* than the S&P 500. The Sector Bargains posted a return of 14.6 percent in the same period, a staggering margin of victory for a group of stocks that are much less frequently discussed and often viewed as undesirable. Here's the kicker: included in these annualized returns are the previously mentioned average fees for passive and active mutual funds: 0.14 percent for the Sector Leaders, and 0.93 percent for the Sector Bargains. These fees are included to demonstrate that even the "tyranny of compounding costs" cannot come close to diminishing the power of value investing.

One reason that the Sector Leaders have underperformed historically is that they are often more expensive than their peers. For example, Monsanto—currently a Sector Leader—has a remarkable story of success, but you have to pay $24.3 for every dollar of Monsanto's annual earnings (*i.e.*, a price-to-earnings ratio of 24.3). The same dollar of earnings from CF Industries costs just $8.10. A dollar of Johnson & Johnson's sales costs about $3.10, but a dollar of sales from WellPoint costs just $0.3. The bottom line is that, like anything in life, you get what you pay for. History shows us that the curious inversion in investing is that the less you pay, the more you get.

Table 1: Sector Leaders vs. Sector Bargains

Economic Sector:	Sector Leader	Sector Bargain
Telecommunication Services	AT&T Inc.	AT&T Inc.
Information Technology	Apple Inc.	Seagate Technology Inc.
Consumer Discretionary	Comcast Corp.	Kohl's Corp.
Energy	Exxon Mobil Corp.	Marathon Petroleum Corp.
Industrials	General Electric Co.	Northrop Grumman Corp.
Health Care	Johnson & Johnson	WellPoint Inc.
Financials	JPMorgan Chase & Co.	Allstate Corp.
Materials	Monsanto Co.	CF Industries Holdings Inc.
Utilities	Pacificorp	Consolidated Edison Inc.
Consumer Staples	Procter & Gamble Co.	Publix Super Markets Inc.

Source: Compustat, FactSet, OSAM calculations

[7] As of 2/7/2013.

[8] Large Stock defined as all investable stocks with a market capitalization greater than average. Currently a market cap greater than $6.5 billion.

[9] Value Composite is based on Price-to-Sales, Price-to-Earnings, EBITDA-to-Enterprise Value, Free Cash Flow-to-Enterprise Value, and Shareholder Yield.

Replacing Market Cap—Towards a Smarter Strategy

The Sector Bargains strategy performs so well because valuation is a powerful indicator of future returns. The cheaper a stock is relative to its sales, earnings, cash flows, and yield, the better its future returns have been throughout market history. In addition to valuation, there are several other characteristics that help us build strategies that are much smarter and more successful than strategies based on market capitalization alone. The long-term historical evidence suggests that buying stocks based on their valuations, the quality of their balance sheets and earnings, and their recent strong price trends is a superior way to invest. We strongly advocate building portfolios based on these characteristics or hiring managers that do so.

Figure 2 demonstrates how easy it is to come up with a strategy that is superior to that of market cap weighted indices. To be able to take the test as far back as possible, we've created a proxy for the S&P 500.[10] Simple and intuitive changes to this strategy can have a dramatic effect on long-term returns, both before and after fees. Because the S&P 500, and the large capitalization market it represents, is widely regarded as one of the most efficient (*i.e.*, most difficult to beat) segments of the market, we believe focusing our analysis here makes our results even more powerful.

For the S&P 500 proxy index strategy ("Market Cap Weighted 500"), we've adjusted net returns for an annual fee of 0.14 percent. For all other strategies, we have adjusted the returns for an annual fee of 0.93 percent.

[10] Selects the largest 500 stocks in the U.S. and weights them according to their market capitalization.

In these hypothetical portfolios, taxes could be effectively managed because the annual rebalance frequency would allow investors to pay long-term capital gain taxes instead of the much higher short-term rates that would apply if portfolio turnover were more frequent. In Figure 2, net returns (after fees*) for each strategy are on top and gross returns (before fees) are on bottom. The strategies are as follows:

Market Cap Weighted 500
Our index proxy, the Top 500 U.S. stocks by market cap and weighted according to market cap, reconstituted/rebalanced annually.

Equal Weighted 500
The Top 500 U.S. stocks by market cap and equally weighted, reconstituted/rebalanced annually.

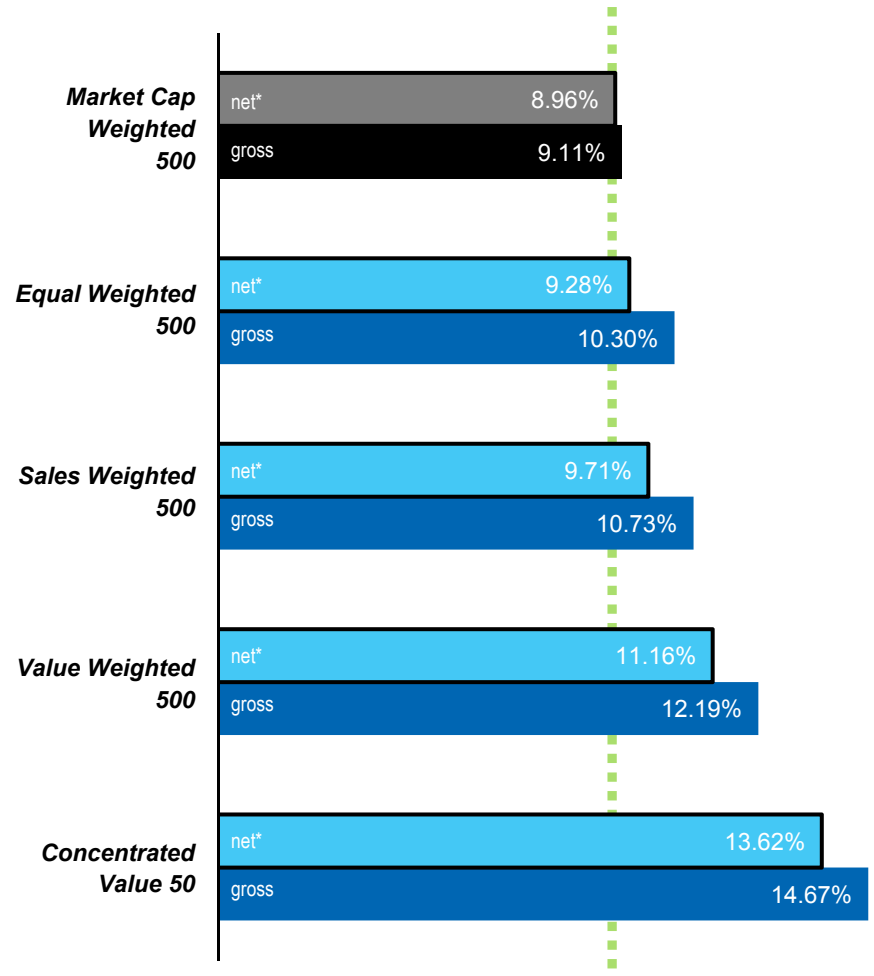
Sales Weighted 500
The Top 500 U.S. stocks by market cap and weighted according to annual sales, reconstituted/rebalanced annually.

Value Weighted 500
The Top 500 U.S. stocks by market cap and weighted according to the O'Shaughnessy Value Composite℠, reconstituted/rebalanced annually.

Concentrated Value 50
From the largest 500 U.S. stocks, the Top 50 stocks as measured by O'Shaughnessy Value Composite℠ and weighted equally, reconstituted/rebalanced annually.

Figure 2: Beating the Index Before & After Costs

Annualized Returns for Alternative Index Strategies (U.S. stocks, 1963–2012)



Source: Compustat, FactSet, OSAM calculations * Net of industry average fee.

The results are dramatic, and are intended to show that not only can an actively managed strategy trump the index, but that when portfolios are concentrated based on objectively measured and historically proven characteristics such as the O'Shaughnessy Value Composite, significant excess returns are achievable *after* fees.

To succeed with these types of strategies, discipline is as important as the investment strategy itself. Even though the Concentrated Value 50 strategy is very successful in the long term, it still loses to the Market Cap Weighted 500 strategy in roughly 25 percent of rolling 3-year periods. As we have experienced during periods of real time underperformance for the strategies that we manage at OSAM, it is difficult to stick to a strategy when it is doing poorly, but we do not waver. A disciplined approach is difficult mainly because as human beings, we cannot help but extrapolate short-term trends too far into the future. This often causes us to abandon strategy at the worst possible time. During the inevitable periods of underperformance, it is helpful to remind ourselves of the long-term evidence above, which supports the fact that with the right strategy, disciplined active managers can beat the market over the long term.

Different is Better

One reason why the strategies above perform better and better is because they generally result in portfolios that are more and more different than the index. It turns out that being different is a hallmark of successful mutual funds. Just as there are factors that indicate a higher likelihood of relative outperformance for a stock, there is a similar factor that is indicative of strong future performance for mutual funds. The factor *Active Share* is a simple calculation that compares the holdings of a fund or portfolio with the holdings of the index used as its benchmark (*e.g.*, an Active Share of 60 percent means that 60 percent of a fund's allocations are different than the benchmark).

In their study presenting this new metric, Martijn Cremers and Antti Petajisto separate all active mutual funds into five equal groups (quintiles) based on each fund's Active Share. Sorted from highest to lowest, the evidence from their paper makes it clear that the more unique a fund's holdings, the better the fund's returns—before and after costs (see Table 2 below). In this study, the case against the "average" mutual fund holds up: the average fund has indeed lost to the market by an average of 0.43 percent per year after fees.

But funds that fall in the quintile with the highest Active Share have outperformed their benchmark by 2.4 percent annually before fees and 1.13 percent after fees.[11]

Globally, a significant number of funds are 'closet indexers,' which means that with Active Shares below 60 percent, these funds are not significantly different enough from their index for investors to expect excess returns. Yet these funds with Active Shares below 60 percent, which represent 38 percent of "active" non-U.S. mutual funds and 13 percent of all "active" U.S. mutual funds, still charge active management fees. It is no wonder that, after costs, so many funds lose to their index.[12] The closer a portfolio's holdings are to its benchmark index, the more likely it is that compounding costs will drag its returns lower than the benchmark. In contrast, more unique portfolios—such as the Concentrated Value 50 Portfolio with a current Active Share 89 percent—have historically had a stronger after fee returns.[13]

The key finding of this study is that investors should hire managers whose portfolios are very different than the index.

Table 2: Mutual Funds Performance by Active Share[11]

Active Share Quintile:		Excess Return vs. Index (%) before fees	Excess Return vs. Index (%) **after fees**
most active	**1**	2.40	**1.13**
	2	1.33	**0.25**
	3	0.81	**-0.75**
	4	0.24	**-1.37**
least active	**5**	0.11	**-0.43**
		Average:	**-0.43**

[11] Cremers and Petajisto, "How Active is Your Fund Manager? A New Measure That Predicts Performance" (2009)

[12] Cremers, Ferreira, Matos, and Starks, "The Mutual Fund Industry Worldwide: Explicit and Closet Indexing, Fees, and Performance" (2013)

[13] FactSet, OSAM calculations

The Winning Combination

Should investors hire active managers or opt for a passive approach to investing in the stock market? The evidence in this paper suggests that the best approach to investing is one that marries the best aspects of both passive and active investing. This historically proven method is similar to the passive approach in several key ways: it emphasizes discipline, a consistent strategy, and a long-term focus.

But our investment process differs significantly from the passive approach when it comes to stock selection and allocation. Passive strategies place the largest emphasis on the largest companies. These companies lead their industries and have been phenomenal investments in the past. But as the "Sector Leaders" and S&P 500 proxy strategies illustrate, investing based on size has been a losing strategy.

There is a difference between a great company and a great stock. A great stock is one that is most likely to outperform its peers *in the future*—not a stock that has necessarily done well in the past. We want to build portfolios of great stocks. History suggests that to do so, investors should focus on stocks with characteristics like superior valuation, quality, momentum, and yield. A strategy that consistently buys these types of stocks can outperform in the long term. With the right strategy—and the right discipline—active management works.

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

General Legal Disclosure/Disclaimer

The material contained herein is intended as a general market commentary. Opinions expressed herein are solely those of O'Shaughnessy Asset Management, LLC and may differ from those of your broker or investment firm.

Please remember that past performance is no guarantee of future results. Different types of investments involve varying degrees of risk, and there can be no assurance that the future performance of any specific investment, investment strategy, or product made reference to directly or indirectly in this presentation, will be profitable, equal any corresponding indicated historical performance level(s), or be suitable for any portfolio. Gross of fee performance computations are reflected prior to OSAM's investment advisory fee (as described in OSAM's written disclosure statement), the application of which will have the effect of decreasing the composite performance results (for example: an advisory fee of 1% compounded over a 10-year period would reduce a 10% return to an 8.9% annual return). Due to various factors, including changing market conditions, the content may no longer be reflective of current opinions or positions. Moreover, you should not assume that any discussion or information contained in this presentation serves as the receipt of, or as a substitute for, individualized investment advice from OSAM. Historical performance results for investment indices and/or categories have been provided for general comparison purposes only, and generally do not reflect the deduction of transaction and/or custodial charges, the deduction of an investment management fee, nor the impact of taxes, the incurrence of which would have the effect of decreasing historical performance results. It should not be assumed that any account holdings would correspond directly to any comparative indices. Account information has been compiled solely by OSAM, has not been independently verified, and does not reflect the impact of taxes on non-qualified accounts. In preparing this presentation, OSAM has relied upon information provided by the account custodian and/or other third party service providers. OSAM is a Registered Investment Adviser with the SEC and a copy of our current written disclosure statement discussing our advisory services and fees remains available for your review upon request.

Backtested Results

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 upon 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.

All Stocks Universe

The universe of All Stocks consists of all securities in the CRSP dataset or S&P Compustat Database with inflation-adjusted market capitalization greater than $200 million. The stocks are equally weighted and generally rebalanced annually.