Executive Summary

- Since the global financial crisis, high correlations among stock prices have lessened opportunities for outperformance for actively managed equity funds, helping fuel explosive growth in passively managed strategies.
- Active management strategies historically have worked best when market volatility has been high and/or rising, causing dispersion between stock prices to widen.
- "Closet indexers," funds that purport to be actively managed but in reality often mimic their benchmark indexes, don't generally reflect the potential benefits of active management.
- Research suggests that high conviction strategies in which portfolio components vary significantly from their benchmarks with minimal overlap have the most potential to outperform their indexes (and underperform, too).

The death of active management has been greatly exaggerated

The past few years have been difficult for stock pickers. As the broad stock market has risen to new highs year after year, investment managers who measure their success by their ability to outperform a market index have struggled to keep pace with the market averages. This occurrence has not gone unnoticed by the media, which have been quick to pronounce the end of active management and the dawn of a new era of passive investing.

We are not going to dispute the merits of passive investing. A strategy that seeks to mimic the returns of its benchmark can be perfectly appropriate for a variety of investment objectives. But remember: such a strategy by definition seeks to be average, to be not better or worse than its benchmark's performance. On the other hand, truly active strategies in which portfolios are constructed with little regard to their benchmark can by definition outperform the averages (and yes, underperform, too).

Call us defensive, but we think the backlash against active investing has gotten a bit overdone. The tone of recent stories, most notably "The Dying Business of Picking Stocks" in the Oct. 17, 2016 edition of The Wall Street Journal, brings to mind the now infamous 1979 BusinessWeek cover story, "The Death of Equities." Of course, we all know how that prediction turned out: stocks proceeded to quattuordecuple–that's multiplying 14 times–over the next 20 years or so. One has to wonder whether current popular sentiment represents a similar potential inflection point. In that spirit, we'd like to highlight three important points that we think deserve investors' attention.

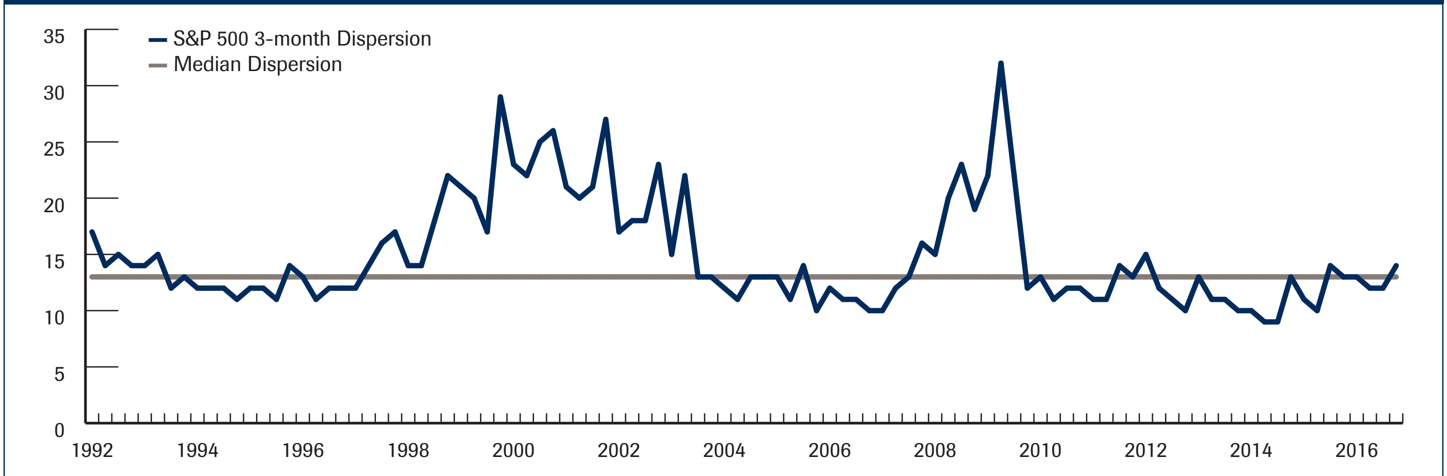
Point No. 1: Extrapolating recent history into the future can be dangerous.

When making predictions about the future, it is a well-documented phenomenon that people are more easily influenced by recent events than they are by the distant past. Psychologists call this "recency bias." Another situation that can lead to poor decision-making is "saliency bias"–the tendency for people to assign greater importance to information that is most predominately on display and subsequently dismiss information to the contrary. Proponents of behavioral finance point out that these cognitive biases cause investors to think irrationally and make poor decisions, such as when so many investors piled into hot internet stocks during the late 1990s' dot-com bubble. But these biases are seldom referenced in the context of the active versus passive debate.

Perhaps they should be. There's no doubt that, since the 2007-2009 global financial crisis, stocks have had quite a run. Thanks in large part to unprecedented quantitative easing by central banks and historically low interest rates, the prices of virtually all equity assets have risen. This prolonged and virtually indiscriminate bull market proved very difficult for active managers. High correlations among stock prices presented fewer opportunities to outperform, and as the market climbed higher, the negative effect of holding a cash position–which active managers must do in order to buy new securities–further subtracted from benchmark-relative returns. But the equity market's more volatile performance this year created more opportunities for active managers. In this year's third quarter, J.P. Morgan data found a majority of active managers outperformed their benchmark, according to MarketWatch ("Active managers are winners again, but will it last?" Nov. 21, 2016). From July 1 through October 31, 60% of active funds beat the S&P 500 Index, according to Barron's ("Active stockpickers are outpacing passive funds," Nov. 5, 2016).

The point is, markets are cyclical. Stock prices don't always go up, nor do they always move in lockstep. During periods of narrow dispersion, i.e., when stock prices don't deviate much from each other *(see chart below)*, active strategies may struggle at times to outperform their benchmarks. When dispersion widens, the opposite tends to be true.

The dispersion of stock market returns has been well below normal for the past 5 years



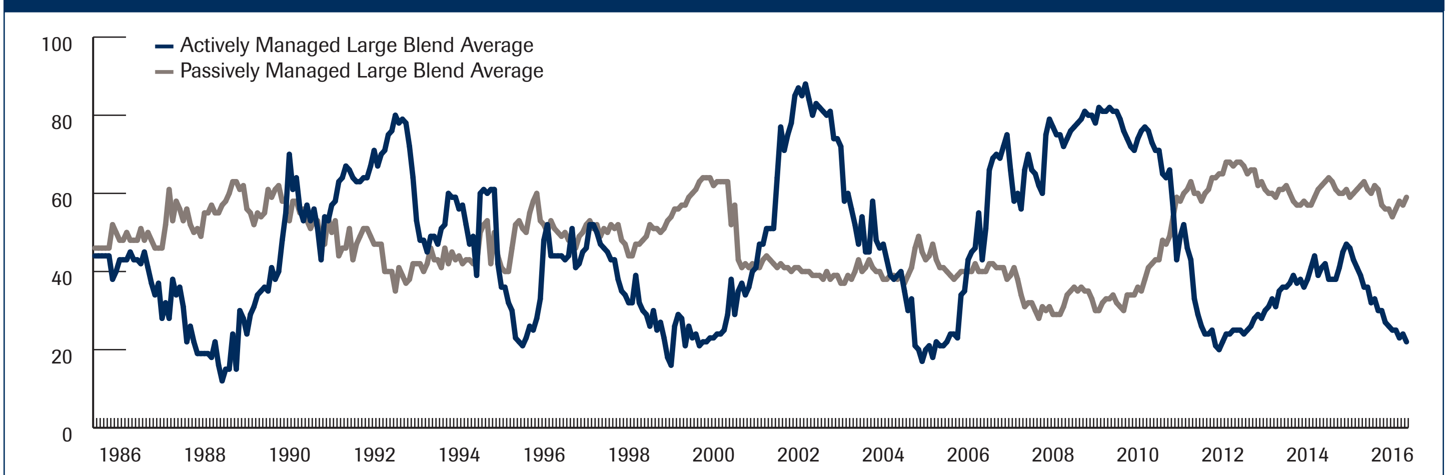
For illustrative purposes only and not representative of performance for any specific investment. Past performance is no guarantee of future results.
Source: S&P Dow Jones Indices LLC.

For instance, if you compare active funds to passive funds in the Morningstar Large Cap Blend Category, it is true that on average passive large-blend strategies have outperformed active large-blend strategies on a three-year rolling basis since 2010. However, from 2000 to 2009, active outperformed passive *(see chart below)*.

Point No. 2: Active management works best when it's really 'active'

Articles that highlight the poor performance of the average mutual fund category seldom pay much attention to what funds make up that average. A category such as "Large

Active and passive outperformance trends are cyclical

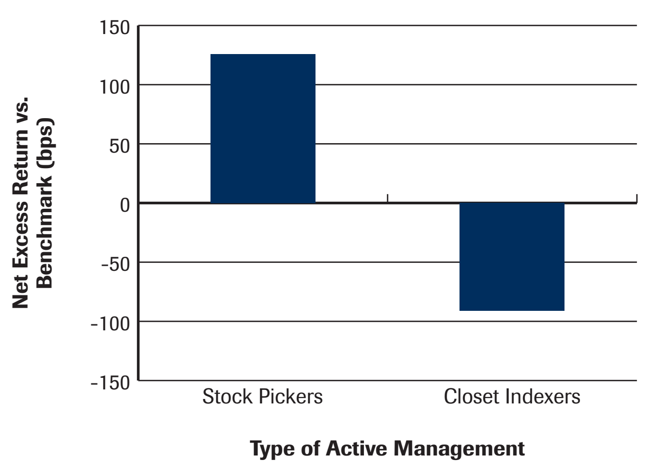


12/31/85 to 11/3/16 rolling monthly 3-year periods.
Past performance is no guarantee of future results.
Source: Morningstar, Inc.

Value" can include many different investment vehicles with wildly different strategies and objectives. Many so-called active funds are not all that active–that is, the components of their portfolios don't deviate much from those in the benchmark. The popular term for this is "closet indexing." It applies to managers who measure their performance against a benchmark, but do not make any significant attempts to beat that benchmark. By constructing portfolios that greatly overlap with their benchmarks, they ensure that their performance results will not stray too far from the benchmark. The problem is that many of these closet indexers charge fees in line with other active managers, but don't really provide true active management. Because their gross-of-fee performance will never stray too far from the benchmark index, their net-of-fee performance is almost guaranteed to be substandard.

In contrast, true stock pickers–that is, managers with high conviction portfolios and high active share (which is a measure of how much a portfolio's components vary from its benchmark)–have a better chance of outperforming their index (and underperforming, too). The differences between high active share managers and closest indexers can be dramatic *(see chart below)*. In landmark research, former Yale School of Management colleagues Antti Petajisto and Martijn Cremers studied 1,124 funds over two decades and found actively managed stock portfolios with the highest active share levels outperformed their benchmarks by an average of 126 basis points after fees from 1990 through 2009. The outperformance widened to 261 basis points before fees and expenses.

Stock pickers have outperformed



Past performance is no guarantee of future results. For illustrative purposes only and not representative of performance for any specific investment.

Source: Antti Petajisto, "Active Share and Mutual Fund Performance," Financial Analysts Journal, volume 69, number 4, July/August 2013.

Fund performance is based on the 1990-2009 time period using U.S. equity mutual funds.

"Stock pickers" represent funds with actively managed portfolios that deviate significantly from their benchmark. "Closet indexers" represent actively managed portfolios that closely mimic their benchmarks.

Compared to passive portfolios that are tied to an index, stock pickers have the natural advantage of being selective, basing their decisions on rigorous analysis of company fundamentals. They don't have to buy stocks that they think are too expensive or too risky. They can monitor their portfolio's exposures to various risk factors, and implement sophisticated strategies to manage these exposures. That is a huge differentiator, especially during times of market turmoil.

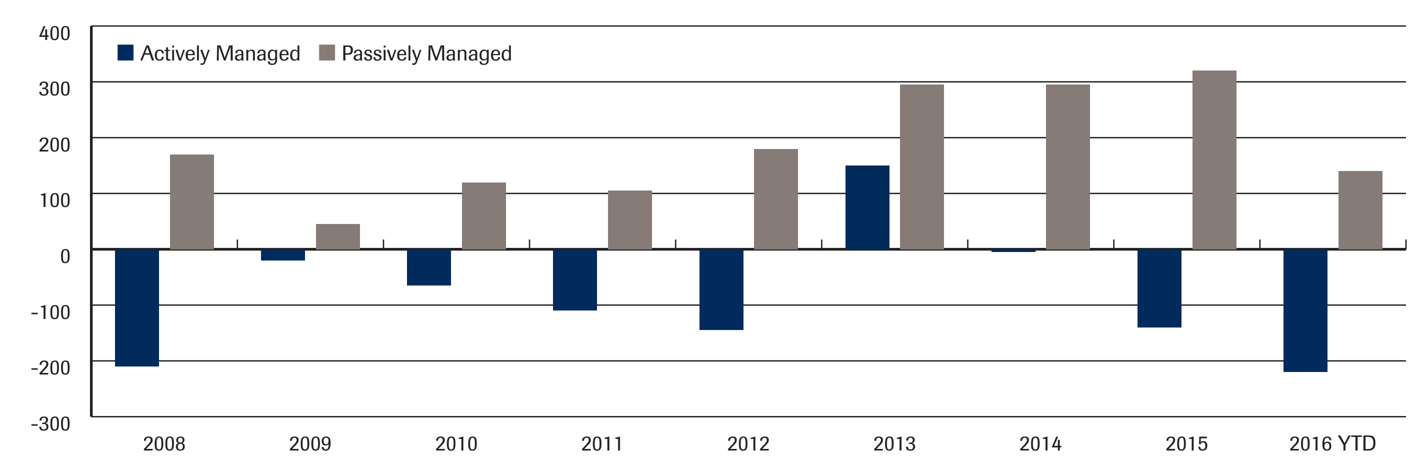
Point No. 3: Passive becomes a victim of its own success.

As passive investment assets have grown, they've encountered a fundamental problem: they've become less passive. With passive funds and related ETFs now accounting for roughly a third of investible assets, some passive instruments have grown so big that they have the potential to become drivers of market pricing, making them more active than passive participants. Since the financial crisis, passively managed equity funds have experienced net inflows of $1.7 trillion, according to Lipper data *(see chart on next page)*.

A major premise behind passive investing is that active stock picking represents a "zero sum game," meaning that for every trade there is a winner and a loser. Someone who buys a stock before the price goes up can be said to have gotten the better of whomever sold the stock. Conversely, a seller of a stock before the price goes down is the winner of that scenario. Because someone wins and someone loses on every transaction, the total of all winnings is zero. Passive investments seek to avoid playing this game by not trading with active investors and instead just owning the entire market. The rationale is that active investors must trade with other active investors, duking it out to see who wins and who loses.

But the problem with that argument is that passive investments do trade, and the larger they get, the more they have to trade. Passive index funds, which attempt to replicate an index, must make trades to keep up with changes in the index. They essentially become forced buyers and sellers of securities, regardless of how expensive or unattractive they may be. Because these forced passive trades are automatic, they can create exploitable opportunities for informed active investors who are able to predict them before they occur. As passive instruments take up a greater share of the marketplace, they act as a reluctant trading partner with active investors, therefore becoming unwilling players in the game. Ironically, as more money moves from active to passive, exploitable opportunities for active managers increase.

Passively managed equity funds vs. actively managed equity funds — Annual net flows ($bil) 2008 - 3Q 2016



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**As of 9/30/16*

Source: Lipper.

There's room for both

To be sure, passive investing not only is here to stay, it seems likely to grow and grab market share. But as the evidence suggests, to achieve the potential for above-average returns that truly active managers pursue, long-term diversified investors should also consider making room for active investments in their portfolios.

Indexes are unmanaged and it is not possible to invest directly in an index.

Morningstar Category identifies funds based on their actual investment styles as measured by their underlying portfolio holdings over the past three years. If the fund is less than three years old, the category is based on the life of the fund. ©2017 Morningstar, Inc. All Rights Reserved. The information contained herein: (1) is proprietary to Morningstar; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. Past performance is no guarantee of future results.

Mutual funds are subject to risks and fluctuate in value.

An investment in an exchange-traded fund ("ETF") generally presents the same primary risks as an investment in a fund that is not exchange traded and may also be subject to other risks, such as: (i) ETF shares may trade above or below their net asset value; (ii) an active trading market for an ETF's shares may not develop or be maintained and (iii) trading of an ETF's shares may be halted by the listing exchange's officials.

Diversification does not assure a profit nor protect against loss.

Studies cited are for select time periods. Results for other time periods may have varied.

Investors should consider the advantages and disadvantages of both active and passive investing.

FTSE All-World index series is a stock market index that covers over 7,400 companies in 47 countries starting in 1986. It is calculated and published by the FTSE Group, a wholly owned subsidiary of the London Stock Exchange which originated as a joint venture between the Financial Times and the London Stock Exchange.

Views are as of December 1, 2016 and are subject to change based on market conditions and other factors. This should not be construed as a recommendation for any specific security or sector.

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