

**Mid-Caps in DC Lineups:
Considerations for Plan Sponsors**

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Executive Summary

- While companies in the mid-cap segment of the stock market are more mature than small-caps, many may have strong growth potential relative to large-caps. Their unique fundamentals produce a distinct performance profile.
- Over the past decade, many investors – and the fund industry – seem to have embraced the notion of including a dedicated allocation to mid-cap equities in their portfolios. The number of actively managed mid-cap mutual fund products increased from 216 at the beginning of 2000 to 461 at the beginning of 2010.¹
- Are defined contribution (DC) plan participants well served by actively managed mid-cap choices, or is this a relatively efficient asset class where indexing works?
- Our analysis shows that more than three quarters of the most widely used mid-cap funds in DC line-ups (drawn from the Pensions & Investment 2011 list of equity funds most frequently used in DC plans) have underperformed the S&P MidCap 400[®] over the three years ending March 31, 2011.
- Picking active mid-cap managers is risky for plan sponsors. Over three-, five- and ten-year periods, active funds that failed to beat the benchmark did so by a significantly larger margin than the amount by which outperformers beat the benchmark (see Exhibit 9).
- Despite this evidence suggesting indexing mid-cap exposure is highly effective, less than 20% of DC line-ups in our survey have a passive mid-cap option available for participants.
- Contrary to conventional wisdom, indexing is a highly effective means of gaining exposure to market segments beyond large-caps. Mid-caps are not immune to the “arithmetic of active management.”²

¹ Standard & Poor’s Index Versus Active (SPIVA) Scorecards, www.spiva.standardandpoors.com.

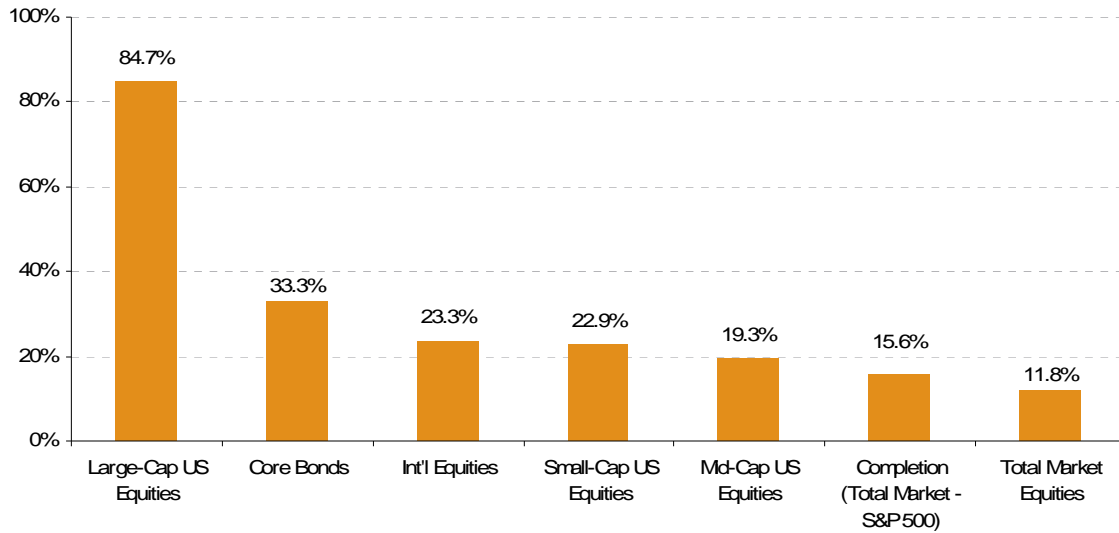
² William Sharpe, “The Arithmetic of Active Management,” *Financial Analysts Journal*, January – February 1991.

Introduction

While the vast majority of DC plans offer at least one index fund, they are mostly concentrated in the large-cap segment of the U.S. stock market.³ Passive funds representing other asset classes are offered in far fewer plans, which may be due to popular misconceptions about the efficacy of indexing in markets that are perceived to be less efficient than large-cap equities. In this paper, S&P Indices considers the basis for this perception, illustrating why we believe it is unfounded for mid-cap equities.

As illustrated in Exhibit 1 below, the adoption of index funds by DC plans is significantly lower in asset classes beyond large-cap. The data consists of the percentage of sampled DC plans⁴ by asset class category, as of April 2011.

Exhibit 1: Index fund adoption is concentrated in U.S. large-cap equities.



Source: S&P Money Market Directories, S&P Indices. Data as of April 2011. Graphs are provided for illustrative purposes.

Once the value of active management has been properly isolated, it is clear that selecting active managers is not only onerous, but also unlikely to lead to better outcomes for plan participants. At the very least, plans should offer an array of index funds to give their participants passive choices in multiple asset classes. Expanding the use of index funds would reduce the potential fiduciary liability associated with selecting and monitoring active managers, improve the average participant's outcome, simplify plan lineups and make participant communication easier.

In this paper, we focus on an asset class that is underrepresented in DC plans, in terms of the availability of passive choices: U.S. mid-cap stocks. We examine some of the biases against indexing mid-cap equities, and compare the performance of active managers to that of a comparable benchmark index.

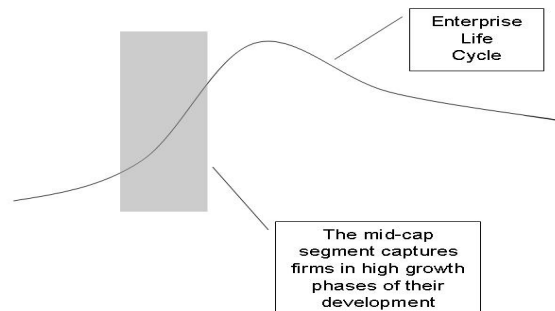
³ Peter Tsui, "S&P Indices Survey Results of Available Passive Options in DC Plans," www.SPindices.com/beyondlargecap

⁴ Ibid.

Mid-Cap Equities as an Asset Class

The mid-cap segment of the equities market offers a unique opportunity to investors. Not unlike the human life cycle, business organizations go through periods of growth and maturation. The mid-cap segment captures a period in the typical enterprise lifecycle in which firms have successfully navigated the challenges unique to small companies, such as raising capital and managing early growth. Yet many companies in this segment are quite dynamic and do not suffer from being so large that growth is unattainable, as illustrated in Exhibit 2 below.

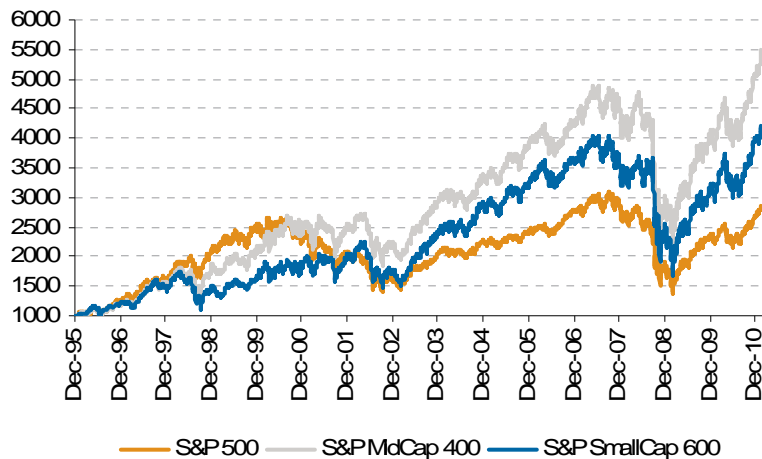
Exhibit 2: Mid-caps offer exposure to a dynamic period in the business lifecycle.



Source: S&P Indices. Charts are provided for illustrative purposes.

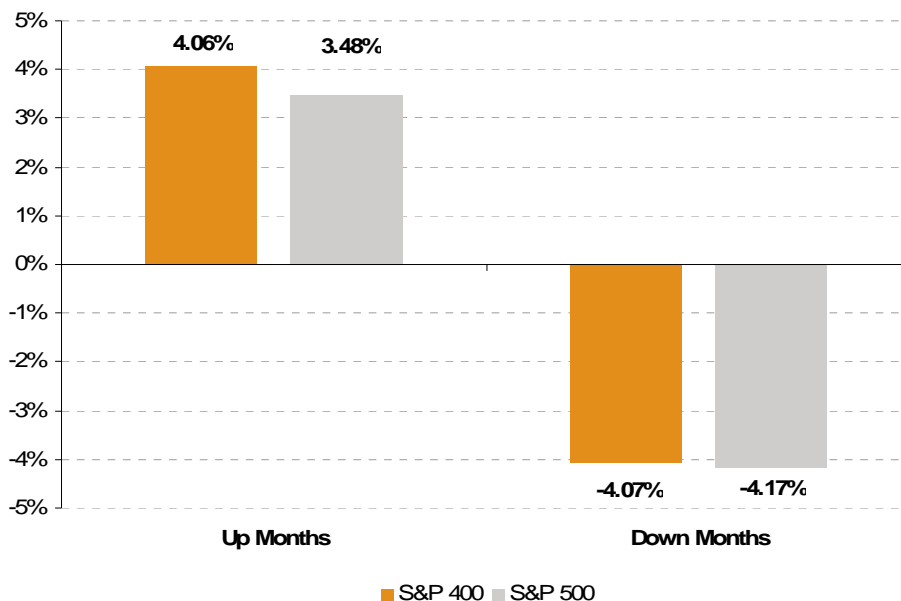
The performance of mid-cap stocks provides empirical evidence that the segment’s fundamentals are unique. As shown in Exhibit 3 below, leadership among the segments varies significantly through time. In addition, the S&P MidCap 400® increased more -- by an increment of *over 50 basis points a month* on average, during “up months” -- when the S&P 500® recorded a positive total return, as shown in Exhibit 4 on the following page. In down months, the average performance of the two benchmarks was nearly identical, indicating that the outperformance in good times was not given back in bad times.

Exhibit 3: Unique fundamentals cause mid-cap performance to be distinct from large- and small-cap performance. (Daily index levels rebased to 1000 as of December 31, 1995)



Source: S&P Indices. Data through March 31, 2011. Graphs are provided for illustrative purposes. Past performance is not a guarantee of future results.

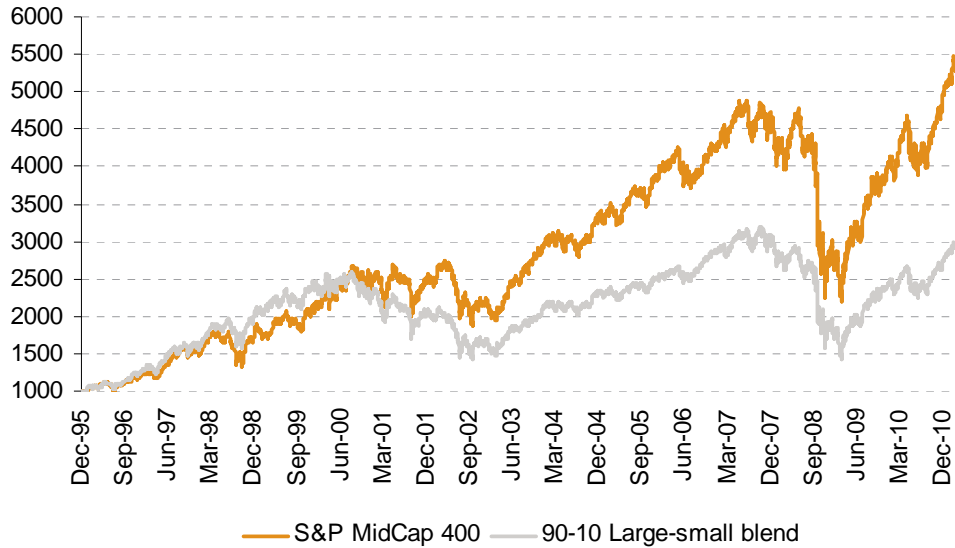
Exhibit 4: Average monthly return of mid-caps has been greater than large-caps in up markets and has not been given back in down markets. (Average monthly performance from January 1996 through March 2011)



Source: S&P Indices. Graphs are provided for illustrative purposes. Past performance is not a guarantee of future results.

Since mid-cap exposure is distinct, it cannot be replicated with a “barbell” or some portfolio combination of large-caps and small-caps. As of March 31, 2011, one would need a portfolio combination of approximately 94% large-cap and 6% small-cap to have market cap exposure equivalent to the mid-cap segment -- \$1.21 trillion for the S&P MidCap 400. With such a combination, the contribution of small-caps to the portfolio would be negligible. In Exhibit 5 on the following page, the results of a 90-10 blend of large- and small-cap indices, versus the mid-cap benchmark are illustrated. The combination is rebalanced annually on the first business day of each year.

Exhibit 5: A portfolio combination of large- and small-caps is not equivalent to mid-cap exposure. (The data reflects the S&P MidCap 400 versus a 90-10 blend of the S&P 500 and the S&P SmallCap 600®, rebalanced annually on the first business day of each year and rebased to 1000 as of December 31, 1995)



Source: S&P Indices. Data as of March 31, 2011. Graphs are provided for illustrative purposes. Past performance is not a guarantee of future results.

Common Misconceptions About Indexing

Active Management in Bear Markets

One of the most enduring investment myths is that active managers, across all market segments, tend to add value in down or flat markets. In a study of the bear markets of 2000 – 2002 and 2008, we found no evidence to support this idea.⁵ In fact, the majority of active managers underperformed relevant benchmarks in both periods and across all market segments -- large, mid and small, as shown in Exhibit 6 below.

Exhibit 6: The majority of active managers underperformed relevant benchmarks during the bear markets of 2000 – 2002, and 2008. (Percentage of active managers who underperform corresponding index).

Fund Category	Benchmark Index	2008	2000 to 2002
All Large-Cap Funds	S&P 500	54.3	53.5
All Mid-Cap Funds	S&P MidCap 400	74.7	77.3
All Small-Cap Funds	S&P SmallCap 600	83.8	71.6

Source: CRSP Database, S&P Indices. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

⁵ “Active Management Myths,” http://www.SPindices.com/assets/files/PracticeEssentials_ActiveManagementMyths.pdf

Active Management in Markets That May be Less Efficient

A key driver of skepticism about indexing beyond large-cap is the notion that small- and mid-cap stocks are less efficient than large-caps. The crux of the Efficient Markets Hypothesis (EMH) is that security prices reflect all publicly available information, which implies that investors cannot earn outsized returns. The consensus opinion is that the large-cap segment is more efficient than the small-cap and mid-cap segments, because more analysts follow the big names in the market. Following this line of thinking, active managers can add more value in less efficient markets, because their research may pay off in the form of market-beating returns.

It turns out that this idea may be misguided. Ennis and Sebastian (2001)⁶ show that when three performance evaluation errors are accounted for, there is no compelling evidence to suggest that active management works better in the small-cap segment than the large-cap segment. The performance evaluation errors include “ignoring management fees,” “using an inappropriate benchmark,” and “ignoring survivorship effects and other biases that inflate the average return of portfolios in commercial databases.” Bogle (2003)⁷ demonstrates that even if small-caps and mid-caps are less efficient than large-caps, the logic of indexing ensures that passive investors will do better than the average active investor. “Whether markets are efficient or inefficient, investors as a group must fall short of the market return by the amount of the costs they incur,” according to Bogle. Since investment management fees and trading costs are lower in market segments perceived to be more efficient -- and higher in market segments perceived to be less efficient -- average costs are higher for small- and mid-cap (SMID) funds than they are for large-cap funds. Perhaps, due to market inefficiency, smart or lucky SMID managers have the potential to beat SMID markets by a greater margin than smart or lucky managers in the large-cap market. However, if smart or lucky managers can accomplish this, then dumb or unlucky ones must lose -- relative to the benchmark -- by an equal amount in aggregate. Importantly, once costs are taken into account, all this leads to negatively skewed performance results for active investors as a group within each market segment. While Ennis and Sebastian throw into doubt the very notion that small-caps are less efficient than large-caps, Bogle shows that whether or not they are less efficient has no bearing on the efficacy of indexing beyond large-caps.

Essentially, once costs are taken into account, the active management game is not a fair one. Active winners win less than active losers lose because of investment intermediation fees. Returns net of fees are skewed unfavorably for investors and market efficiency has no bearing on the aggregate results of all investors within a market segment.

Have DC Plans Been Well-Served by Active Mid-Cap Managers?

To test the efficacy of indexing empirically in the mid-cap segment, we analyzed a group of funds included in the Pensions & Investment 2011 list (“P&I list”) of most-utilized mutual funds in DC plans. P&I created their list of 466 domestic equity funds based on a survey of investment managers with DC assets held by U.S. institutional tax-exempt clients as of 12/31/2010. We limited the list to funds with a market capitalization of \$10 million or more, segregated mid-cap funds by Lipper or Morningstar[®] categories and omitted index funds (of which only three were pure mid-cap funds). The overwhelming majority of mid-cap funds available in DC plans are actively managed, and our final set included 81 of them with \$106.9 billion in DC AUM. Fund names and tickers are listed in the Appendix.

Our analysis is similar to that found in the semiannual Standard & Poor’s Active Versus Passive (SPIVA) Scorecard, but there are some important differences. In this paper, we focus on active mid-cap funds widely available in DC plans. As a result, we do not correct for survivorship bias as is the practice for SPIVA. Since we do not know how many, or which, mid-cap funds were available in DC plans at the start of our evaluation periods, our sample is biased in favor of the funds that have

⁶ Richard M. Ennis, CFA and Michael D. Sebastian, “The Small-Cap Alpha Myth,” September 2001.

⁷ John Bogle, “Whether Markets Are Efficient or Less Efficient, Costs Matter,” CFA Magazine, November – December 2003

endured. This leads to inflated actively managed returns. Furthermore, we do not measure style drift and we categorize the sample at only one point in time. Lastly, the P&I list is not an exhaustive list of all mid-cap funds available in DC plans, but relies on the reporting of asset management providers. Nevertheless, we believe the list to be representative of actively managed mid-cap funds available in DC plans.

We examined fund performance for the three-, five-, and ten-year periods ending March 31, 2011. All of the funds in our sample had a one-year history, 80 of 81 had a three-year history, 78 of 81 had a five-year history and 55 of 81 had a ten-year history, as shown in Exhibit 7 below.

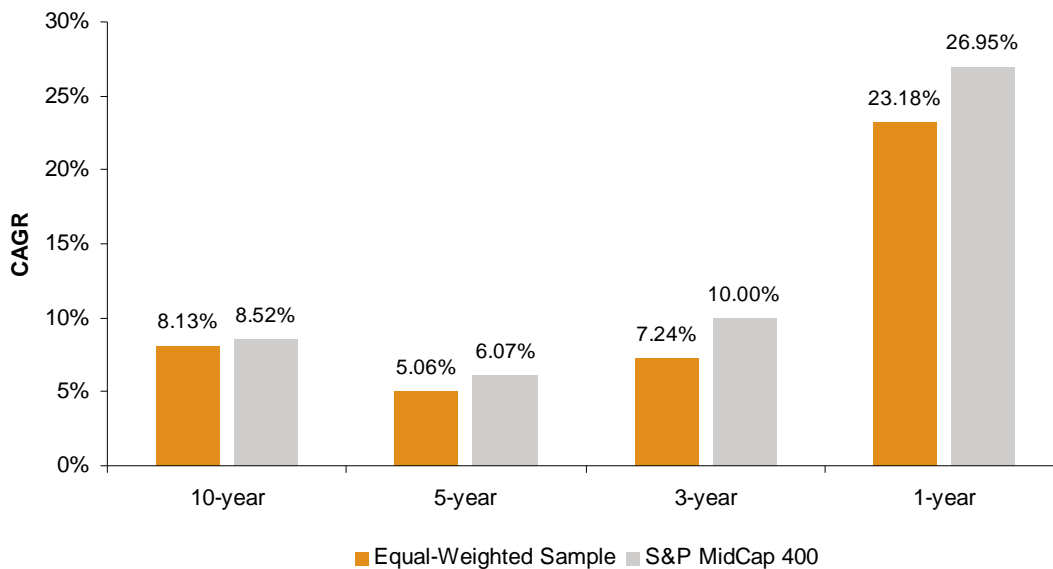
Exhibit 7: Despite survivorship and reporting biases in the sample, most mid-cap funds underperform the benchmark. (Monthly returns through March 31, 2011)

Funds Outperformed by Benchmark	3-Year CAGR	5-Year CAGR	10-Year CAGR
Sample Size	80	78	55
Number Outperformed	62	56	33
Percentage Outperformed	77.5%	71.8%	60.0%

Sources: Pensions & Investments, FactSet, S&P Indices. Data as of March 31, 2011. Graphs are provided for illustrative purposes. Past performance is not a guarantee of future results.

Next, we calculated the equally weighted average monthly return of all the funds in our sample for the entire sample period, yielding a hypothetical series of returns representing the peer group average performance. Looking further at this series, we notice a similar pattern of underperformance as that found in Exhibit 6. Peer group underperformance ranges from 39 bps for the ten-year period, to 378 bps for the one-year period, ending March 31, 2011.

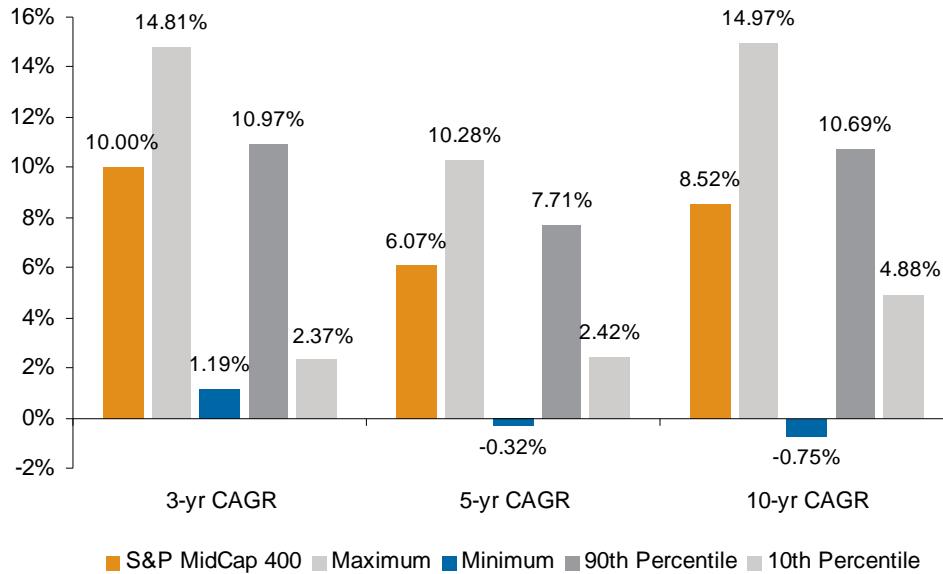
Exhibit 8: Active mid-cap funds underperformed the index over long periods despite benefiting from survivorship bias. (CAGR through March 31, 2011 of sample average monthly returns versus the benchmark)



Sources: Pensions & Investments, FactSet, S&P Indices; Data as of March 31, 2011. Graphs are provided for illustrative purposes. Past performance is not a guarantee of future results.

To illustrate the risk of picking active managers, Exhibit 9 on the following page shows the highest and lowest Compound Annual Growth Rates (CAGRs) and the 90th and tenth percentiles from our fund sample, as well as the corresponding benchmark return over three-, five-, and ten-year periods.

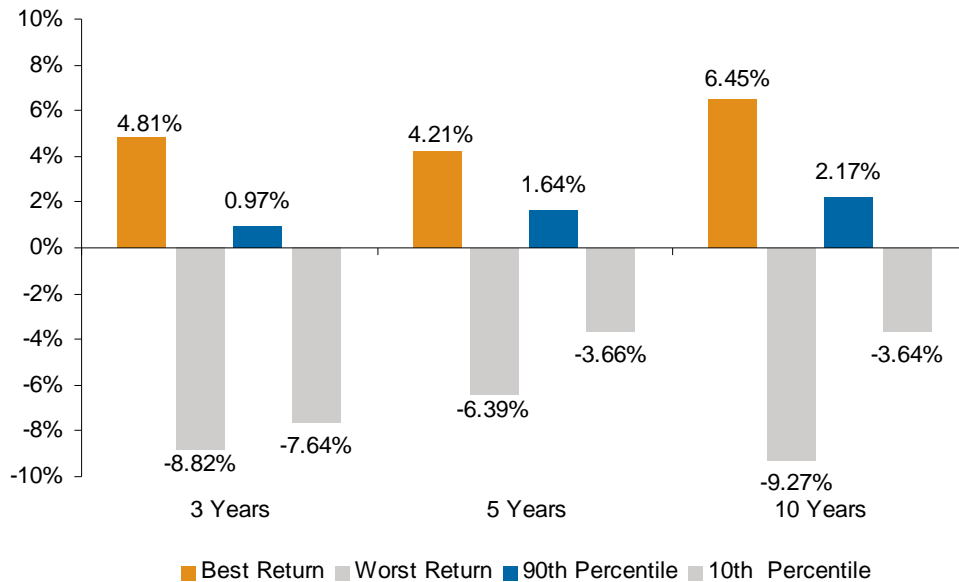
Exhibit 9: Picking active managers is risky for plan sponsors. The data is based on monthly returns through March 31, 2011.



Sources: Pensions & Investments, FactSet, S&P Indices. Data as of March 31, 2011. Graphs are provided for illustrative purposes. Past performance is not a guarantee of future results.

If we consider relative returns, Exhibit 10 below shows the highest and lowest relative CAGRs and the 90th and tenth percentiles. Over each period it is clear that among active investors, winners win less than losers lose.

Exhibit 10: Active returns are negatively skewed for DC plan participants. (Maximum and minimum, and 90th and 10th percentile, CAGRs minus the benchmark CAGR, based on monthly returns through March 31, 2011)



Sources: Pensions & Investment, FactSet, S&P Indices. Data as of March 31, 2011. Graphs are provided for illustrative purposes. Past performance is not a guarantee of future results.

Summary

Passive investing may feel a bit boring to many investors who have been conditioned to believe that successful investors are those who beat the market. William Sharpe referred to passive investing as “prosaic...a dull, boring way to be a better investor than many of your friends.”⁸ However, if the goal of employers is to offer retirement plans that offer a high probability of generating adequate retirement funding for participants, then index funds should surely play a central role in DC lineups.

In our study, “Survey of Passive Options in DC Plans,” we found that asset classes beyond U.S. large-cap stocks are generally underrepresented, with respect to the availability of passive investment options in DC plans. That may be due to the anti-indexing biases explored in this article. We find empirical evidence demonstrating that regardless of whether markets are efficient, indexing works to give passive investors their fair share of market returns. Picking active managers is a risky activity for plan sponsors, with net of fees active performance negatively skewed for plan participants.

⁸ William Sharpe, “Indexed Investing: A Prosaic Way to Beat the Average Investor,” a speech presented at the Spring President’s Forum, Monterey Institute of International Studies, May 1, 2002.

Appendix: Mid-Cap Funds Included in Analysis

American Beacon MC Value-AMR	AMDIX	Gabelli ABC	GABCX
American Beacon MC Value-Inv.	AMPAX	Gabelli Value	GABVX
Ariel Appreciation	CAAPX	Goldman Sachs Growth Opportunities	GGOIX
Ariel Fund	ARGFX	Goldman Sachs Midcap Value	GSMCX
Artisan Midcap	ARTMX	Goldman Sachs Small/Mid Cap Growth	GSMYX
Artisan Midcap Value	ARTQX	Harbor Midcap Growth-Adm.	HRMGX
Aston/Optimum-I	ABMIX	Harbor Midcap Growth-Inst.	HAMGX
Aston/Optimum-N	CHTTX	Harbor Midcap Growth-Inv.	HIMGX
Baron Asset	BARAX	Hartford Midcap	HMDYX
Baron Growth	BGRFX	Hartford Midcap HLS	HIMCX
Baron Partners	BPTRX	Invesco Dynamics	IDYAX
BlackRock Midcap Value	BMCAIX	Invesco Midcap Core	GTAGX
BlackRock Midcap Value Opp.	MDRFIX	Janus Aspen Enterprise Portfolio	JAAGX
BlackRock U.S. Opportunities	BMEAX	Janus Enterprise	JAENX
Buffalo Midcap	BUFMX	JPMorgan Midcap Growth	HLGEX
Calvert Capital Accumulation-A	CCAFX	JPMorgan Midcap Value	FLMVX
Columbia Acorn	LACAX	Lord Abbett Growth Opportunities	LMGYX
Columbia Acorn Select	LTFAX	Lord Abbett Midcap Value	LMCYX
Columbia Midcap Value	CMUAX	Lord Abbett Value Opportunities	LVOYX
Columbia Midcap Value Opportunity	AMVAX	Marshall Midcap Growth	MRMSX
Delaware Midcap Value	DLMIX	Marshall Midcap Value	MRVEX
Delaware Select Growth	VAGGX	MFS Midcap Growth	OTCHX
Delaware Smidcap Growth	DFCIX	MFS Midcap Value	MVCHX
Dreyfus Active Midcap	DNLDX	Munder Midcap Core Growth	MGOAX
Dreyfus Opportunistic Midcap Value	DMCVX	Neuberger Midcap Growth	NMANX
Dreyfus/TBC Small/Mid Cap Growth	SDSCX	Neuberger Regency	NBRVX
DWS Midcap Growth	SMCAIX	Oppenheimer Small-&Mid Cap Value	QSCNX
Federated Kaufmann	KAUAX	Perkins Midcap Value	JMCVX
Federated Midcap Growth	FGSAX	Pioneer Mid Cap Value	PYCGX
Federated Midcap Growth Strategies	FGSIX	Putnam Multicap Value	PMVAX
Fidelity Advisor Leveraged Co.	FLSTX	Royce Premier-Invest.	RYPRX
Fidelity Advisor Midcap	FMCAIX	T. Rowe Price Midcap Growth	RPMGX
Fidelity Growth Strategies	FDEGX	T. Rowe Price Midcap Value	TRMCX
Fidelity Leveraged Co. Stock	FLVCX	TCW Value Opportunities	TGVOX
Fidelity Low-Priced Stock	FLPSX	Vantagepoint Aggressive Opp.	VPAOX
Fidelity Midcap Stock	FMCSX	Victory Established Value-A	VETAX
Fidelity Small-cap Stock	FSLCX	Victory Established Value-R	GETGX
Fidelity Value	FDVLX	Victory Special Value-A	SSVSX
Franklin Balance Sheet-A	FRBSX	Victory Special Value-I	VSPIX
Franklin Small-Mid Cap Growth-A	FRSGX	Victory Special Value-R	VSVGX
Franklin Small-Mid Cap Growth-Adv.	FSGAX		

Source: Pensions & Investment 2011 list of most-utilized mutual funds in DC plans.

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