



# Debunking some misconceptions about indexing

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Although the indexing strategy has proven to be successful since its beginnings in the 1970s, indexing has also been continually criticized. These criticisms have given rise to a number of misconceptions, which persist despite research that has refuted them and despite the historical performance of index mutual funds.

## Myth #1: Indexing only works in 'efficient' markets

The first myth regarding the viability of indexing is that indexing only works in markets traditionally viewed as highly efficient. For example, the government bond market is considered one of the most efficient markets, meaning there is not a great deal of room for active managers to add value. In such a market, it would be expected that an overwhelming majority of active managers would fail to beat a benchmark. On the flip side, markets such as smaller-capitalization stocks,<sup>1</sup> high-yield bonds, or international markets are often viewed as much less efficient. Investors tend to view these markets as providing more opportunity for active management to add value. As a result, indexing would be expected to underperform a large majority of active managers.

Figure 1, on page 2, addresses this argument by showing the percentage of active managers that underperformed a relevant benchmark over the 15 years ended December 31, 2009. Managers in both small-cap U.S. equity and high-yield U.S. bond funds underperformed significantly, even though these are thought to be areas of opportunity for active managers. Extending the evaluation to global and international equity funds, we show that while global managers have performed well, on average, over the last 15 years, managers targeting developed and emerging markets underperformed, on average (see Figure 2, on page 3).<sup>2</sup> These numbers can be expected to change over time and across benchmarks. However, the magnitude of the underperformance of the median active fund in 14 of the 15 style boxes is notable.

Figure 3, on page 3, shows the average dollar-weighted expense ratios for active and index mutual funds. Because an index fund is designed to closely track—rather than outperform—its benchmark, it would be expected to underperform the benchmark by roughly the amount of its expense ratio. For example, a mid-cap U.S. equity index fund with an annual expense ratio of 24 basis points

Note: This research note is adapted from a section of a comprehensive Vanguard research paper titled *The Case for Indexing*, also by Christopher B. Philips (2010a).

1 For more on small-cap active funds' relative performance, see *Evaluating Small-Cap Active Funds* (Davis et al., 2007).

2 In a parallel study of offshore-domiciled funds (Philips, 2010b), we reported that the average manager significantly underperformed the fund benchmark. These results have held across investment mandates, including those focusing on the United States, Europe, and the Eurozone, as well as global and emerging markets.

**Figure 1. Underperformance by active managers is common across asset classes and sub-asset classes**

15-year annualized excess returns as of 12/31/2009

	Value	Blend	Growth
Large	42% / 56%	75% / 83%	66% / 73%
	0.08%	-1.38%	-1.04%
Medium	99% / 99%	95% / 96%	97% / 98%
	-2.63%	-2.51%	-3.75%
Small	81% / 84%	92% / 93%	67% / 76%
	-1.34%	-3.11%	-0.66%

15-year annualized excess returns as of 12/31/2009

	Government	Corporate	GNMA	High-yield
Short	89% / 94%	98% / 99%	100% / 100%	92% / 93%
	-0.79%	-1.61%	-0.72%	-1.02%
Intermediate	70% / 80%	89% / 91%		
	-0.27%	-0.83%		

- Percentage of funds underperforming benchmark / Percentage underperforming, adjusted for survivorship bias
- Median fund excess return

Notes: Long government and long corporate funds were excluded owing to a small sample size and a duration mismatch with available long-term bond benchmarks. Because duration is the dominant return factor, small differences in duration between a fund (or group of funds) and an index can lead to significant out- or underperformance, independent of cost differentials. Any discrepancies in underperformance figures are due to rounding.

Sources: Vanguard calculations, using data from Morningstar, Inc., MSCI, Standard & Poor's, and Barclays Capital. Equity benchmarks represented by the following indexes: Large blend—S&P 500 Index, 1/1995 through 11/2002, and MSCI US Prime Market 750 Index thereafter; Large value—S&P 500 Value Index, 1/1995 through 11/2002, and MSCI US Prime Market 750 Value Index thereafter; Large growth—S&P 500 Growth Index, 1/1995 through 11/2002, and MSCI US Prime Market 750 Growth Index thereafter; Mid blend—S&P MidCap 400 Index, 1/1995 through 11/2002, and MSCI US Mid Cap 450 Index thereafter; Mid value—S&P MidCap 400 Value Index, 1/1995 through 11/2002, and MSCI US Mid Cap 450 Value Index thereafter; Mid growth—S&P MidCap 400 Growth Index, 1/1995 through 11/2002, and MSCI US Mid Cap 450 Growth Index thereafter; Small blend—S&P SmallCap 600 Index, 1/1995 through 11/2002, and MSCI US Small Cap 1750 Index thereafter; Small value—S&P SmallCap 600 Value Index, 1/1995 through 11/2002, and MSCI US Small Cap 1750 Value Index thereafter; Small growth—S&P SmallCap 600 Growth Index, 1/1995 through 11/2002, and MSCI US Small Cap 1750 Growth Index thereafter. Bond benchmarks represented by the following Barclays Capital indexes: U.S. 1–5 Year Government Bond Index, U.S. 1–5 Year Credit Bond Index, U.S. Intermediate Government Bond Index, U.S. Intermediate Credit Bond Index, U.S. GNMA Bond Index, U.S. Corporate High Yield Bond Index.

(0.24 percentage point) per year would be expected to trail the returns of its benchmark by about 24 basis points, assuming close tracking.

On the other hand, while an investor might hope that an actively managed mid-cap fund with an annual expense ratio of 106 basis points could outperform both the benchmark and the index fund over time, to do this the active manager would need to top the

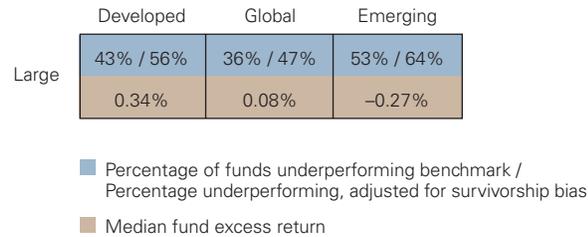
benchmark return by more than 106 basis points and the index fund return by more than 82 basis points. For mid-cap funds specifically, and the other categories more broadly, the returns for the median active fund generally failed to achieve either objective. For investors looking to increase the probability of higher returns, replacing higher-cost actively managed funds with lower-cost index funds may be their best course of action.

*Notes about risk and performance data: Investments are subject to market risk. Investments in bond funds are subject to interest rate, credit, and inflation risk. Foreign investing involves additional risks, including currency fluctuations and political uncertainty. Funds that concentrate on a relatively narrow market sector face the risk of higher share-price volatility. Prices of mid- and small-cap stocks often fluctuate more than those of large-company stocks. U.S. government backing of Treasury or agency securities applies only to the underlying securities and does not prevent share-price fluctuations. Because high-yield bonds are considered speculative, investors should be prepared to assume a substantially greater level of credit risk than with other types of bonds. Diversification does not ensure a profit or protect against a loss in a declining market. Stocks of companies in emerging markets are generally more risky than stocks of companies in developed countries. Performance data shown represent past performance, which is not a guarantee of future results. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.*

**Figure 2.** Active managers in developed and emerging markets have frequently underperformed the benchmark.

Percentage of managers outperformed by benchmark and equal-weighted excess returns of active managers

International equity: 15-year annualized excess returns as of 12/31/2009



Sources: Vanguard calculations, using data from Morningstar, Inc., and MSCI. Benchmarks include the following MSCI indexes: All Country World Index, EAFE Index, and Emerging Markets Index.

### Myth #2: Active management outperforms indexing in bear markets

A second misconception about indexing is that actively managed funds will outperform index funds in a bear market. This belief is based on the idea that active managers can accurately time market declines and upturns. Relatively efficient markets, however, make it difficult to consistently time market movements with accuracy.

Many investors believe that managers of active funds can shift fund assets out of stocks in time to curb portfolio losses during market downturns. In reality, the probability that these managers will move fund assets to defensive stocks or cash at just the right time is very low. Most events that result in major changes in market direction are unanticipated. To succeed, an active manager would have to not only time the market but also do so at a cost that was less than the benefit provided. **Figure 4** illustrates how hard it has been for active fund managers to outperform the Dow Jones U.S. Total Stock Market Index. In four of seven bear markets since January 1973, and five of the seven bull markets, actively managed mutual funds have, on average, underperformed the index. These results are particularly

**Figure 3.** Asset-weighted expense ratios of active and index mutual funds (as of December 31, 2009)

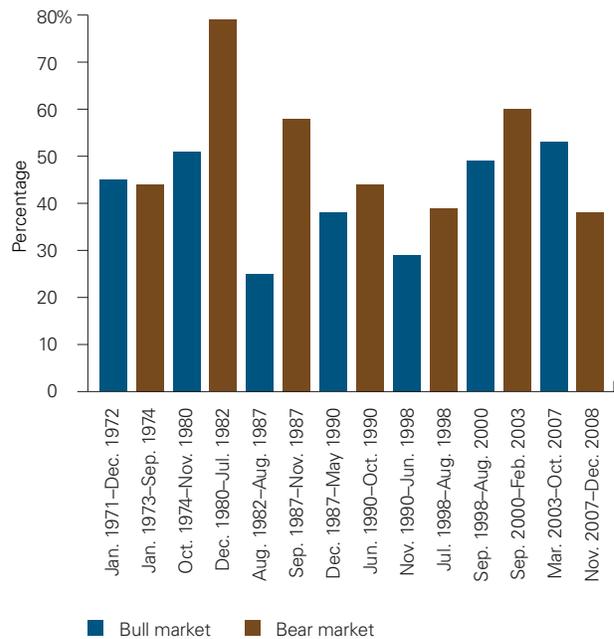
	Actively managed funds (bps)	Index funds (bps)	Difference (bps)
Large-cap U.S. equity	86	19	68
Mid-cap U.S. equity	106	24	82
Small-cap U.S. equity	114	32	82
U.S. sector	107	81	26
U.S. real estate	104	26	78
International developed markets	99	40	59
International emerging markets	136	41	96
U.S. corporate bond	56	23	33
U.S. government bond	54	23	30

Note: bps = basis points.

Sources: Vanguard calculations, using data from Morningstar, Inc. Discrepancies due to rounding.

**Figure 4.** Active managers in U.S. stock funds have had a tough time outpacing the broad equity market

U.S. funds versus Dow Jones U.S. Total Stock Market Index



Sources: Vanguard calculations, using data from Morningstar, Inc., and Dow Jones.

noteworthy, given that most bear markets are relatively brief, while the indexing cost advantage grows in magnitude over 5-, 10-, and 20-year periods.

Similarly, Lipper studied active managers' performances in bear markets (defined by Lipper as a drop of -10% or more in the equity markets)<sup>3</sup> and found that the managers underperformed the Standard & Poor's 500 Index in the six market corrections occurring between August 31, 1978, and October 11, 1990. For example, the average decline for the S&P in these episodes was -15.1%, versus a -17.0% average decline for large-cap growth funds.

Indexing has grown rapidly because it provides a simplified, efficient investment vehicle with the potential to increase shareholder wealth across a broad range of asset classes and sub-asset classes. Primarily because of their low-cost structure, indexed investments have generally offered long-term outperformance relative to a majority of actively managed funds, regardless of asset class or market segment. In fact, if broadly diversified active funds were able to minimize fees and turnover on a par with index funds, much of the indexing advantage would be eliminated. The reality of active management, however, is that costs are generally higher, giving index funds a significant head start in relative performance.

### The indexing cost advantage

A shareholder's net return equals the fund's gross return less the expense ratio and transaction costs. The lower the cost drag, the greater the net return, all else being equal. Over time, lower costs can mean out-performance relative to similar funds with higher costs. Compared with index funds, actively managed mutual funds typically have higher management fees coupled with higher transaction costs. The higher management fees often result in part from the need to cover the costs of research. Higher transaction costs are attributable to the generally higher turnover associated with active management's attempt to outperform the market.

Because costs eat into returns, reported expenses may be a valuable tool when evaluating fund returns. Research bears this out. For example, Financial Research Corporation evaluated the predictive value of different fund metrics. The study found that a fund's expense ratio was the most reliable predictor of its future performance, with low-cost funds delivering above-average performances in all of the periods examined. For investors, the clear implication is that focusing on low-cost funds can increase the probability of outperforming higher-cost portfolios.

3 As cited in Evans and Malkiel (1999).

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