



# Myths and Misconceptions About Indexing

JULY 2003

## Executive Summary

Since first being introduced in the early 1970s, indexing has become an important investment strategy for institutional and individual investors, and indexed assets have grown substantially, totaling \$340.1 billion, or 5.6% of all mutual fund assets, as of December 31, 2002. However, indexing has also been continually criticized. These criticisms have given rise to a number of misconceptions, which persist despite research disproving them and despite the historical performance of index mutual funds. Several current misconceptions about indexing include:

**Myth 1: All index mutual funds are managed equally.** Successfully tracking a benchmark index requires skill and experience. Variations in index fund managers' skills and abilities are evident in the significant performance differences among funds tracking the same index.

**Myth 2: Indexing is a self-fulfilling prophecy.** This theory posits that the growing popularity of index funds in the 1990s caused cash to flow into the stocks in the funds' target indexes, boosting the performances of passively managed funds versus those of actively managed funds. Yet evidence and intuition show that the success of indexing in the 1990s, specifically with respect to funds tracking the Standard & Poor's 500 Index, is attributable to factors other than the rising popularity of index funds.

**Myth 3: Indexing cash flows move markets.** A common misconception is that cash flows into or out of index funds influence the prices of securities heavily and can contribute to booms or crashes in the markets. However, a review of index funds' cash flows shows a lack of correlation with market performance.

**Myth 4: Index funds always underperform in a bear market.** Some critics contend that index funds are sure to underperform actively managed portfolios in bear markets because index funds remain fully invested, while active managers have the leeway to hold cash as a defensive measure. In reality, the performances of most actively managed funds show that these funds did not produce superior results during bear markets.

**Myth 5: Equity index funds are tax-inefficient in a bear market.** Some fear that investors might increase their redemptions during a bear market, which would force index mutual funds to sell securities and realize large capital gains. However, a review of redemption activity and capital gains distributions during the

2000–2002 bear market and previous market downturns demonstrates that index funds are more tax-efficient than actively managed funds in both bull and bear markets.

**Myth 6: Indexing only works in certain market segments.** Some critics believe that indexing only works in the more-efficient large-capitalization U.S. equity markets. However, the historical performances of small-cap stock and bond index funds refute this point.

**Myth 7: Higher management costs are not equivalent to higher returns.** Some investors believe that they can buy better performance. But with mutual funds, higher expenses do not ensure higher returns. On the contrary, the low costs of index mutual funds give them a distinct performance advantage over higher-cost funds.

### How Index Funds Work

A good starting point for understanding the inaccuracy of these notions is to review why an indexing strategy works. The success of indexing can be mainly attributed to its lower costs and, to a lesser degree, the limited opportunities that exist for active fund managers to exploit market inefficiencies.

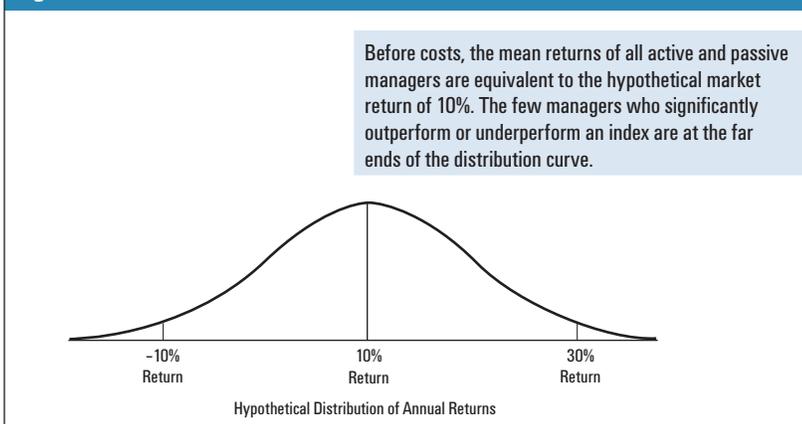
The financial markets can be thought of as a zero-sum game, where one person's gain is another's loss. Before allowing for costs, the aggregate return of all investors in the market equals the market return. If index funds earn the market return, then actively managed funds, in the aggregate, must also earn the market return—before costs. Consequently, if some actively managed funds outperform

the market, others must underperform the market by an equivalent amount. Of course, after factoring in the costs of investing, the aggregate return of all funds is less than the market return. Since index funds typically have much lower costs than actively managed funds, the result is that index funds have a higher aggregate return. Figures 1 and 2 illustrate this concept.

An additional factor contributing to the high costs of actively managed funds is investors' behavioral biases. Classical economic theory puts forth the notion that investors are rational; that is, they process and act on information in an efficient, unbiased manner. However, numerous studies have shown that investors are actually biased, with one common behavioral bias being overconfidence, particularly in areas where they have some expertise.<sup>1</sup> When investors have a limited amount of information and yet are confident that their predictions are correct, they trade a great deal more than rational investors.<sup>2</sup> Increased trading translates into persistently higher turnover rates and increased transaction costs for actively managed funds. An indexing strategy avoids this drawback and the high costs associated with it.

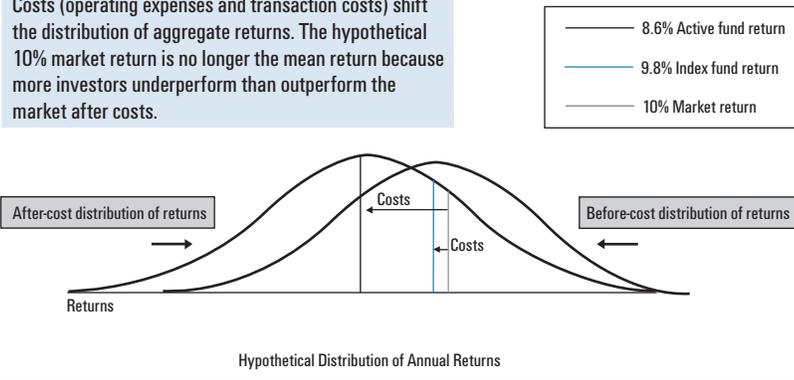
Another factor in the success of indexing is that financial markets are relatively efficient in incorporating public, obvious information into the valuations of individual

**Figure 1 Relative Investment Performance Before Costs Is a Zero-Sum Game**



**Figure 2 Costs Reduce Investor Performance to Less Than the Market Performance**

Costs (operating expenses and transaction costs) shift the distribution of aggregate returns. The hypothetical 10% market return is no longer the mean return because more investors underperform than outperform the market after costs.



securities, which results in relatively few opportunities for active managers to produce excess returns based on market inefficiencies. When someone identifies an opportunity to outperform the market, others tend to catch on quickly. This information spreads and is soon reflected in the price of the asset. Even if an investor can take advantage of such information, or of an analysis, to produce an excess return, the transaction and other costs of implementing the strategy may offset much of the advantage. Furthermore, it is unlikely that any particular investor will consistently profit from these opportunities, on average.

**Myth 1: All index mutual funds are managed equally.**

There is a common misconception that one index fund is the same as another. In reality, skilled managers can minimize an index fund’s tracking error and expense ratio, significantly affecting its returns over the long term. The differences in managers’ skills are evident in the relatively wide variation in returns for funds tracking the same index. The range of annualized returns for funds tracking the S&P

500 Index are shown in Table 1 for the one-, three-, and five-year periods ended December 31, 2002. The difference between the best and the worst one-year returns for these funds is more than 200 basis points. The variation in their five-year returns is even greater.

**Accounting for Performance—Expense Ratios.** An index fund manager adds value to the extent that he or she minimizes fund expenses. These expenses are measured by a fund’s expense ratio, or the percentage of a fund’s average net assets used to pay its annual operating costs. Expense ratios directly reduce index funds’ returns and the precision with which funds track their target indexes because fund returns are reported net of expenses. Although indexing is inherently a low-cost investment strategy, expense ratios vary widely for indexed mutual funds. For example, the current expense ratios for institutional and retail funds tracking the S&P 500 Index range from 0.03% to 2.18%, according to data from Lipper Inc. Managers of index funds can control expenses in different ways, one of which is through securities lending, which enables an index fund manager to offset expenses with incremental revenue from a portfolio’s assets.

**Accounting for Performance—Transaction Costs.**

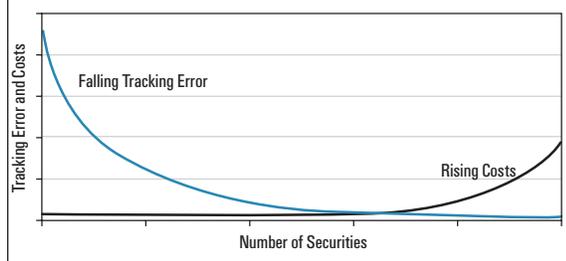
As with expenses, transaction costs associated with trading securities vary considerably among index funds. Although these costs are not included in a fund’s expense ratio, they directly affect the precision with which a fund tracks its target index. Transaction costs result from an index fund manager’s implementation of portfolio changes, which result from rebalancing or in response to shareholders’ capital flows. For example, cash inflows require transactions to rapidly invest the cash across index securities. One way to assess an index fund manager’s transactional skill is to compare a fund’s gross return with the return of its target index. According to Lipper Inc., 61 of the 86 funds tracking the S&P 500 Index for the five years ended February 28, 2003, registered average annual gross returns that matched or exceeded the index’s -2.99% average annual return in the period. The remaining

**Table 1 Best and Worst Total Returns for Index Mutual Funds Tracking the S&P 500 Index**

	Periods Ended December 31, 2002		
	One Year	Three Years	Five Years
<b>High</b>	-21.74%	-14.33%	-0.33%
<b>Low</b>	-23.78	-15.99	-2.39
<b>S&amp;P 500 Index</b>	-22.10	-14.55	-0.59

Source: Lipper Inc.

**Figure 3 Trade-Off: Tracking Error and Transaction Cost**



25 funds trailed the benchmark on a gross basis. These variations are likely to be the result of manager skill and experience. Empirical studies have found that several factors that vary by manager or investment firm, such as trading ability or reputation, affect institutional trading costs.<sup>3</sup>

Index fund managers can reduce transaction costs in the following ways:

- First, skilled index fund managers can trade securities more efficiently. In the equity markets, the use of the appropriate trading vehicle can provide cost efficiencies. For easier-to-trade securities, managers may engage in agency trades executed through a securities trader. Other securities may be more efficiently traded as principal trades, through a market-maker. Second, a skilled fund manager can reduce trading costs by using a variety of trading venues, such as the New York Stock Exchange and the electronic markets. Third, negotiation-based executions can provide favorable prices. In the bond markets, better execution may be obtained by using dealers on an agency basis for some trades and on a principal basis for others. In addition, using electronic trading systems like MarketAxess for corporate bonds and TradeWeb for government bonds can reduce transaction costs.
- Index fund managers can minimize transaction volumes and costs by employing a well-designed optimization process that determines the best solution for a set of conflicting objectives. For example, a fund manager may have to decide between using full replication (owning

all the securities in the index) or partial replication (an attempt to match the performance of the index without owning all the securities in it), also known as sampling. In determining the appropriate level of replication, index fund managers must balance the lower costs involved in partial replication against the strategy's greater risk of tracking error. As the number of securities owned by a fund increases, tracking error decreases but costs rise, as illustrated in Figure 3. Skilled managers use optimization to decide not only how many securities within an index to own, but also which ones. Some securities cannot be sampled effectively.

- Skilled index fund managers can minimize trading costs by using a combination of investments to replicate their benchmarks. Equity index fund managers may use futures, exchange-traded funds (ETFs), or slices. A slice is a basket of securities identically weighted to the benchmark, and it represents a full-replication approach. ETFs, in contrast, provide a means to purchase the index in one trade. The cost for trading futures or ETFs is low relative to trading each of the stocks in an index. However, using futures and ETFs can result in increased tracking error and lower tax efficiency. Likewise, an experienced bond index fund manager may use futures or fixed income ETF-like securities (such as Lehman Brothers' TRAINS or Morgan Stanley's TRACERS), or the manager may generate indexlike returns for subsectors in the market through the use of total return swaps. An index fund manager also can use optimization techniques to determine the appropriate level of each security type.

### **Myth 2: Indexing is a self-fulfilling prophecy.**

This theory posits that the superior performance of index funds is driven by cash flows into the funds and, in turn, into their indexes. The funds that track the S&P 500 Index were a frequent focus of this criticism during the 1990s, probably because the value of the S&P 500 Index was rising at the same time as indexing was gaining in popularity.

**Intuitive Explanations.** A review of how and when active and passive managers implement investment decisions helps to disprove the notion that cash flows into index funds drive index values.

First, index fund managers implement their decisions *ex-post* and not *ex-ante*. Active managers, whose holdings make up 80% to 90% of the market, execute throughout the trading day. The active 90% of the market clearly determines security prices. Indexing cash flows simply follow the aggregate actively managed cash flows for any given day, since index funds are based on replicating the index at the closing day's price. Second, the superior performance of the S&P 500 Index during the 1990s was due largely to the returns of the 50 largest stocks in the index. The contribution of these stocks to the index's performance was far greater than that of the other 450 stocks in the index. Index funds purchase a proportionate share of all the stocks in an index, not just the top performers. If index fund cash flows were truly driving index returns, the largest 50 stocks in the S&P 500 would not have performed so much better than the other 450 stocks during the 1990s.

**Empirical Support.** Burton G. Malkiel and Aleksander Radisich studied the growth of index funds and the pricing of equity securities, and they found no evidence that indexing has any permanent effect on the pricing of securities or that the success of indexing is self-fulfilling.<sup>4</sup> Malkiel and Radisich tested several theories, including the hypothesis that the flow of new money into funds tracking the S&P 500 Index augments the differential investment return of these funds versus the returns of actively managed funds. They conducted a time series regression analysis for the period from January 1988 through December 1996 and found that the flow of money into S&P index funds was statistically insignificant with respect to the excess performance of these funds over actively managed funds.

The Malkiel and Radisich study is noteworthy because it examined a longer period than prior studies. Previous research had focused on short-term, often significant, price increases for stocks entering the S&P 500 Index and found that this "price effect" was increasing. Malkiel and Radisich, by contrast, concluded that the number of stocks benefiting from the "pop" in their prices upon entering the S&P 500 had not grown and that the price effect, to the extent it does occur, dissipates over time.

**Table 2 Cash Flows and Returns of Index Funds**

Stock Fund Category	Equity Index Cash Flows (\$ Millions)									
	Ten Years Ended December 31, 2002									
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Large-Cap	\$4,343	\$3,168	\$9,324	\$19,218	\$26,079	\$35,893	\$50,685	\$18,018	\$12,828	\$9,555
Mid-Cap	375	225	259	831	1,021	357	951	2,838	1,148	2,157
Small-Cap	285	415	492	1,164	1,948	1,998	377	1,546	1,694	2,080
Index	Index Returns									
	Ten Years Ended December 31, 2002									
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Russell 1000	10.15%	0.38%	37.77%	22.45%	32.85%	27.02%	20.91%	-7.78%	-12.45%	-21.65%
Russell Midcap	14.30	-2.09	34.45	19.00	29.01	10.10	18.23	8.25	-5.62	-16.18
Russell 2000	18.91	-1.82	28.44	16.49	22.36	-2.55	21.26	-3.03	2.49	-20.48

Sources: Strategic Insight and The Vanguard Group, Inc.

### Myth 3: Indexing cash flows move markets.

A common misconception is that cash flows into or out of index funds could cause markets to boom or bust. For this to be true, index fund cash flows would have to be correlated with index returns. However, as Table 2 on page 5 shows, there has been a lack of correlation between cash flows and index returns. For example, in 2002, equity index cash flows for each market segment were positive. In the same year, returns were negative for each segment. Likewise, in 2000 and 2001, returns for two of the three market segments were negative while their cash flows were positive.

**Indexed Assets—Redemption Activity.** This myth also assumes that a large increase in redemption activity involving equity-indexed assets could trigger a significant fall in stock prices. The reality is that indexing has attracted a large institutional following that use rebalancing to adhere to their investment strategies or policy statements, which helps to keep cash flows fairly stable, if not somewhat contrarian to market performance. Table 2 shows that cash flows into equity index funds were relatively stable from 1993 through 2002. Even during the 2000–2002 bear market, net cash flows of equity index mutual funds were positive.

### Indexed Assets—Threshold for Market Impact.

Equity indexed assets are not large enough to dramatically impact the market. Although equity-indexed assets have substantially increased over the past 20 years, they still make up a relatively small portion of the equity market's total capitalization, accounting for approximately 12%–13% of the total equity market. In order for widespread selling of these assets to cause a significant decline in the overall equity market, it would have to extend to most of the other 80%–90% of the market.

### Myth 4: Index funds always underperform in a bear market.

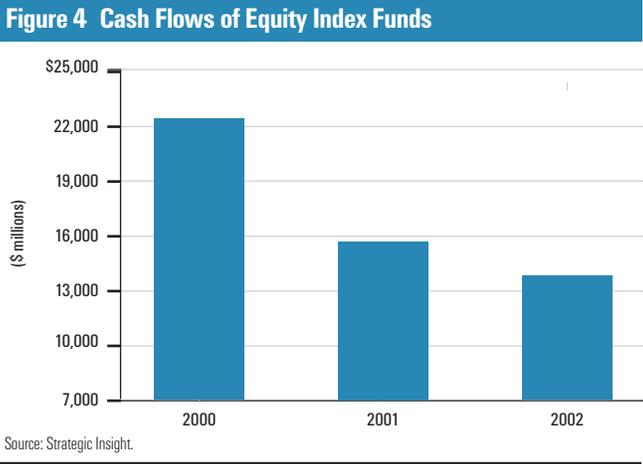
One misconception about indexing is that actively managed funds will outperform index funds in a bear market. This misconception is based on a belief that active managers can accurately time market declines and upturns. Relatively efficient markets, however, make it difficult to consistently time market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

**Timing the Stock Market.** 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

**Table 3 Actively Managed Funds Versus Index in Bear Markets**

Performance of General Equity Managers During Five Bear Markets			
	Wilshire 5000 Index	Lipper General Equity Average	Relative Index Performance
January 1973–September 1974	-46.4%	-47.9%	+1.5%
December 1980–July 1982	-18.7	-10.2	-8.5
September 1987–November 1987	-29.8	-28.7	-1.1
June 1990–October 1990	-16.7	-16.9	+0.2
July 1998–August 1998	-17.5	-19.7	+2.2
Performance of General Equity Managers During the 12-Month Periods Following Five Bear Markets			
	Wilshire 5000 Index	Lipper General Equity Average	Relative Index Performance
October 1974–September 1975	39.7%	35.4%	+4.3%
August 1982–July 1983	64.8	66.1	-1.3
December 1987–November 1988	23.9	21.9	+2.0
November 1990–October 1991	38.6	39.9	-1.3
September 1998–December 1998	29.5	27.6	+1.9

Sources: Lipper Inc. and Wilshire Associates, Inc.



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. Table 3 illustrates how hard it has been for active fund managers to outperform the Wilshire 5000 Total Market Index. In three of five bear markets, and during three of the 12-month periods following each, the average mutual fund underperformed the index. These results are particularly noteworthy given that most bear markets are relatively brief, while indexing's cost advantage grows in magnitude over 5-, 10-, and 20-year periods.

The results for the most recent bear market (shown in Tables 4 and 5 on page 8) are similar to those for previous

bear markets. For the one- and three-year periods ended December 31, 2002, the indexes (S&P indexes were used for the comparison in these examples) prevailed in the majority of the Morningstar style boxes.

Similarly, Lipper Inc. studied active managers' performances in bear markets (defined as a drop of 10% or more in the equity markets). Lipper found that active managers underperformed the S&P 500 Index in the six market corrections occurring between August 31, 1978, and October 11, 1990. For example, the average loss for the S&P 500 Index in these episodes was 15.1%, compared with a 17.0% average loss for large-cap growth funds.

**Myth 5: Equity index funds are tax-inefficient in a bear market.**

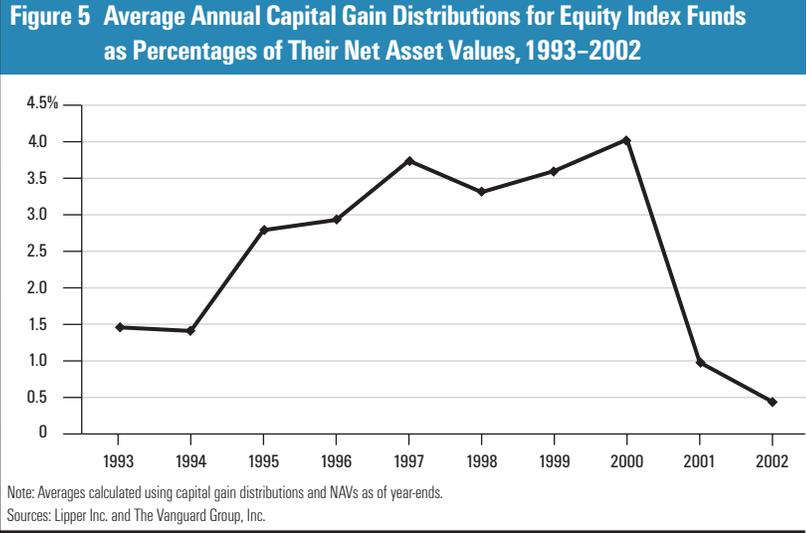
Another common misconception about equity index funds is that their managers will be forced to sell fund holdings, and thus realize substantial capital gains, because of investors' increased redemptions during bear markets. There are two errors in this argument.

**Index Fund Redemptions Unchanged by Bear Markets.**

The first error is assuming that market downturns cause money to flow out of index funds. Net cash flows for all equity index funds remained positive during the most recent bear market, as shown in Figure 4. This trend is expected to continue in 2003, as institutional portfolio managers rebalance fund assets by moving money into stocks.

The second error in this myth is the notion that index funds realize large capital gains in bear markets. In fact, capital gains distributions for equity index mutual funds (expressed as a percentage of their average net asset values) decreased during the 2000-2002 bear market. Figure 5 illustrates this fact.

Because cash can move into and out of equity index funds, index fund managers purchase stocks across a wide range of prices. When redemptions result in net cash outflows, the managers can sell stock lots that they purchased at high prices and realize losses that can then be used to offset gains elsewhere in the portfolio. A well-managed



**Table 4 Percentage of Actively Managed Equity Funds Outperformed by an Index: Year Ended December 31, 2002**

Morningstar Category	Return	Index	Return	% of Active Equity Funds Outperformed by Index
Large Blend	-22.24%	S&P 500	-22.10%	59%
Large Growth	-27.65	S&P 500/Barra Growth	-23.59	78
Large Value	-18.90	S&P 500/Barra Value	-20.85	32
MidCap Blend	-16.91%	S&P MidCap 400	-14.51%	61%
MidCap Growth	-27.48	S&P MidCap 400/Barra Growth	-19.17	86
MidCap Value	-13.00	S&P MidCap 400/Barra Value	-10.10	66
SmallCap Blend	-15.57%	S&P SmallCap 600	-14.63%	54%
SmallCap Growth	-28.37	S&P SmallCap 600/Barra Growth	-15.36	95
SmallCap Value	-10.30	S&P SmallCap 600/Barra Value	-14.47	28

Sources: Morningstar, Inc., The Frank Russell Company, and The Vanguard Group, Inc.

**Table 5 Percentage of Actively Managed Equity Funds Outperformed by an Index: Three Years Ended December 31, 2002**

Morningstar Category	Average Annual Return	Index	Average Annual Return	% of Active Equity Funds Outperformed by Index
Large Blend	-13.44%	S&P 500	-14.55%	46%
Large Growth	-21.52	S&P 500/Barra Growth	-19.61	62
Large Value	-5.91	S&P 500/Barra Value	-9.50	20
MidCap Blend	-4.18%	S&P MidCap 400	-0.05%	73%
MidCap Growth	-18.95	S&P MidCap 400/Barra Growth	-6.71	87
MidCap Value	2.54	S&P MidCap 400/Barra Value	7.18	81
SmallCap Blend	1.62%	S&P SmallCap 600	0.56%	40%
SmallCap Growth	-14.74	S&P SmallCap 600/Barra Growth	-5.60	81
SmallCap Value	7.34	S&P SmallCap 600/Barra Value	5.35	31

Sources: Morningstar, Inc., The Frank Russell Company, and The Vanguard Group, Inc.

index fund will use its high-cost lots to accommodate redemption requests. In reality, redemptions in a bear market can help an index fund to remain tax-efficient.

### Myth 6: Indexing only works in certain market segments.

Many investors concede that indexing works well in highly efficient markets, but they contend that active management prevails over indexing strategies in less-efficient markets. It is true that there are varying degrees of efficiency among market segments and that skilled active managers may be able to benefit from inefficient markets. However, there are costs associated with the research and investment strategies used by an active manager in the effort to profit from market inefficiencies. To be successful, active managers must consistently outperform the market

by more than the expense of the effort. In reality, the performance of active managers has shown that this is difficult to do. Traditionally, the less-efficient markets are also characterized by lower liquidity, higher market-impact costs, and higher trading costs. While the opportunities for above-average investment results may be greater in inefficient markets, the costs associated with extracting these results typically outweigh any gain. The fact is that in inefficient markets, just as in efficient markets, the market return reflects the trading activity of all market participants, so for every investor who outperforms, another must be underperforming. The review of historical returns in Table 6 shows that, when costs are included, actively managed funds have, on average, underperformed the indexes over time in most market segments.

**Table 6 Percentage of Actively Managed Equity Funds Outperformed by an Index:  
Five Years Ended December 31, 2002**

Morningstar Category	Average Annual Return	Index	Average Annual Return	% of Active Equity Funds Outperformed by Index
Large Blend	-1.49%	S&P 500	-0.59%	62%
Large Growth	-2.64	S&P 500/Barra Growth	-1.08	68
Large Value	-0.54	S&P 500/Barra Value	-0.85	46
MidCap Blend	2.78%	S&P MidCap 400	6.41%	81%
MidCap Growth	-1.09	S&P MidCap 400/Barra Growth	7.11	92
MidCap Value	3.17	S&P MidCap 400/Barra Value	5.69	76
SmallCap Blend	2.30%	S&P SmallCap 600	2.44%	55%
SmallCap Growth	-1.10	S&P SmallCap 600/Barra Growth	0.53	65
SmallCap Value	2.86	S&P SmallCap 600/Barra Value	2.72	44

Sources: Morningstar, Inc., The Frank Russell Company, and The Vanguard Group, Inc.

**Bond Index Fund Performance.** Indexing is particularly effective in fixed income markets. This is because the relatively narrow range of returns between the best and worst performers in this asset class magnifies the benefits of indexing's cost advantage. This narrow distribution occurs because a large portion of bond returns are determined by systematic risk factors, specifically, interest rate fluctuations and credit quality. Because all bond portfolios react similarly to systematic risk factors, this makes it especially difficult for an actively managed bond fund to outperform a market index, as shown in Table 7.

**Survivorship Bias and Benchmark Mismatching.**

Survivorship bias and benchmark mismatching can have a significant impact on the performance scorecards of

active managers versus those of indexes. Survivorship bias results when mutual fund returns are not adjusted for those funds that no longer exist. Most commercial databases of portfolio returns exclude the records of extinct funds, which have usually died out because of their subpar records. This fact inflates average mutual fund returns, because, as poor-performing funds drop out of the databases and new, more successful funds are added, the returns of the portfolios in the database necessarily rise. To accurately represent the performance of actively managed funds, median returns reported by fund-tracking firms should include the results from those funds that no longer exist.

Benchmark mismatching occurs when a portfolio of stocks is compared with an index whose holdings are quite different. For example, comparing a stock fund that holds large- and small-capitalization stocks with an index of small-cap stocks is akin to comparing apples and oranges (or at least apples and pears). An equity portfolio should be benchmarked to an index with a similar market capitalization. For valid comparisons, an index should have a relatively high R-squared. (R-squared is a measurement of how closely a portfolio's performance is correlated with the performance of a benchmark index. It shows what portion of a portfolio's performance can be explained by the performance of an index.)

**Table 7 Percentage of Actively Managed Bond Funds Outperformed by an Index:  
Five Years Ended December 31, 2002**

Type of Bond Fund	% of Active Bond Funds Outperformed by Index
Short-Term Government	98%
Intermediate-Term Government	99
Long-Term Government	98
Short-Term Corporate	100%
Intermediate-Term Corporate	90
Long-Term Corporate	83
GNMA	90%
High-Yield	62

Note: Based on the average annual net return of the Lipper peer group and the annualized return (less 20 basis points) of the Lehman index.

Sources: Lipper Inc. and The Vanguard Group, Inc.

**Small-Cap Mutual Funds.** Among small-cap mutual funds, benchmark mismatching is common because small-cap funds and small-cap indexes are built quite differently. As small-cap companies become more successful, their market value grows, and the stocks are removed from small-cap indexes. An actively managed small-cap stock fund may hold a successful stock long after it has been removed from the index. This is one reason that actively managed small-cap funds often have higher median market capitalizations than, say, the Russell 2000 Index, a measure of small-cap stocks. The result is a mismatch between the active portfolio and the benchmark against which it is measured.

Richard M. Ennis and Michael D. Sebastian recently completed a study to see whether active small-cap fund managers tended to outperform the market. The authors found no support for the contention that active

management of small-cap portfolios produces more value than active management of large-cap portfolios, after accounting for benchmark misspecifications, fees, and survivorship bias.<sup>5</sup> In constructing a sample of 128 products from the Möbius Group's M-Search database, they found that the median portfolio in the sample outperformed the Russell 2000 Index, before fees, by 4.0%. However, when fees, benchmark misspecification, and survivorship bias were considered, the 4.0% "excess return" was either zero or negative.

**Myth 7: Higher management costs are not equivalent to higher returns.**

Applying this notion to investments suggests that a higher-cost investment should outperform a lower-cost investment or that a low-cost index fund should underperform an actively managed portfolio. In fact, the opposite is true.

**Table 8 Higher Fund Expenses Tend to Result in Lower Returns**

Stock Fund Category	Average Expense Ratio	Average Five-Year Return	Average Five-Year Standard Deviation	Bond Fund Category	Average Expense Ratio	Average Five-Year Return	Average Five-Year Standard Deviation
<b>Large-Cap</b>				<b>High Yield</b>			
1	0.64%	-0.73%	19.23	1	0.70%	-0.26%	8.94
2	1.12	-1.05	19.93	2	1.00	-0.73	9.06
3	1.57	-1.83	20.40	3	1.46	-2.14	9.23
4	2.22	-2.86	20.74	4	1.94	-2.55	9.33
<b>Mid-Cap</b>				<b>Short-Term Corporate/Government</b>			
1	0.85%	1.81%	26.13	1	0.43%	6.50%	2.31
2	1.27	1.42	25.90	2	0.72	6.00	1.98
3	1.70	-0.30	28.33	3	0.96	5.88	2.24
4	2.32	-1.63	29.87	4	1.61	5.48	2.45
<b>Small-Cap</b>				<b>Intermediate-Term Corporate/Government</b>			
1	0.88%	1.08%	24.42	1	0.57%	8.29%	3.60
2	1.31	1.55	27.20	2	0.89	6.72	3.39
3	1.71	1.10	29.21	3	1.23	6.37	3.45
4	2.53	-1.23	27.43	4	1.76	5.91	3.55
<b>International</b>							
1	0.89%	-0.67%	18.07				
2	1.44	-1.66	19.44				
3	1.94	-2.63	19.60				
4	2.56	-3.43	19.50				

Note: For each category, the constituent funds were divided into four equal groups based on their expense ratios. Then their average five-year returns and standard deviations were calculated.  
Source: Morningstar, Inc.

A number of studies have shown that lower-cost mutual funds have historically outperformed higher-cost funds.

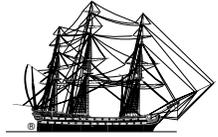
Kanon Bloch Carré, an investment-research firm, looked at how stock market returns were divided between investors and fund managers at the nation's 20 largest stock-fund families. In the five years ended December 31, 2001, investors kept 96.7%, on average, of the cumulative gross returns earned by the lowest-cost fund group. At the highest-cost fund company, investors received an average of only 84.2% of their stock funds' returns; the fund firm kept the rest.

The Financial Research Corporation evaluated the predictive value of ten different fund metrics, including a fund's past performance, Morningstar rating, alpha, and beta. In the study, 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. A fund's expense ratio is a valuable predictor of its performance because it is one of the few performance factors that is known in advance.

Table 8 shows the performance of mutual funds in various market segments and asset classes over a five-year period. Except for small-capitalization equity funds, higher-cost funds produced lower returns. The exception was higher-cost small-cap funds in the second quartile, which produced higher returns than lower-cost funds. However, small-cap funds with the highest expenses—those in the third and fourth quartiles—underperformed those in the second quartile.

## Conclusion

There continue to be myths about indexing. They evolve, die out, and then resurface as market environments change. Yet a review of the historical evidence and the empirical research dispels these myths. The 2000–2002 bear market prompted several pronouncements of the death of indexing or the renaissance of “stock picking.” The facts support a far different conclusion. According to the Investment Company Institute, in 2002 equity mutual funds experienced net outflows of \$27.1 billion, a sum that was equivalent to 0.9% of their average assets. In contrast, index equity mutual funds experienced net cash inflows of \$13.8 billion in 2002, according to data from Strategic Insight. These figures suggest that indexing remains an appealing strategy, even in a less-than-appealing market environment. While an old insult claims that indexing is “settling for average,” this is simply not the case. Index funds have continued to build on a long-term record of superior performance, relative predictability when compared with market returns, and tax efficiency. This is clearly an above-average and significant achievement. ■



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