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SCHWAB CENTER FOR INVESTMENT RESEARCH®

Index or Actively Managed Equity Funds:
Which way to go in a down market?

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An Overview

For the average equity-fund investor, the buzz is that unless you are a genie or genius, index funds are a simple, cost-efficient way to go, particularly if your intent is to be in the market for the long haul. At Schwab, we believe index funds can play an important role in your portfolio. In fact, our Core & Explore™ philosophy incorporates index funds or other broadly diversified holdings as core elements when implementing our asset allocation models.

Despite their cost efficiency, many investors believe that index funds don't live up to expectations in a falling market. The Schwab Center for Investment Research (SCIR) wanted to learn if index funds do better or worse than actively managed funds in down markets. More specifically, we asked if actively managed mutual funds would outperform index funds in down markets because of managers' abilities to employ strategies designed to add value (though they might not always be successful) through the stock-selection process.

To determine if actively managed funds actually perform better than index funds in down markets, SCIR examined the performance and operating-expense ratios of more than 120 large-cap index funds and more than 2,100 actively managed large-cap equity mutual funds during market declines. We found:

- Index funds outperformed actively managed funds in 55% of the down markets (11 of 20 periods) and during longer down periods.
- When actively managed funds outperformed index funds, they did so by a wider margin than when index funds outperformed active funds.
- Overall, index funds perform about as well as actively managed funds in down markets, suggesting that the advantages of managed funds in such markets may be overstated.

Index or Active: Which way to go in a down market?

A Commonly Held Belief

One of the more popular tenets of investing is that actively managed mutual funds should outperform index funds in so-called 'bear' markets. This belief is based on managers' abilities to:

- Invest in money market (and to a lesser extent, fixed-income) securities when the equity markets are unattractive;
- Control the number of stocks held in the fund (generally a smaller amount than in index funds);
- Move to so-called "defensive" stocks that do well when the broader market is faltering, and
- Sell short and use futures and/or options to take advantage of market downturns.

How The Study Was Done

Defining a down market

As our goal was to determine if actively managed funds outperformed index funds in down markets, we first had to define a down market. For the purpose of this study, markets were labeled down when:

- the S&P 500® Index (a widely followed market proxy) dipped 3 percent or more in one month;
- negative index returns occurred for two or more consecutive months, or
- negative index returns occurred over a multi-month period – despite at least one positive month in the period – and the cumulative loss was -2.50% or worse.

In examining monthly S&P 500 returns from December 1986 through March 2001, we found 20 time periods that fit our definition of down markets. Of the 20 down periods we measured, six of them lasted only one month. During those six periods, returns ranged from -3.02% to -6.71%. During the remaining 14 multi-month periods, the range of results was larger and more precipitous, dropping from -2.55% all the way down to -29.53% (which included the notorious Black Monday on October 19, 1987, when the Dow Jones average fell 22.6%).

Active and index funds' performance in down markets

Down Period Begins	Down Period Ends	No. of Months	S&P500 Total Cumulative Return	Index Funds Total Cumulative Return	Active Funds Total Cumulative Return
Sep-87	Nov-87	3	-29.53%	-29.52%	-26.42%
Mar-88	Mar-88	1	-3.02%	-3.08%	-0.96%
Jul-88	Aug-88	2	-3.70%	-3.63%	-3.58%
Sep-89	Oct-89	2	-2.71%	-2.83%	-3.17%
Jan-90	Jan-90	1	-6.71%	-7.09%	-6.13%
Jun-90	Oct-90	5	-14.70%	-14.41%	-16.00%
Jun-91	Jun-91	1	-4.57%	-4.54%	-4.61%
Sep-91	Nov-91	3	-4.35%	-4.37%	-2.78%
Jan-92	Mar-92	3	-2.55%	-2.47%	-0.69%
Feb-94	Jun-94	5	-6.55%	-6.64%	-7.65%
Sep-94	Nov-94	3	-3.84%	-3.87%	-4.41%
Jul-96	Jul-96	1	-4.45%	-4.37%	-5.27%
Mar-97	Mar-97	1	-4.16%	-4.12%	-3.92%
Aug-97	Oct-97	3	-3.71%	-3.66%	-2.66%
Jul-98	Aug-98	2	-15.37%	-15.30%	-16.48%
Feb-99	Feb-99	1	-3.11%	-3.07%	-3.19%
Jul-99	Sep-99	3	-6.25%	-6.24%	-6.30%
Jan-00	Feb-00	2	-6.82%	-6.81%	-2.88%
Apr-00	May-00	2	-5.00%	-5.00%	-5.55%
Sep-00	Mar-01	7	-23.05%	-23.25%	-23.29%

Source: Schwab Center for Investment Research, based on underlying data from Ibbotson Associates and Morningstar, Inc.

The study's methodology

Gathering the data

To ensure that results were not skewed by a capitalization (small-cap and mid-cap) bias, we screened the Morningstar database for large-cap funds to create our universe. (We chose large-cap funds because they have the asset-class profile that most closely correlates with the S&P 500 Index.) When we created the actively managed universe, two methods were used. For the 1987-1996 time frame, we used the Morningstar prospectus' objectives classifications of growth, equity-income, and growth-and-income as proxies for large-cap funds. Beginning in 1997, when Morningstar began classifying funds by market capitalization, we included only the large-cap blend, growth and value categories.

The data were then adjusted to eliminate survivorship bias. That is, we included not only funds that exist today, but also every mutual fund that was included in Morningstar's database in the past but which may not be included today due to mergers or liquidations. Many studies of historical performance include only so-called "surviving" funds and numerous authors have commented how the results of such studies can be biased.

It is also important to note that in the multi-month down periods, all funds whose performance was not available for the full period of time under review were excluded from the final data for that period. Funds also were excluded if their objective or market capitalization drifted during the down period; e.g., if the funds moved from large-cap to mid-cap or vice-versa. This potentially may have hurt active funds, but we did it to ensure that apples were compared to apples.

The first time period included only four index funds, while 123 were researched in the final period of the study. In the actively managed category, 406 funds were included in the first period in 1987, while 2,189 were included in the last period researched in 2001. (This also highlights how dynamic the index market has become and how popular actively managed funds continue to be.)

Doing the math

After the data sets for both the active and the index funds were finalized for each of the months, we calculated the average performance for each month. We then calculated the return an investor would have received if she bought and held the average active and average index fund for the down period under review.

The study's results

After examining 20 periods of down-market performance, we found index funds outperformed active funds in 11 of the 20 down periods. While this is almost equal, upon further examination, we see that the index funds did better over longer down periods.

TRENDS WORTH NOTING

The majority of winning time periods for actively-managed funds occurred prior to the inception of Morningstar's style-categorization process. Prior to 1997, active funds earned six of their nine wins, with an average outperformance margin of 160 basis points (1.60%). This could be partially a result of the broad prospectus objectives that may have included small- or mid-cap funds during a period of strong performance for those asset classes. This alone would have tilted the performance advantage to active funds. Active funds outperformed only three times after the launch of the Morningstar style-categorization process; however, actively managed funds outperformed index funds by their widest margin of 3.93% in the early 2000 down period, a time in which the S&P 500 Index had dropped but NASDAQ still was up, suggesting that managed funds were overweighted in technology.

Also of note is the difference in operating-expense ratios (OERs) between the two classes of funds. OER data were not available prior to 1992. Beginning in 1992, however, we found that the average index fund enjoyed a 102 basis point (1.02%) positive difference in expenses when compared to active funds. As time progressed and the number of both active and index funds increased, the expense ratio differential narrowed to a low of 78 basis points (0.78%) during our final period study in 2001. In fact, the average OER for index funds increased from 36 basis points (0.36%) to 62 basis points (0.62%) during this period, while active fund OERs remained flat. The increase in expense ratios for index funds may be attributed to the launch of multiple-share classes of index funds by brokerage and advisory firms, with some expense ratios exceeding 2.00%.

Another great reason to invest in index funds is their low expenses The average actively managed fund has an average expense ratio of approximately 1.40% The average S&P 500 Index fund, however, has an average expenses ratio of only 0 62% This difference may not look like much, but through the power of compounding, a $10,000 investment over 10 years (at an average gross annual return of 10%) would result in $1,693(16 93%) additional dollars for the index investor

When index funds outperformed, they did so for a longer period of time...

	Short (1 month)	Medium (fewer than 5 months)	Long (5 months or longer)
Index Funds	3	5	3
Active Funds	3	6	0

In the three longest periods of decline, index funds outperformed actively managed funds.

When the actively managed funds in our sample outperformed the index funds, they did so by an impressive 164 basis points (1.64%) on average. In contrast, when

...and when index funds outperformed, they did so in really bad markets.

	Slight (0% to -5%)	Moderate (-5% to -10%)	Severe (-10% or worse)
Index Funds	5	3	3
Active Funds	7	1	1

In three of the four worst down periods, all of which experienced losses exceeding 14.4%, index funds did better than actively managed funds.

index funds won the performance battle, they did so by 58 basis points (0.58%). Although the margin of outperformance was greater, the consistency of index funds was demonstrated in their superior performance over longer periods.

How to use these results

These results indicate that despite the notion that actively managed funds perform better than index funds in down markets, they appear to perform about the same during bad markets. This suggests that, on average, managers' abilities to add value through the selection process by moving to stocks that historically have done well in poor markets don't hold true during market downturns. In fact, when you factor in that, on average, index funds have a lower expense ratio than actively managed funds, you realize that index funds, indeed, are not at a disadvantage in bear markets.

What should you do, based on these findings? Having a core portfolio of index funds is one way to start. As Schwab's Core & Explore™ philosophy recommends, when combining index funds and actively managed funds, you are able to explore other options, without putting your entire portfolio at risk.

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