Why Active Fund Managers Often Underperform the S&P 500: The Impact of Size and Skewness

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Given search, trading, and investor servicing costs, active managers as a group should consistently under-perform the S&P 500 Index over time, assuming they lack superior information and/or skills. The data, how-ever, do not show such consistency. In some years, managers as a group have outperformed the S&P 500, sometimes by a substantial amount. The authors focus on the size premium and the skewness of long-run stock returns as possible explanations of this phenomena. They find both factors to be important determinants of this inconsistent performance.

Fund manager performance is typically compared with that of the S&P 500 Index. As a group, active managers should not be expected to beat the index, given search, trading, and other costs associated with running active portfolios. Unless the managers have superior skills as a group, the drag on portfolio performance induced by these costs should result in consistent underperformance compared with a passive benchmark. The historical data show otherwise; the average active manager has sometimes outperformed the S&P 500, even occasionally showing substantial outperformance.

The authors use the size premium and skewness of stock returns to explain the historical data. The size effect on returns is typically understood as being evident in small-capitalization stocks, which are not included in the S&P 500. The authors, however, determine

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the size premium by comparing the returns of the largest cap stocks in the S&P 500 with the smallest cap stocks in the S&P 500 universe.

The underlying statistical nature of long-run stock returns is the genesis of the skewness effect. For short-run horizons of about a week or so, stock returns tend to follow a symmetrical normal distribution. But for longer horizons, such as a year, the distributions tend to be asymmetric and exhibit skewness to the right. This positive skewness is a result of limited liability for long equity positions, capping losses at –100 percent, and the potential in any year for exceptional upside performance well in excess of +100 percent by selected individual stocks.

Because funds typically hold a small subset of the S&P 500 universe, the mathematical result is that the typical stock will underperform the mean of all stocks together as represented by an equal-weighted index of all stocks. The authors measure the extent to which the typical institutional practice of constructing portfolios with a limited number of stocks and approximately equal weights affects the performance of the median fund manager relative to a market-value-weighted benchmark, such as the S&P 500. This measurement is accomplished by simulating performance of hypothetical portfolios using S&P 500 stock returns. The authors construct portfolios by randomly drawing a set number of stocks from the S&P 500 universe. Stocks are drawn using equal-weighting and value-weighting selection schemes.

The results indicate that the size premium is an important determinant of relative manager performance, even when managers hold only the relatively large S&P 500 stocks. The tendency of managers to hold equal dollar amounts in each portfolio holding leads to beneficial performance comparisons in most years. But the size premium is not stable over time, and managers as a group can do poorly in some years. For portfolios with a limited number of stocks, skewness of returns tends to drag down performance. This drag is particularly significant for portfolios containing 35 or fewer stocks but is measurable for portfolios with as many as 150 stocks.