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Perspectives

# The Arithmetic of “All-In” Investment Expenses

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## Abstract

This article represents a rare (if not unique) attempt to estimate the drag on mutual fund returns engendered by “all-in” investment expenses, including not only expense ratios (until now, the conventional measure of fund costs) but also fund transaction costs, sales loads, and cash drag. Compared with costly actively managed funds, over time, low-cost index funds create extra wealth of 65% for retirement plan investors.

In “The Arithmetic of Investment Expenses” (Financial Analysts Journal, March/April 2013), William Sharpe reinforced the maxim that low investment costs are a critical component of investment success. He found that, by reason of its substantially lower expense ratio, a passive index fund, compared with more costly actively managed funds, could enhance an investor’s retirement savings by more than 20%. This article extends Dr. Sharpe’s analysis by considering “all-in” investment expenses, including

not only expense ratios but also fund transaction costs, cash drag, and sales loads. The conclusion is that index fund investors would enjoy an enhancement in wealth of 65% over four decades.

This comprehensive approach to the consideration of mutual fund costs has, to the author's knowledge, not previously been attempted. The reason for this vacuum seems to be that although mutual fund expense ratios can be calculated with precision, the other data are inevitably imprecise. For example, commissions paid to brokers by mutual funds on their portfolio transactions are disclosed in prospectuses, but bid-ask spreads and market impact costs are ignored and must be estimated.

Sales loads paid to brokers and recurring fees paid to their account executives and to registered investment advisers are other major drags on fund returns. Most individual investors in actively managed funds rely on these distribution-related services to select their fund investments. But because the costs are paid directly by investors rather than by the funds themselves, they are ignored in the published performance data. Changing distribution patterns in the fund industry make it challenging to estimate these amounts with precision, but they must be part of all-in cost measurement.

In his recent FAJ article, Sharpe compared the 0.06% annual expense ratio of an existing total stock market index fund with an average ratio of 1.12% for actively managed large-cap mutual funds—an annual cost advantage of 1.06 percentage points (pps) for the index fund. But the all-in costs raise the cost for actively managed equity funds to an estimated 2.27%, more than doubling that gap to 2.21 pps. The result is that, assuming a 7% annual stock market return, a hypothetical tax-deferred retirement plan investor in actively managed funds could accumulate a nest egg of \$561,000 over 40 years, compared with an accumulation of \$927,000 in the index fund.

Next, the impact of the extra costs of actively managed funds on taxable investors is considered. Given the fact that passive index funds are generally significantly more tax efficient (realizing fewer capital gains), the index advantage rises from 2.21 pps annually to an estimated 2.66 pps. Using a straightforward compound interest table based on the results of an initial investment of \$10,000 (again using an assumed nominal stock market annual return of 7%), the index fund investment grows to \$131,000 over 40 years, compared with \$48,000 for the actively managed fund. The author also shows the returns in real dollars (assuming a 2% annual inflation rate) and describes the resultant gap in accumulations as scary and almost unbelievable.

Finally, the author discusses another, more subtle, drag on the returns of active funds—the tendency of fund investors to move their investments out of funds with lagging performance and into funds with better records. Investor (asset-weighted) returns lag, with some consistency, fund (asset-weighted) returns, representing yet another source of diminished returns for investors in actively managed funds.

The author argues that Sharpe was correct in his analysis of mutual fund expense ratios and the damaging impact they have on the long-term returns earned by investors. The author takes the analysis one step further by estimating the other significant costs incurred by actively managed funds and their investors, which, although much more challenging to quantify than expense ratios, add to the damage done to investors' returns. The author's advice to investors is (1) to take into account all the costs of fund investing, (2) to invest for a lifetime, and (3) do not allow the tyranny of compounding costs to overwhelm the magic of compounding returns.

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