Executive summary. When investors evaluate a mutual fund, how much do costs matter to them? Mutual fund fees and expenses are a frequently mentioned consideration, but are investors actually walking the talk?

To answer this question, we examined the relationship between mutual fund expense ratios and net cash inflows over the decade ended December 31, 2012. Our analysis of Morningstar data clearly indicates that funds with lower expense ratios dominated in attracting investor dollars over the period. As a result, the asset-weighted expense ratio for U.S. equity funds dropped by 31%, from 93 basis points in 2003 to 64 basis points in 2012; for U.S. taxable bond funds, it dropped by 28%, from 65 basis points to 47 basis points. This paper provides a snapshot of our findings and offers commentary on why many investors—most likely recognizing that lower costs help them keep more of a fund’s return—have been “voting with their feet” and gravitating to low-cost investment options.
Investors frequently cite fees and expenses as key considerations before buying mutual funds, so we set out to determine to what extent they actually invest their money in lower-cost funds. For the period from January 2003 through December 2012, we analyzed the net cash flows in four U.S. equity mutual fund categories and one category for all taxable bond funds. (For more information on our methodology, please see the gray box on page 3.) In each category, we found that the predominant portion of investor dollars went into funds with the lowest costs, as shown in Figures 1 through 5 on pages 4–8. Viewed through multiple lenses—including the ways that mutual funds are sold to investors, financial market returns over the decade, and expectations of lower future returns—the factors underlying investors’ concentration on lower-cost funds are more apparent.

Observations

One of the leading drivers has been the large role that financial advisors and corporate retirement plan sponsors play in selling mutual funds. For example, at year-end 2011 (the most recent data available), 53% of household mutual fund assets were held through advisors and 27% were held in defined contribution plans (Investment Company Institute, 2012).

Financial advisors’ shift from a transaction-oriented, commission-based compensation model to one based on asset management fees probably abetted the low-cost focus (Bennyhoff and Kinniry, 2013). According to research by Cogent (2012), 56% of advisors’ aggregate compensation in 2012 came from asset-based fees, and that figure is expected to increase to 64% by 2014. Asset managers also cited as a “major driver” of future growth the expectation that advisors would keep migrating to fee-based accounts. Such financial intermediaries seem to be increasingly directing their clients away from higher-cost funds and individual securities to lower-cost funds and exchange-traded vehicles. In response to investor interest, assets held in U.S. equity index funds and ETFs almost doubled over the decade, from 18% of all assets under management to 34%. Passively managed taxable bond funds and ETFs experienced even stronger growth, rising from 8% of all managed assets to 24%. Two factors make this especially impressive: ETFs are largely absent from many retirement plans, which are a significant source of cash for many bond funds; also, the vast majority of taxable bond ETFs are relatively new—more than 90% were launched in 2007 or later, and the oldest one dates from 2002.

At the same time, low-cost index funds have become a staple on corporate retirement plan menus because of both sponsor and participant demand. We also inferred that institutions and high-net-worth investors—which together hold the majority of remaining mutual fund assets, beyond those held with advisors or in retirement plans—are more likely to be well-informed about the relationship of costs and performance and, as a result, to favor lower-cost products.¹

The financial market environment has also contributed to changing investor behavior regarding fund expenses. The historically generous stock and bond returns of the 1980s and 1990s probably made cost less of a consideration for investors who were enjoying double-digit net returns. The combination

Notes on risk: All investing is subject to risk, including the possible loss of the money you invest. Bond funds are subject to the risk that an issuer will fail to make payments on time, and that bond prices will decline because of rising interest rates or negative perceptions of an issuer’s ability to make payments. Investments in bonds are subject to interest rate, credit, and inflation risk.

¹ We excluded data on SPDR S&P 500 ETF (SPY) from our analysis. SPY has become a popular investment vehicle with institutions, which commonly use it for cash equitization and other short-term strategies in which expense ratios are not the most important consideration.
of investor inertia, satisfaction with high absolute returns, and a lack of understanding of expenses helped preserve the status quo.

The turnabout came in the 2000s, which included two severe bear markets and the expectation that future returns are likely to be moderately below long-run historical averages (Davis, Aliaga-Díaz, and Patterson, 2013). The simple math: Gross investment returns minus costs equals net returns. And, when future returns are expected to be lower than those in the prior 30 years for stocks, bonds, and other asset classes, even an “average” expense ratio can consume a significant portion of returns. With more than 25% of U.S. equity and 34% of taxable bond fund assets still in the higher-cost quartiles, and the trend of investors favoring lower-cost funds, which historically has given them the best chance of investment success, more than $1 trillion in U.S. equity assets and $600 billion in taxable bond fund assets are still in play to potentially move into the lowest-cost quartile. So although the consolidation trend of the past decade is unprecedented, it could easily persist well into the future, given the extensive assets that remain in the higher-cost quartiles, expectations of lower future returns, and advisors’ shift to a fee-based “Advisor’s Alpha” model.

Another contributing factor has been investors’ greater understanding of costs and their impact on long-term performance. This has been aided considerably by improved cost disclosure in shareholder reports and other fund publications, the wide availability of cost information online, and the financial media’s greater attention to costs. Investment management firms have also contributed by making available additional lower-cost options—including index funds and ETFs—and, more recently, by making cost the focus of marketing efforts.

A word about our methodology

For our analysis, we examined monthly fund-level cash-flow data from Morningstar for the ten years ended December 31, 2012. We used Morningstar data for U.S. equity funds and taxable bond funds, including conventional open-end funds as well as exchange-traded funds and notes (ETFs), but not for funds-of-funds. We excluded funds whose expense ratios and assets under management were not reported in the Morningstar data.

We classified the resulting fund universe into five categories: all U.S. equity funds (including traditional funds and ETFs), actively managed equity funds, indexed equity funds, ETFs, and all taxable bond funds. Within each category, we grouped funds into quartiles based on their annual expense ratios and calculated the net cash flows for each quartile. We further analyzed the net cash flows into the lowest-cost funds by breaking down the lowest-cost quartile into additional quartiles, again based on expense ratios (as shown in the “b” version of each figure).

Conclusion

Our study of mutual fund net cash flows over the last decade clearly demonstrates that low-cost products have drawn the majority of investor dollars, largely because of the growing popularity of index funds, particularly index-based ETFs. Although performance remains a major focus, a similar shift has taken place among actively managed funds as lower-cost active funds have attracted more assets than their higher-cost counterparts.
Category 1: All equity funds

As Figure 1a illustrates, the lowest expense ratio quartile (Quartile 1) attracted more than $292 billion of the cumulative net cash flow into all U.S. equity funds (traditional funds and ETFs) for the ten years ended December 31, 2012, representing all the positive cash flows. Funds with higher expense ratios (Quartiles 2, 3, and 4) suffered net cash outflows of about $368 billion.

We further refined Quartile 1 to determine the net cash flow into the “lowest of the low” (or the first quartile within Quartile 1). As shown in Figure 1b, this group—while constituting only about 7% of the equity fund category by number of funds—took in nearly $449 billion, or about 92% of positive net cash flows. Index funds and ETFs constituted, on average annually, 63% of the number of funds in this low-cost universe but captured more than 84% of the $449 billion; the remaining 37% of the “lowest of the low” were actively managed funds.

Figure 1a. All U.S. equity funds and ETFs, cumulative net cash flow

Figure 1b. All U.S. equity funds and ETFs, cumulative net cash flow: Lowest-cost funds

Notes: Expense ratio quartiles were calculated annually. Shown for each quartile are the 2012 asset-weighted average expense ratios, determined by multiplying the annual expense ratios by the year-end assets under management and dividing by the aggregate assets in each quartile.

Sources: Vanguard calculations, using data from Morningstar, Inc.
Category 2: Actively managed equity funds

To further test whether cost differentiation is a key factor in fund cash flows (and to control for the greater availability of low-cost index funds and ETFs), we examined the subsets of the total equity fund universe: active equity funds, indexed equity funds, and equity ETFs. For the ten years ended December 31, 2012, U.S. active equity mutual funds experienced negative net cash outflows (Figure 2a). Although investors in active funds are mindful of costs, many investors still focus on performance, which is cyclical and time-period dependent, and even one large provider could drive results.

Again, we analyzed the Quartile 1 group of actively managed equity funds to deepen the focus on those funds with the lowest expense ratios. In this instance, although most of the funds experienced net cash outflows, the second-lowest cost group attracted nearly $57 billion. When we drilled down into that second group of the least expensive funds, we found that equity income funds drew nearly 45% of the net cash flows. This trend was even more pronounced during and after the 2008–2009 financial crisis, as the shift to the equity income strategies resulted in those funds attracting 80% of the group’s cash flows from 2007 to 2012.

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**Figure 2a.** Actively managed U.S. equity funds, cumulative net cash flow

This figure takes the first quartile from Figure 2a and further breaks it down into four additional quartiles.

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**Figure 2b.** Actively managed U.S. equity funds, cumulative net cash flow: Lowest-cost funds

Notes: Expense ratio quartiles were calculated annually. Shown for each quartile are the 2012 asset-weighted average expense ratios, determined by multiplying the annual expense ratios by the year-end assets under management and dividing by the aggregate assets in each quartile.

Sources: Vanguard calculations, using data from Morningstar, Inc.
Category 3: Index funds

Are investors also cost-conscious within a fund category, such as equity index funds, that is generally considered low-cost? The answer: The trend toward low-cost funds was repeated in an even more pronounced manner in this category. Within all equity index funds, Quartile 1 attracted almost $198 billion and was the only quartile that recorded net positive cash flows (Figure 3a). The remaining index equity funds all experienced small net cumulative outflows.

Dissecting the lowest-cost quartile of equity index funds, in Figure 3b, we found that almost $200 billion, or 81% of the net cash flow, was directed to an ultra-low-cost set of funds (with a 2012 asset-weighted average expense ratio of 0.05%). Expense ratios are a critical factor in a fund’s ability to track its target benchmark, so the focus on this characteristic is understandable.

Figure 3a. Index U.S. equity funds, cumulative net cash flow

Figure 3b. Index U.S. equity funds, cumulative net cash flow: Lowest-cost funds

This figure takes the first quartile from Figure 3a and further breaks it down into four additional quartiles.

Notes: Expense ratio quartiles were calculated annually. Shown for each quartile are the 2012 asset-weighted average expense ratios, determined by multiplying the annual expense ratios by the year-end assets under management and dividing by the aggregate assets in each quartile.

Sources: Vanguard calculations, using data from Morningstar, Inc.
Category 4: Equity ETFs

Over the ten years ended December 31, 2012, about $204 billion (net) flowed into equity ETFs, which, like traditional index funds, are characterized by low expenses. (Although some actively managed ETFs are in this category, the great majority are indexed.) ETFs have played a significant role in lowering the cost of investing and have developed a tremendous following, as we noted earlier. So it is reasonable to assume that cost is a critical consideration for investors, particularly advisors and institutions.

The data support this assumption. Among equity ETFs, the result was similar to what we found in the other test groups: A large percentage of assets (74%, or $152 billion) was invested in the lowest-expense quartile (Figure 4a). Within this quartile (as dissected in Figure 4b), ETFs with the “lowest-of-the-low” expense ratios attracted more than $75 billion, or 49% of the quartile’s net cash flow.

**Figure 4a.** U.S. equity ETFs, cumulative net cash flow

![Figure 4a](image)

**Figure 4b.** U.S. equity ETFs, cumulative net cash flow: Lowest-cost funds

This figure takes the first quartile from Figure 4a and further breaks it down into four additional quartiles.

![Figure 4b](image)

Notes: Expense ratio quartiles were calculated annually. Shown for each quartile are the 2012 asset-weighted average expense ratios, determined by multiplying the annual expense ratios by the year-end assets under management and dividing by the aggregate assets in each quartile. Because of the small number of ETFs in Quartile 1 in Figure 4a (68 at year-end 2012), the relatively tight spread among their expense ratios (a variance of 15 basis points between the least and most expensive ETFs), and the fact that many had the same expense ratio, there were periods when it wasn’t possible to group the ETFs into all four expense ratio quartiles in Figure 4b; these periods are represented by flat lines.

Sources: Vanguard calculations, using data from Morningstar, Inc.
**Category 5: Bond funds**

Within taxable fixed income portfolios (actively managed and indexed traditional bond funds and bond ETFs), Quartile 1 garnered more than $614 billion, or roughly 81% of net cash flows into all bond funds (Figure 5a). When we further analyzed Quartile 1, we found that more than $323 billion, or almost 53% of net cash flows, went to the lowest-cost bond funds (Figure 5b).

The bond fund category has experienced similar trends as the broad equity category. Although active funds have dominated this space for many years, index funds and ETFs have become more and more popular, rising over the last decade from 8% of all managed assets to 24%.

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**Figure 5a.** All fixed income funds and ETFs, cumulative net cash flow

![Graph](image1.png)

**Figure 5b.** All fixed income funds and ETFs, cumulative net cash flow: Lowest-cost funds

![Graph](image2.png)

*This figure takes the first quartile from Figure 5a and further breaks it down into four additional quartiles.*

Notes: Expense ratio quartiles were calculated annually. Shown for each quartile are the 2012 asset-weighted average expense ratios, determined by multiplying the annual expense ratios by the year-end assets under management and dividing by the aggregate assets in each quartile.

Sources: Vanguard calculations, using data from Morningstar, Inc.
References


