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Total Shareholder Cost of Bond and Money Market Mutual Funds

by John D. Rea and Brian K. Reid[1]

OVERVIEW

A previous issue of *Perspective* examined the cost of investing in equity mutual funds between 1980 and 1997.[2] This issue addresses fees and expenses for bond funds and money market mutual funds over the same 18-year period using the framework developed for equity funds.

The examination of equity funds used the concept of total shareholder cost to measure the cost to investors of purchasing and holding mutual funds. Total shareholder cost is a comprehensive measure that includes all major costs incurred by buyers of mutual fund shares. These costs include expenses for portfolio management, shareholder services, and sales and marketing expenses, including those charged in accordance with a Rule 12b-1 plan. In addition, total shareholder cost includes any sales loads paid by fund investors. Most previous studies of fund fees have omitted sales loads, resulting in an incomplete and potentially misleading characterization of the cost of investing in mutual funds.

The most important finding in the analysis of total shareholder cost for equity funds was that the average cost of purchasing these funds declined more than 33 percent between 1980 and 1997. The downward trend in total shareholder cost reflected actions taken both by fund companies to lower distribution costs and by fund investors, who shifted share purchases toward relatively lower-cost, no-load funds. In addition, the analysis found that equity funds offered investors a wide range of total shareholder costs throughout the 1980-1997 period, and that investors tended to purchase the lower-cost funds within that range.

SUMMARY

The application of total shareholder cost measurement to bond and money market funds produced the following findings.

Bond Funds

- Total shareholder cost for all bond mutual funds declined from 1.54 percent in 1980 to 1.16 percent in 1997, a decrease of nearly 25 percent (Figure 1).[3]

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[2]John D. Rea and Brian K. Reid, "Trends in the Ownership Cost of Equity Mutual Funds," *Perspective*, Vol. 4, No. 3, November 1998, Investment Company Institute. The article is available through the Investment Company Institute's website at www.ici.org/economy/perspective.html.

[3]The percentage decrease is based upon the sales-weighted average of total shareholder costs for individual bond funds.

- The decline in the total cost of investing in bond funds partly reflected lower distribution costs (sales loads and 12b-1 fees). In addition, bond funds posted lower operating expenses.
- During the first half of the 1980s, total shareholder cost rose to 1.93 percent, before moving downward over the remainder of the period. The initial increase resulted almost entirely from sales of load funds rising relative to sales of no-load funds. The subsequent downtrend resulted from a shift in sales to no-load funds and from funds reducing operating and distribution costs.
- Bond funds offered investors a wide range of total shareholder costs during the 1980s and 1990s, and investors generally concentrated purchases among lower-cost bond funds.

Money Market Funds

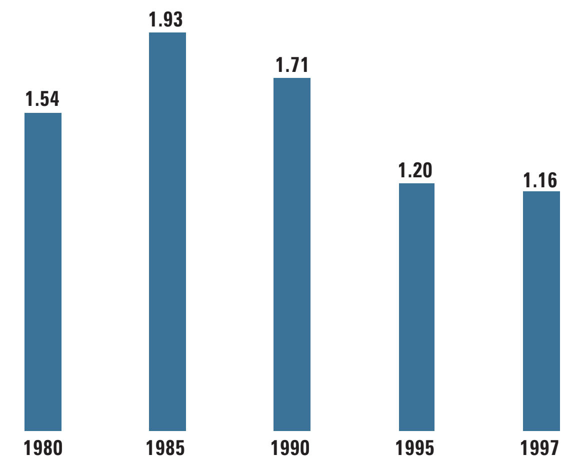
- Total shareholder cost for money market mutual funds declined from 0.54 percent in 1980 to 0.46 percent in 1997, a 15 percent decrease (Figure 2).
- Growth of institutional fund sales relative to those of retail funds contributed to the decline, as institutional funds typically have lower total shareholder costs due to higher average account balances. In addition, retail money funds posted lower operating expenses over the 1980-1997 period.
- Money fund investors have tended to purchase lower-cost money funds.

The remainder of the paper is organized as follows. The next section describes the total shareholder cost measure and its principal features, including its advantage over the expense ratio, a frequently used measure of investment and ownership cost of mutual funds. This section also reviews the method of constructing estimates of total shareholder cost.

The following section analyzes levels and trends in total shareholder cost for bond funds and money market funds over the 1980-1997 period. Both types of mutual funds posted lower shareholder costs over the period, and this section considers the reasons for the declines. The final section draws together the findings for equity funds with those for bond and money market funds by comparing the overall trends in total shareholder cost for the three types of funds.

FIGURE 1

Total Shareholder Cost for Bond Funds,* 1980-1997, Selected Years
(percent)



** Sales-weighted average of total shareholder costs for all bond funds*

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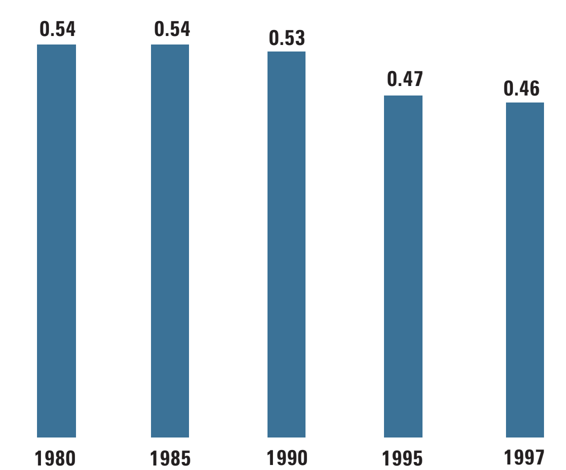
FIGURE 2

Total Shareholder Cost for Money Funds,* 1980-1997, Selected Years
(percent)



** Sales-weighted average of total shareholder costs for all money funds*

Sources: Investment Company Institute; Lipper Analytical Services, Inc.; Value Line Publishing, Inc.; CDA/Wiesenberger Investment Companies Service; Wiesenberger Investment Companies Service; © CRSP University of Chicago, used with permission, all rights reserved (773.702.7467/www.crsp.com); Primary datasource & © Standard & Poor's Micropal, Inc. 1998 (617.451.1585/www.micropal.com); and Strategic Insight Mutual Fund Research and Consulting, LLC.

DEFINITION AND MEASUREMENT OF TOTAL SHAREHOLDER COST[4]

The objective of the paper is to analyze trends in the cost of investing in bond funds and money market funds. The best cost measure for this purpose is total shareholder cost. It is defined as all the costs set by a fund organization that a mutual fund investor would expect to incur in purchasing and holding fund shares over the life of his or her investment.[5]

Total shareholder cost has two important features. First, it is a measure of investment cost that is most relevant to actual investment decisionmaking. Indeed, total shareholder cost is based upon the same considerations that underlie the examples of investment cost that the Securities and Exchange Commission requires in the fee table in the mutual fund prospectus. Second, total shareholder cost represents the price that a fund company is offering its investment management and other services to investors. Thus, any action taken by a fund company to change the offering price will be reflected in total shareholder cost.

Costs Included in Total Shareholder Cost

Total shareholder cost includes the two main costs incurred by an investor purchasing shares in a mutual fund. The first element of total cost consists of fund expenses, which are paid by the fund itself out of fund assets and thus indirectly borne by fund owners. Fund expenses arise from managing the fund's portfolio of securities, maintaining and servicing shareholder accounts, and distributing and marketing fund shares under a Rule 12b-1 plan.[6] Fund expenses are typically expressed as a percentage of assets, known as the expense ratio.

The second element of total shareholder cost consists of sales charges or sales loads paid by investors on a one-time basis when purchasing or redeeming shares. The sales load is typically expressed as a percentage of the purchase price of the shares. It is primarily used to compensate sales professionals for assistance and advice given to investors.

Sales loads come in two forms. One is a front-end load paid by the investor at the time shares are purchased. The other is a deferred load paid at the time shares are redeemed. A deferred sales load typically declines with the length of time the shares are held and eventually reaches zero.[7]

Shortcomings of the expense ratio. Many discussions of mutual fund fees and expenses rely upon the expense ratio to determine pricing trends and to measure the cost of purchasing mutual funds. However, expense ratios do not include or account for the sales load. This is a critical omission, because the expense ratio taken by itself would understate the cost for investors who purchase load funds, who represent a substantial majority of all retail fund investors.[8]

Use of the expense ratio alone can also lead to erroneous conclusions about trends in the cost of investing in mutual funds. In particular, many load fund companies have partially replaced sales loads with 12b-1 fees over the past decade. For equity funds, the reductions in sales loads have more than offset 12b-1 fees, causing total shareholder cost to decline over the 1980s and 1990s.[9] This development, however, is entirely missed by the expense ratio, which has an upward trend as a result of the substitution of 12b-1 fees for sales loads.

Measurement of Total Shareholder Cost

For an individual fund, total shareholder cost is measured as the dollar value of fund expenses and sales loads incurred during a given year by buyers of a fund in that year, expressed as percentage of the amount invested in the fund. For a no-load fund, total shareholder cost is the

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[4]This section summarizes material in Rea and Reid, "Trends in the Ownership Cost of Equity Mutual Funds," pp. 3-9. An approach similar to total shareholder cost has been used by Erik R. Sirri and Peter Tufano in "Competition and Change in the Mutual Fund Industry," in *Financial Services: Perspectives and Challenges*, edited by Samuel L. Hayes, III, Boston: Harvard Business School Press, 1993, pp. 199-202 and by Peter Tufano and Matthew Sevick in "Board Structure and Fee-Setting in the U.S. Mutual Fund Industry," *Journal of Financial Economics,* 46, 1997, pp. 339-342

[5]An investor in mutual funds may incur other costs that are not set by fund companies. These would include, for example, fees charged by wrap accounts, fee-based financial advisers, and personal trusts. Such costs, though a relevant consideration in the decision to purchase fund shares, are not included in the measurement of total shareholder cost because fund companies do not set them.

[6]Rule 12b-1 permits mutual funds to use an asset-based fee to pay advertising and marketing expenses, to compensate sales professionals for assisting investors with the sale of fund shares, and to reimburse third parties for servicing shareholder accounts.

[7]Certain other types of expenses directly or indirectly incurred by investors in the fund are not included in the analysis because data are either not available or not easily obtained. These include brokerage commissions and other securities transaction costs, which are reflected in securities prices but not in fund expenses. Other investor expenses include direct payments made by fund owners for account maintenance, share redemptions, and certain services such as check writing and wire transfers. The effect of these direct investor payments on the measurement of total shareholder cost would likely be de minimis.

[8]Approximately two-thirds of retail investors purchase mutual funds through sales channels that offer load funds. See *Mutual Fund Shareholders: People Behind the Growth*, Investment Company Institute, Washington, DC, 1996, p. 43.

[9]See Rea and Reid, "Trends in the Ownership Cost of Equity Mutual Funds," pp. 9-10.

expense ratio, since there is no sales charge. For a load fund, the sales load must be included. The sales load, however, is a one-time payment and cannot be directly added to the annual and recurrent expense ratio. Rather, it first must be converted to the equivalent of a series of annual payments spread over the average period in which investors hold the fund.[10] The annual payment, known as the annuitized sales load, is then added to the expense ratio to form total shareholder cost.[11]

Aggregate Total Shareholder Cost

Total shareholder cost, by definition and measurement, is the cost incurred by buyers of a fund in a given year. Consequently, the appropriate method of forming an aggregate or average cost for all funds is to use a sales-weighted average.

The calculation of the sales-weighted average involves first multiplying each fund's total shareholder cost by its share of fund sales and then summing all the weighted shareholder costs. A fund with a small volume of sales would carry little weight in computing the sales-weighted average, whereas a fund with a large volume would have a large effect on the average.

A sales-weighted average introduces the possibility of changes in investor behavior causing changes in the aggregate total shareholder cost. For example, a shift by investors from low-cost to high-cost funds would raise the sales-weighted average, even if individual funds had not changed their costs. It is possible, however, to distinguish changes in the aggregate total shareholder cost caused by investor behavior from those caused by fund company actions.

TOTAL SHAREHOLDER COST FOR BOND AND MONEY MARKET FUNDS, 1980-1997

This section analyzes trends in total shareholder cost for bond funds and money market funds over the 1980-1997 period. It examines total shareholder cost by analyzing its two essential components: distribution costs and operating expenses. Distribution costs are the sum of 12b-1 fees and annuitized sales loads. Distribution costs primarily represent compensation to sales professionals for assistance and service provided to fund investors. Operating expenses are those arising primarily from managing the portfolio and servicing shareholder accounts.

Bond Funds

Changes in total shareholder cost over the 1980-1997 period. Total shareholder cost for all bond funds, measured as a sales-weighted average, declined over the 1980-1997 period. At the beginning of the period, buyers of bond funds incurred an average total cost of 1.54 percent of the initial investment (Figure 3). By the end of the period, the average cost had dropped to 1.16 percent. As a result, the total cost to bond fund investors in 1997

[10] To summarize the procedure described in Rea and Reid, "Trends in the Ownership Cost of Equity Mutual Funds," pp. 5-8, annuitized sales loads are first estimated for each fund for holding periods ranging from one to fifteen years. For a given holding period, the annuitized front-end load is that annual payment for which the present value of the annual payments equals the amount of the front-end load payment. An estimate of the actual rather than the maximum front-end load is used in the computation. Similarly, the annuitized deferred load is that annual payment for which the future value of the annual payments equals the amount of the deferred load payment. The deferred load typically declines from its maximum level in the first year of ownership by one percent per year; such a declining schedule is assumed in the computation of the annuitized sales load. Computations of the annuitized loads use the yield for the five-year Treasury note.

A weighted average of the annuitized loads for the fifteen holding periods is used to form a composite annuitized load for each fund. The weights are derived from redemption activity in a random sample of equity and bond fund accounts that were opened in 1974. More specifically, the weights represent the proportion of shares purchased in 1974 that were redeemed in each of the subsequent fifteen years. The redemption rates are from The Wyatt Company, "Investment Company Persistency Study Conducted for the National Association of Securities Dealers," January 1990. The weights for bond funds are 0.171 for the first year, 0.113 for the second year, 0.103 for the third year, 0.049 for the fourth year, 0.076 for the fifth year, 0.051 for the sixth year, 0.055 for the seventh year, 0.043 for the eighth year, 0.026 for the ninth year, 0.023 for the tenth year, 0.020 for the eleventh year, 0.014 for the twelfth year, 0.012 for the thirteenth year, 0.011 for the fourteenth year, and 0.014 for the fifteenth year. See note 15 for a discussion of sales loads for money market funds.

The Wyatt study is the only known source of estimates of redemption rates available for computing a weighted-average annuitized load. A sensitivity analysis of estimates of total shareholder cost for equity funds in "Trends in the Ownership Cost of Equity Mutual Funds," p. 15, found that the estimates were most affected in the early 1980s. Later years were least affected because sales loads had become a relatively small component of total shareholder cost.

[11] The analysis covers the 1980-1997 period. The primary source of the data for expense ratios is Lipper Analytical Services, Inc. Sales load data are from the Investment Company Institute's data files, Lipper Analytical Services, Inc., and Strategic Insight Mutual Fund Research and Consulting, LLC. Supplementary information to fill in missing values is from *Investment Companies*, Weisenberger Investment Companies Service, New York, various issues; *Investment Companies Yearbook*, CDA/Wiesenberger Investment Companies Service, Rockville, MD, various issues; *CRSP Survivor Bias Free US Mutual Fund Data Base*, Center for Research in Security Prices, Graduate School of Business, University of Chicago, Chicago, IL; and *Value Line Mutual Fund Survey for Windows*, Value Line Publishing, Inc., New York, September 1998.

The unit of observation is the share class. A share class is included in the analysis only if it has a complete record dating from the later of 1980 or its inception date. Funds that went out of existence between 1980 and 1997 may not be included because Lipper Analytical was only able to supply expense data for share classes in existence at the time the data were acquired. The supplementary sources filled some of the gaps, but remaining missing share classes could introduce a "survivorship" bias.

Despite the loss of share classes, the coverage is high. For bond and money funds, the percentage of share classes in the analysis varies over the 1980-1997 period from approximately 60 percent to 80 percent of all fund classes. Sales and asset coverage is higher, ranging from approximately 65 percent to 95 percent.

was almost 25 percent lower than it was in 1980. Other measures of aggregate shareholder cost—the asset-weighted average, simple average, and the median—declined as well.

Although the sales-weighted average total shareholder cost of bond fund investing dropped significantly during this 18-year period, it rose during the first half of the 1980s, reaching 1.93 percent in 1985 (Figure 4). A sharp drop in interest rates in the middle of the decade caused sales of bond funds to triple in 1985 and nearly double in 1986.[12] This surge in sales activity was concentrated in load funds, which saw their overall market share of bond fund sales rise from 53 percent in 1980 to 73 percent in 1985.[13] Load funds typically have higher total shareholder costs than no-load funds, reflecting the bundling of investment advice and sales assistance with the distribution of load funds. Given the differential in total shareholder cost between the two types of funds, the increase in sales of load bond funds accounted almost entirely for the increase in total shareholder cost for bond funds between 1980 and 1985. Indeed, the total shareholder cost for no-load funds fell slightly, while that for load funds rose marginally.

After 1985, total shareholder cost for all bond funds started on a downward path, declining from 1.93 percent to 1.16 percent in 1997. This 40 percent decline in total shareholder cost partly reflected a shift in sales away from load funds to no-load funds. In fact, the share of all bond fund sales captured by load funds dropped to 45 percent by 1997 from a high of 73 percent in 1985. In addition, total shareholder cost for load funds moved sharply downward, contributing to the drop in total shareholder cost. For no-load funds, total shareholder cost was virtually unchanged between 1985 and 1997.

FIGURE 3

Total Shareholder Cost for Bond Funds, 1980 and 1997
(percent)

	Level 1980	Level 1997	Change
Sales-weighted average	1.54	1.16	-0.38
Asset-weighted average	2.09	1.31	-0.78
Simple average	2.19	1.55	-0.64
Median	2.29	1.52	-0.77
Standard deviation	1.07	0.79	-0.28
10th percentile	0.65	0.60	-0.05
90th percentile	3.42	2.74	-0.68
Number of funds	104	2,820	2,716

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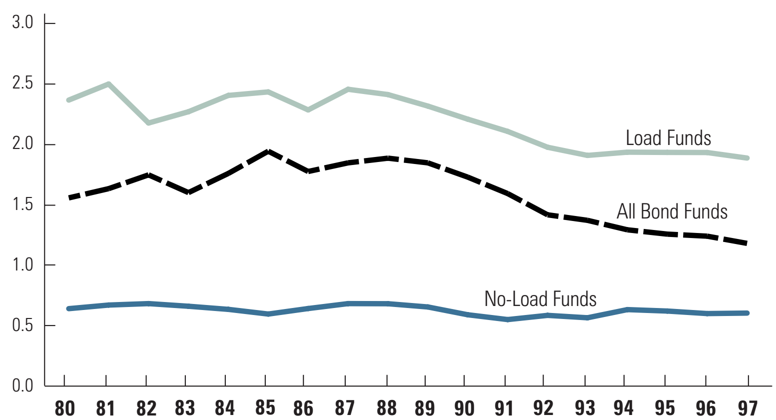
FIGURE 4

Total Shareholder Cost for Bond Funds* by Sales Load, 1980 - 1997
(percent)



**Sales-weighted average*

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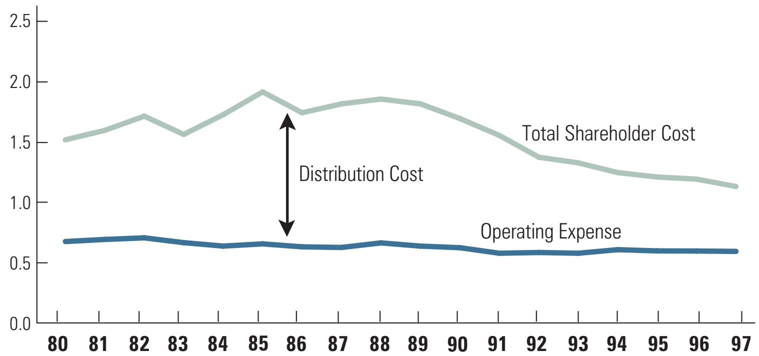
[12] See Brian Reid, "Growth and Development of Bond Mutual Funds," *Perspective,* Vol. 3, No. 2, June 1997, Investment Company Institute, pp. 8-9.

[13] A load fund is defined as a fund having either a sales load or a 12b-1 fee larger than 0.25 percent. A no-load fund has no sales load and has a 12b-1 fee of 0.25 percent or less.

FIGURE 5

Components of Total Shareholder Cost for Bond Funds,* 1980 - 1997
(percent)



** Sales-weighted average*

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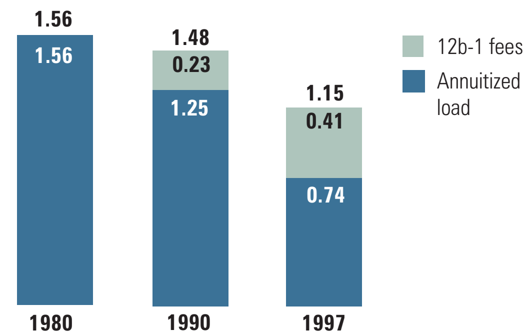
FIGURE 6

Distribution Costs for Bond Load Funds,* 1980, 1990 and 1997
(percent)



** Sales-weighted average*

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Distribution costs and operating expenses. The decline in total shareholder cost for all bond funds between 1980 and 1997 resulted from both lower distribution costs and lower operating expenses (Figure 5). Distribution costs posted the larger drop, falling from 0.83 percent in 1980 to 0.53 percent in 1997. Operating expenses decreased from 0.71 percent at the beginning of the period to 0.63 percent at the end of the period. Both load and no-load funds recorded lower operating expenses.

Distribution costs are generally associated with the purchase of load funds. For these funds, distribution costs declined from 1.56 percent in 1980 to 1.15 percent in 1997. In addition, the composition of distribution costs changed markedly. At the beginning of the period, sales loads made up the entirety of distribution costs, as the Securities and Exchange Commission had only adopted Rule 12b-1 late in the year. In subsequent years, bond funds added 12b-1 fees in combination with lower front-end loads. In addition, funds offered combinations of 12b-1 fees and deferred loads as alternatives to front-end loads. These actions contributed to lower overall distribution costs, and reduced the relative contribution of sales loads to distribution costs. By 1997, sales loads accounted for 64 percent of the distribution cost of load bond funds, down from 100 percent in 1980 (Figure 6).

Range of total shareholder costs and investor choice. Throughout the 1980-1997 period, bond funds offered investors a wide range of total shareholder costs from which to choose. For example, after eliminating outliers by focusing on total shareholder costs between the tenth and ninetieth percentiles, investors in 1997 could choose from 2,256 bond mutual funds in which costs ranged between 0.60 percent and 2.74 percent (Figure 3).

The sales-weighted average of total shareholder costs has generally been below the unweighted or simple average of shareholder costs, indicating that investors selected lower-cost funds within the range of choice during the 1980-1997 period.[14] The only exception occurred during the mid 1980s when sales of load funds rose relative to those of no-load funds.

Money Market Funds

Change in total shareholder cost over 1980-1997 period. Total shareholder cost of money market funds, measured as a sales-weighted average, declined from 0.54 percent in 1980 to 0.46 percent

[14]In the sales-weighted average, those shareholder costs associated with funds having the largest share of sales of all funds receive the largest weight. In the simple average, each shareholder cost receives the same weight. Thus, if the sales-weighted average is below the simple average, it means that the funds receiving the largest weight must also have the lowest costs.

in 1997 (Figure 7), a decrease of nearly 15 percent.[15] Other aggregate measures—the asset-weighted average, simple average, and median—also declined.

Two factors contributed to the decrease in the sales-weighted average total shareholder cost. One was that sales of institutional money funds outpaced sales of retail funds. Institutional funds typically require higher minimum balances than retail funds and consequently have significantly larger account balances. These larger balances, in turn, reduce the cost of operating the fund and result in institutional funds having lower shareholder costs (Figure 8). Thus, as sales of institutional funds have grown relative to those of retail funds, the sales-weighted average total shareholder cost of all money funds has declined.

The other factor contributing to the decline in total shareholder cost for money funds was a significantly lower cost of institutional funds. This decline primarily reflected a shift by institutional investors during the period to lower-cost funds. In 1980, for example, the sales-weighted and simple average total shareholder cost for institutional money funds were both 0.41 percent, indicating that institutional investors were not favoring lower-cost money funds. However, in 1997, the sales-weighted average total shareholder cost was 0.27 percent, compared with a simple average of 0.44 percent.

Operating expenses and distribution costs. The overall decline in total shareholder cost occurred in operating expenses, which dropped from 0.54 percent in 1980 to 0.40 percent in 1997 (Figure 9). In part, this reflects the increased sales of institutional funds with lower operating expenses. In addition, retail money funds tended to reduce operating expenses during this period, as indicated by the simple average operating expense falling from 0.71 percent in 1980 to 0.60 percent in 1997. Distribution costs have been a relatively minor

FIGURE 7

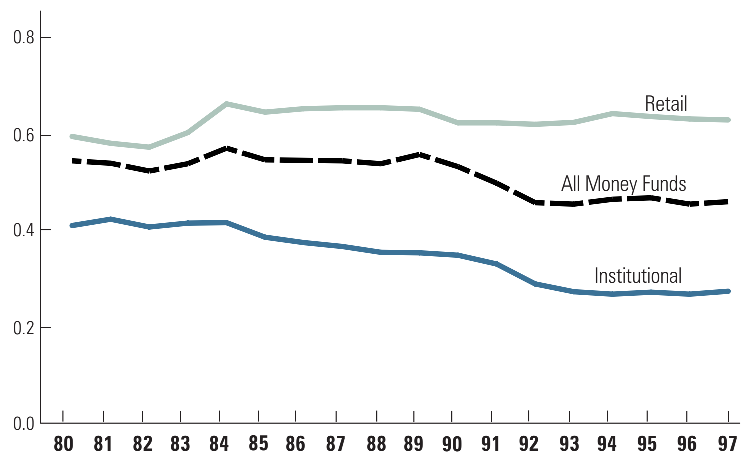
Total Shareholder Cost for Money Market Funds, 1980 and 1997
(percent)

	Level 1980	Level 1997	Change
Sales-weighted average	0.54	0.46	-0.08
Asset-weighted average	0.54	0.53	-0.01
Simple average	0.66	0.64	-0.02
Median	0.65	0.60	-0.05
Standard deviation	0.14	0.24	0.10
10th percentile	0.41	0.27	-0.14
90th percentile	0.94	0.97	0.03
Number of funds	69	915	846

Sources: Investment Company Institute; Lipper Analytical Services, Inc.; Value Line Publishing, Inc.; CDA/Wiesenberger Investment Companies Service; Wiesenberger Investment Companies Service; © CRSP University of Chicago, used with permission, all rights reserved (773.702.7467/www.crsp.com); Primary datasource & © Standard & Poor's Micropal, Inc. 1998 (617.451.1585/www.micropal.com); and Strategic Insight Mutual Fund Research and Consulting, LLC.

FIGURE 8

Total Shareholder Cost for All, Retail, and Institutional Money Market Funds,* 1980 - 1997
(percent)



** Sales-weighted average*

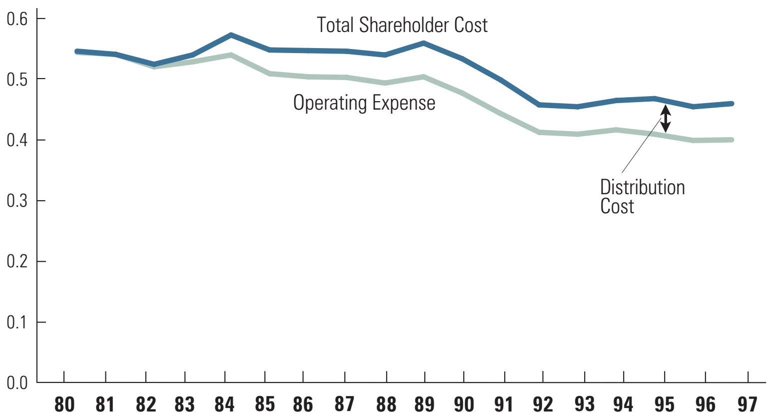
Sources: Investment Company Institute; Lipper Analytical Services, Inc.; Value Line Publishing, Inc.; CDA/Wiesenberger Investment Companies Service; Wiesenberger Investment Companies Service; © CRSP University of Chicago, used with permission, all rights reserved (773.702.7467/www.crsp.com); Primary datasource & © Standard & Poor's Micropal, Inc. 1998 (617.451.1585/www.micropal.com); and Strategic Insight Mutual Fund Research and Consulting, LLC.

[15] Total shareholder cost for money market funds has been computed without including the annuitized sales load. Few money funds charge sales loads and those that do typically are part of a package of bond and equity load funds. The package of funds is designed to allow the investor to transfer between funds without incurring any additional sales charge beyond that associated with the initial purchase. In this arrangement, few investors are likely to purchase a money fund with a load as a standalone or long-term investment. Inasmuch as the definition of total shareholder cost entails the expected cost over the holding period, it is unlikely that an investor initially purchasing a money fund would regard the sales load as part of the expected cost of purchasing the money fund. For this reason, the annuitized sales load is not included in the measurement of total shareholder cost. As a practical matter, the quantitative effect of excluding the annuitized sales load is negligible. Assuming that 50 percent of initial sales of money funds are redeemed in the first and second years of ownership, the most that the annuitized load would have added to sales-weighted average total shareholder cost in any one year during the 1980-1997 period is 0.004 percent.

FIGURE 9

Components of Total Shareholder Cost for Money Market Funds,* 1980 - 1997

(percent)



** Sales-weighted average*

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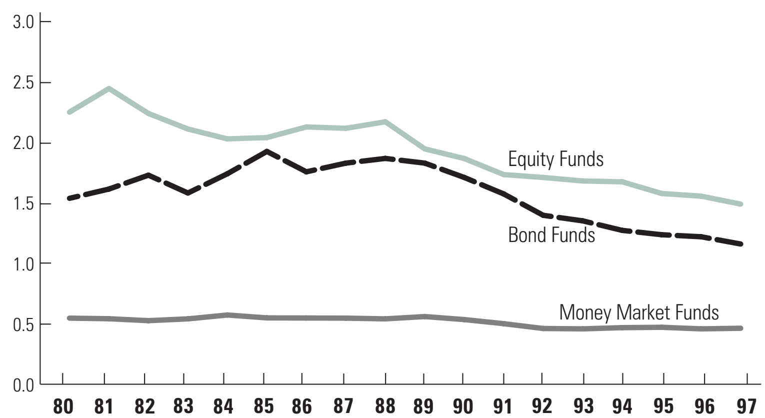
FIGURE 10

Total Shareholder Cost for Equity, Bond, and Money Market Funds,* 1980-1997

(percent)



**Sales-weighted average*

Sources: John D. Rea and Brian K. Reid, "Trends in the Ownership Cost of Equity Mutual Funds," Perspective *Vol. 4, No. 3, November 1998 and Investment Company Institute; Lipper Analytical Services, Inc.; Value Line Publishing, Inc.; CDA/Wiesenberger Investment Companies Service; Wiesenberger Investment Companies Service; © CRSP University of Chicago, used with permission, all rights reserved (773.702.7467/www.crsp.com); Primary datasource & © Standard & Poor's Micropal, Inc. 1998 (617.451.1585/www.micropal.com); and Strategic Insight Mutual Fund Research and Consulting, LLC.*

component of the cost of investing in money market funds, rising from virtually zero in 1980 to 0.06 percent in 1997.

Range of total shareholder costs and investor choice. Between 1980 and 1997, money market funds offered investors a much tighter range of total shareholder costs than either equity funds or bond funds. For example, the standard deviation of money fund costs was 0.24 percent in 1997, about one-third that for bond funds (Figure 7). Among the available choices, investors tended to purchase lower-cost funds, as seen by the sales-weighted average falling significantly below the simple average.

CONCLUSION

This paper reviews the costs of investing in bond and money market funds over an 18-year period. Along with the previous paper on equity fund costs, these studies have found that investors in all three types of mutual funds have benefited from significant cost reductions (Figure 10). For equity funds, the average cost decreased more than 33 percent between 1980 and 1997. The cost of investing in bond funds during this period declined 25 percent and that for money funds fell 15 percent.

For all three groups of funds, an important source of the decrease in total shareholder cost was increased purchases by investors of mutual funds that have relatively lower costs. Indeed, investors generally have tended to purchase and hold funds with costs that fall in the lower half of the range of available choices.

In addition to the role of investor choice in reducing total shareholder cost, mutual funds have reduced costs. For equity funds, lower costs came in the form of declining distribution costs. Bond funds posted both lower distribution costs and operating expenses over the 1980-1997 period. Money funds recorded lower operating expenses.

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