

The Costs of Using a Broker to Select Mutual Funds*

November 2006

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Abstract

We examine the annual expenses incurred by investors who hold equity index mutual funds. We find that investors in true no-load index funds pay far lower annual expenses than their counterparts who employ brokers to help them select index funds. The higher annual expenses paid by load fund investors persists even when the costs of distribution are removed. The findings suggest that brokers are not acting in the best interests of their clients. The use of a broker to advise mutual fund investment decisions causes investors to pay twice – once to the broker for his bad advice and then again in the form higher ongoing annual fund operating expenses.

* This study was commissioned by the Zero Alpha Group (ZAG). O'Neal acknowledges the financial support of ZAG.

Executive Summary

Index funds are essentially commodities. They hold identical or almost identical sets of securities. Differences in their investment performance are explained almost entirely by fees, which are highly predictable. Index fund fees, however, vary widely. The expense ratios of the S&P 500 index funds that we studied ranged from .07% to 1.45%. Some commentators have explained this variance as reflecting differences in the costs of operating different funds. The Investment Company Institute (“ICI”), for example, has argued that the variance in index fund expenses is explained by, among other factors, distribution expenses, asset size and average account size.

We agree that these factors may explain much of the variance in index fund fees, but the ICI’s explanation answers the wrong question. *The important question is not why certain funds are more expensive, but why investors who receive investment advice from brokers invest in more expensive funds?* If a consumer spends \$4 for a loaf of bread when an identical loaf on the same shelf cost \$2, it is no defense for a “bread broker” who recommends the \$4 loaf to argue that it cost more because the baker has higher production costs than the baker of the \$2 loaf. The extra \$2 paid by the consumer is a broker penalty, and the fact that the consumer paid for that advice simply adds insult to injury. We found that investors who use brokers to buy mutual funds, rather than benefiting from the broker’s professional guidance, pay a broker penalty in the form of higher fund fees, on top of the distribution fees paid to the broker.

Specifically, we considered the effect of the role of brokers and other financial advisers, herein referred to as “brokers,” in consumers’ selection of index funds that match the S&P 500 index. Brokers provide a wide array of services to their clients, including assistance in selecting from among thousands of mutual funds, in return for commissions and 12b-1 fees. When brokers assist clients in choosing a commodity such as an index fund, the primary benefit they offer is assistance in finding the lowest cost fund.

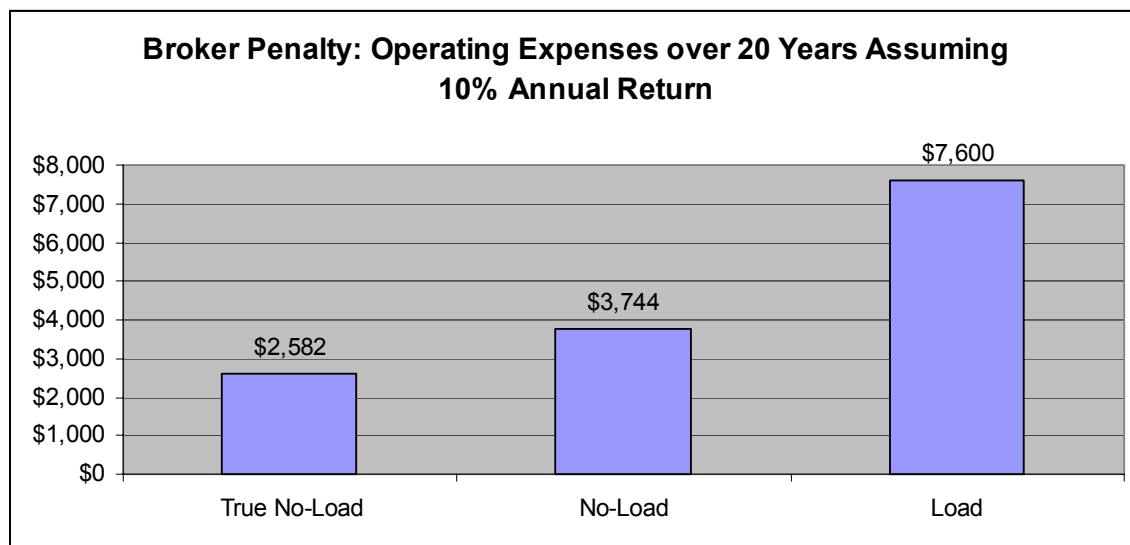
In fact, one would expect that load index funds, which are sold through brokers, would have lower expenses (excluding the broker’s fees) on the theory that, with the assistance of a broker, investors would make a more rational investment decision. One would expect this correlation to be very strong, not only because of the relatively simple task of selecting an index fund, especially with professional assistance, but also because the investor would have to pay the cost of broker’s compensation on top of the fund’s expenses, which itself would strongly militate for investment in low-cost, broker-sold financial products as a general matter.

As expected, we found a strong correlation between loads and index fund expenses, but the correlations were the opposite of what the foregoing theory of brokerage services would produce. We found that load index funds charged *substantially higher fees* – even before counting the fees paid to the broker – than true no-load (no 12b-1 fee) funds. In other words, when investors used brokers they paid twice: first, they paid the broker; second, they paid a broker penalty in the form of higher fund fees.

This “broker penalty” more than doubled when the analysis was asset-weighted. That is, when fund expenses were weighted by the amounts actually invested in different funds, the true no-load investor paid an average of 21.5 basis points in operating expenses, in comparison with the load investor’s average operating expenses of 70.4 basis points. Adding insult to injury, the load investors paid sales charges to their broker, on top of the additional 48.9 basis points they paid to the load index fund in operating expenses.

Illustration 1 shows what we have termed the “broker penalty” – the additional operating expenses incurred by the average investor holding broker-sold index funds versus no-load index funds. On a \$10,000 investment over twenty years, assuming a 10% annual return the average investor in true no-load, no-12b-1 fee index funds would pay approximately \$2,582 in operating expenses. The average investor holding a no-load fund that charges a 12b-1 fee (no commission) would pay \$3,744, while the average investor holding load index funds would pay \$7,600 in operating expenses. Although one would expect using a professional adviser to improve an investor’s performance, instead the investor pays a significant penalty.

Illustration 1



We recognize that load funds’ higher expenses may be attributable, for example, to their smaller size, as suggested by the ICI. But that analysis avoids the relevant policy question of *why using a broker results in investors investing in more expensive index funds than those who do not use a broker?* Using brokers should increase, not reduce, investors’ wealth. The data show that the consumer who uses a broker to select from a shelf of identical loaves of bread will choose the \$4 loaf over the \$2 loaf, *and then pay another \$2 in commissions to the broker.*

These findings show that brokers effectively serve as agents of fund companies, not as agents of their clients. Brokers presumably are compensated for acting as agents for investors, but the only way to explain their index fund recommendations is to view them

as agents for the fund companies that manage the higher-cost index funds. The problem, of course, is that it is investors, not fund companies, who pay the brokers (although some fund companies make undisclosed shelf space payments to brokers), not to mention the investors' expectation that brokers will recommend the best funds for the investor. The reality is that investors' payments to brokers are effectively used by fund companies to find investors for their funds. The more expensive the fund, the greater the distribution compensation that is necessary to obtain investors.

ANALYSIS AND FINDINGS

The purpose of this study was to consider the relationship between the operating expenses of retail mutual funds based on the S&P 500 index and certain variables. In particular, we analyzed the relationship between the funds' operating expenses and their distribution expenses.

Our dataset was gathered from the Morningstar Principia Pro Plus for Mutual Funds database, June 2006 version. We initially collected all funds that Morningstar characterized as index funds that were in the Large-Blend investment style. This screen results in a sample of funds that are primarily, but not solely, S&P 500 index funds. In order to obtain a sample that was as homogeneous as possible, we eliminated funds that did not appear to be strict S&P 500 index mutual funds. The following types of funds were eliminated: 1) exchange traded funds, 2) funds that had the word "enhanced," "social" or "tax managed" in the name, 3) funds that tracked an index other than the S&P 500, 4) funds that were available only to institutional investors. The resulting sample consisted of 141 mutual funds. Some of these 141 funds offer multiple share classes.

A significant part of our analysis required that we know the net assets in each mutual fund. Of the 141 funds, Morningstar did not have the net asset figures for 32 funds. Of these 30 funds, 24 were "load-waived" classes of load mutual funds. These load-waived shares are the A share class of the mutual fund, purchased by investors who can completely avoid the load (investors in certain retirement plans). However, the specific amount of assets in an A share class that are attributable to such shareholders is not available. We therefore eliminated load-waived shares from the dataset. The final resulting dataset consists of 109 mutual fund share classes representing 53 separate index fund portfolios.

We divided our sample into several categories depending on the existence and type of distribution expenses. The first category of funds has no sales loads and no 12b-1 fees. We call this category "true no-load" funds. The second category is funds that do have a 12b-1 fee but do not charge a sales load, which we call "no-load" funds. The third category is funds that do charge a sales load, whether it is a front-end load or a back-end load. We call these "load" funds. Finally, we isolate all funds that have a front-end load. Note that funds with a front-end load are a subset of the category of all load funds.

We look at the expenses of the funds in Table 1. We first look at the Net Expense Ratio which is provided in Morningstar and is the fund's annual expense ratio for the most recently reported fiscal year less any fee waivers that were in effect.¹ We divide the net expense ratio into two components: the 12b-1 fee, if any; and all other fees, which we call "operating expenses." We also calculate two measures of all-in distribution expenses.

¹ For funds with fiscal years that end in June through December, the reported net expense ratio is for fiscal year 2005. For funds with fiscal years ending in January through May, the data is for fiscal year 2006.

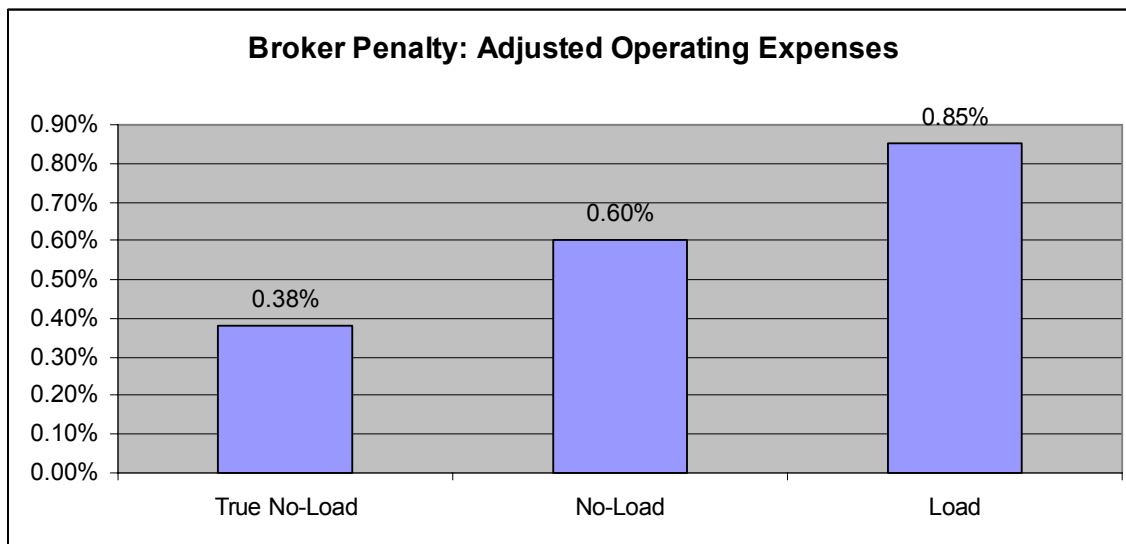
We call these two measures “distribution expenses 3-year” and “distribution expenses 7-year.” These two measures aggregate the load and the 12b-1 fees assuming a 3-year or a 7-year holding period. For example, “distribution expenses 3-year” is calculated by taking the front end load (if any), adding three times the 12b-1 fee (*i.e.*, the total 12b-1 fees paid over 3 years assuming no asset growth), and adding the CDSC that would be in effect three years after investment (if any). This measure approximates the expected amount of distribution costs an investor would expect to pay if the index fund investment was held for three years. Similarly, “distribution expenses 7-year” is calculated by taking the front end load (if any) and adding seven times the 12b-1 fee (*i.e.*, the total 12b-1 fees paid over 7 years assuming no asset growth). For the funds in our sample with CDSCs, the CDSC has declined to zero by the seventh year.

The ICI has documented that a portion of 12b-1 fees may be used by some fund complexes to cover administrative costs outside of the distribution function. In other words, the ICI has found that some of the 12b-1 fees are not for distribution services, but for operating expenses. Based on the ICI’s research, we divide the net expense ratio in an alternative fashion. Rather than assume the entire 12b-1 fee is for distribution, we assume that 35.5% of total 12b-1 fees were fund administrative (operating) expenses, and that the remainder was paid for distribution in connection with services provided by brokers to their clients. The “adjusted operating expenses” and “adjusted distribution expenses” in Table 1 show those expenses after allocating 12b-1 fees between operating and distribution expenses. A full explanation of this allocation is provided in Appendix A.

Table 1 shows the results of our univariate analysis. Columns I through V show the mean levels for all of the expense categories we specified. The average net expense ratio for all index funds is 76.6 basis points. Of this amount, the average fund charges 34.8 basis points in 12b-1 fees. When we adjust the data for the portion of the 12b-1 fees that are actually for fund administration rather than distribution, the amount of the annual expenses ratio paid by an investor in the average fund for distribution is 10.7 basis points. An investor in the average fund could expect adjusted distribution expenses to be 145 basis points over the first three years and 164 basis points over the first seven years of investment.

The results in Table 1 suggest that the mean operating expenses are similar across all categories of funds. The adjusted operating expenses range from 38.1 basis points for true no-load funds to 60.0 basis points for no-load funds (funds with 12b-1 fees but no commissions) to 85.3 basis points for load funds (funds with commissions). This data is presented in Illustration 1 below.

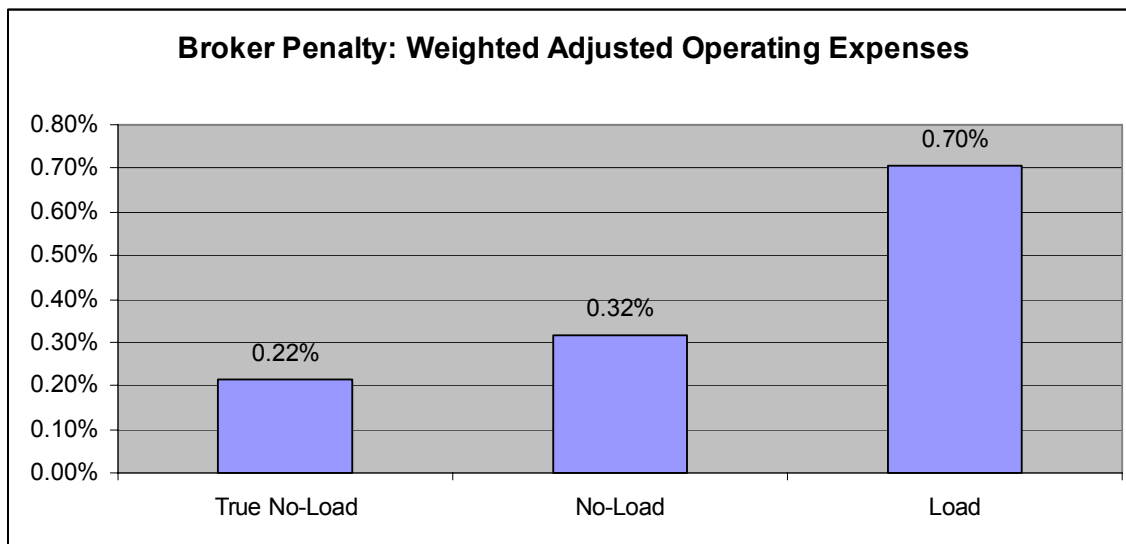
Illustration 1



We refer to the amount by which adjusted operating expenses exceed operating expenses of true no-load funds as the “broker penalty.” Adjusted operating expenses for no-load funds and load funds exceed operating expenses for true no-load funds, respectively, by 21.9 basis points and 47.2 basis points. Note that the broker penalty includes only fund operating expenses; it does not include the sales charges that investors in no-load and load funds also pay.

Although the numbers presented in columns I through V of Table accurately characterize the *average index fund* in each category, they do not necessarily convey the costs incurred by the *average index mutual fund shareholder*. Because more money is invested in larger funds (by definition), a truer picture of what the average investor faces can be gleaned from an analysis that weights more heavily those funds that are larger. In columns VI through IX, we show the means for our expense variables after weighting the expenses by the net assets invested in each fund. The results change significantly from those presented in columns I through V. The average true no-load fund shareholder pays 21.5 basis points in annual expenses, none of which is distribution. The average no-load fund (12b-1 fees/no commissions) shareholder incurs 44.5 basis points in annual fees, of which 31.8 is adjusted operating expenses and 12.6 basis points is adjusted distribution expenses. The average load fund shareholder incurs 86 basis points in annual fees, of which 70.4 is adjusted operating expenses and 15.6 basis points is adjusted distribution expenses. Thus, as the amount of adjusted distribution expenses across true no-load, no-load and load funds increase, the amount of adjusted operating expenses increases as well. The relative adjusted operating expenses of true no-load, no-load and load funds are shown in Illustration 3. The resulting broker penalties paid by investors in no-load and load funds are 10.3 basis points and 48.9 basis points, respectively. To reiterate, the broker penalty includes only fund operating expenses; it does not include the sales charges that investors in no-load and load funds also pay.

Illustration 2



The analysis of all load funds clearly includes funds that are not homogeneous in their expense structure since A, B, and C shares are all included. Column IX shows the results for just front-load funds. For these funds, adjusted operating expenses are 51.2 basis points and adjusted distribution expenses are 14.8 basis points. These data again show an increase in both distribution expenses and operating expenses.

These findings are troubling for investors who use brokers to purchase load index funds. We would expect such investors to incur distribution costs associated with compensating their broker or advisor, and that these costs might increase the total cost of investing in no-load and load funds. This increased cost could be explained as reflecting the additional services on account of which the distribution expenses are incurred. There is no reason, however, why such investors should be paying more than true no-load investors for other, non-distribution services. Indeed, if one aspect of distribution services is the selection of lower cost index funds, one would expect no-load and load funds to have lower, rather than higher, operating expenses than true no-load funds. Our analysis suggests that, in fact, operating expenses actually incurred by investors in load funds, for example, are 3.3 times greater ($3.3 * 21.5 = 70.4$) than those incurred by investors in true no-load funds.

There may be some differences in index fund attributes, on average, that would potentially explain why investors in load funds generally would be willing to pay more for operating services. However, it is important to realize that we are not attempting to explain why load-fund costs are higher *except* in the case where higher costs derive from attributes that are desirable for investors, as opposed to attributes, such as asset size, that merely explain a fund's higher costs. We identify three potential attributes for which investors might prefer to pay higher expenses.

The first potential attribute is fund turnover. Even though we would expect little turnover for index funds, all else held equal, a fund with lower turnover should incur lower portfolio-level trading costs. Fund transaction costs are excluded from disclosed operating expenses, so they are not reflected in the foregoing analysis of operating expenses. It could be that funds with lower operating costs have higher transaction costs, and funds with higher operating costs have lower transaction costs.² In such a case, net savings from lower transaction costs at a fund might more than make up for its higher operating expenses.

The second potential attribute investors may be willing to pay for is for a low minimum investment amount. Some investors may only be able to invest in funds with low account minimums. Funds with small account minimums may, as a result have smaller average account sizes, and smaller account sizes can increase fund operating expenses. Thus, a fund might have higher operating expenses resulting indirectly from accommodating investor preferences.

The last potential attribute is that investors may be willing to pay higher fees for a fund that has low tracking error relative to the index. If a fund's investment objective is track the performance of an index, investors logically would prefer – and be willing to pay more for – low tracking error.

We test each of these attributes in regressions of adjusted operating expenses and report the results in Table 2. The purpose of the regressions is to determine the relationship between the amount of operating expenses and: (1) 3- and 7-year adjusted distribution expenses, (2) minimum initial investment amount, (3) portfolio turnover rate, and (4) tracking error.³ Minimum investment level is coded as a dummy variable where funds with minimum investment levels of \$10,000 or more are a 1 and those with a minimum investment level below \$10,000 are coded as a zero.⁴ Portfolio turnover is taken from Morningstar. Tracking error is calculated as the gross return to the fund (before expenses) minus the return to the S&P 500. These regressions are weighted by the net assets in each fund again to help us understand the relationship between what the average investor pays and these index fund attributes.

² This might seem counterintuitive, on the ground that funds that economize on operating expenses would be expected also to economize on transaction costs. In fact, funds can reduce their disclosed operating costs by incurring higher transaction costs because they can use fund commissions, for example, to pay for research and trading services. The cost of these services therefore effectively can be transferred from the disclosed operating costs to undisclosed transaction costs, thereby reducing the former and increasing the latter.

³ This analysis generates an estimate of the impact of each of the independent variables on operating expenses. The statistical significance of these estimates (i.e., whether they represent a true relationship rather than a statistical artifact) is based on t-statistics that are generated by relating the estimates to the noisiness of the data. A t-statistic in excess of ± 2.00 indicates a significant statistical correlation between operating expenses and the independent variable being tested.

⁴ A dummy variable simply allows the estimation of the impact on a dependent variable of a qualitative variable with two possible levels. Here, the fund either has a high minimum investment level or it does not.

Columns I and II show the results from regressing operating expenses against our 3- and 7-year adjusted distribution variables. Consistent with the results reported in Table 1, high operating expenses are positively and significantly correlated with distribution costs. The more investors pay for distribution services, the more they pay for operating services. Of the three attributes identified, the minimum investment level is most highly correlated with operating expenses.

The negative sign on the “high minimum” dummy variable suggests that funds with high minimums have lower operating expenses. Therefore, the fact that investors in load funds pay higher operating expenses may be because the load funds tend to have low minimums relative to no-load funds. This is indeed the case. The weighted average minimum initial purchase for load funds is \$5,903 and for true no load funds is \$12,175.

To determine whether this is driving the relationship between operating costs and distribution expenses, we run a multiple regression that includes both adjusted 3-year distribution expenses and the high minimum dummy variable.⁵ The result from this regression is presented in column VI. Both the distribution expenses and the existence of a high minimum investment level affect the operating expenses. The data show that neither variable subsumes the other. In other words, the finding that high minimum funds are likely to have lower fund expenses (presumably because of larger account sizes) is independent of the finding that higher distribution expenses are likely to have higher fund expenses. We therefore conclude that, though load funds appear to have lower initial investments, the strong positive relationship we find between distribution expenses and operating expenses is not driven by minimum investment levels. Investors who pay distribution expenses pay higher fund operating expenses than true no-load investors.

CONCLUSION

The primary purpose of this study was to determine the relationship between the use of brokers and fund expenses excluding expenses attributable to the use of the broker. As noted, fund expenses included management fees, “other” fees and 35.5% of 12b-1 fees. We found that fund expenses for load funds substantially exceeded fund expenses for no-load funds, the fund expenses of which substantially exceeded fund expenses for true no-load funds. While true no-load fund investors pay no distribution expenses and an average of 21.5 basis points in operating expenses, no-load fund (12b-1 fee/no commissions) investors pay 12.6 basis points in distribution expenses and 31.8 basis points in operating expenses. Thus, in return for an additional 12.6 basis points worth of distribution services no-load investors pay an additional 10.3 basis points for operating services over the amount that true no-load fund investors pay. Load fund investors pay 15.6 basis points in distribution expenses and 70.4 basis points in operating expenses, which means that in return for an additional 15.6 basis points worth of distribution services they pay an additional 48.9 basis points for operating services over the amount true no-load investors pay. Thus, the use of a broker results in investors being placed in

⁵A multiple regression analyzes the impact of multiple variables on the dependent variable.

higher cost funds – in effect, the imposition of a “broker penalty” -- even after excluding the cost of the broker’s services.

Table 1: Average expenses for index funds

Table presents annual expenses for all index funds in basis points. All data is from Morningstar Principia Pro Plus for Mutual Funds, January 2006 version. Net expense ratio is net of any fee waivers. Operating expense ratio is the net expense ratio minus 12b-1 fees. "Distribution expenses 3 year" is the sum of any front-end load plus 3 times the 12b-1 fee. "Distribution expenses 7 year" is the sum of any front-end load plus 7 times the 12b-1 fee. Adjusted Dist. Expenses is .655 times the 12b-1 fee. Adjusted Operating Expenses is the net expense ratio minus .655 times the 12b-1 fee. Columns I through V show means and illustrate what the average fund is charging. Columns VI and IX are means that are weighted by the net assets in each fund. These columns take into account the fact that some funds have more assets than others and thus illustrate what the average investor is paying.

	Unweighted means					Means weighted by net assets		
	I All Index Funds	II No- Load, no 12b-1 Funds	III No Load with 12b-1 fee Funds	IV All Load Funds	V Front- load funds	VI No-Load, no 12b-1 Funds	VII No Load with 12b-1 fee Funds	VIII All Load Funds
Expense Ratio	76.6	38.1	75.0	100.4	66.0	21.5	44.5	86.0
Net Expense Ratio	34.8	0	28.7	59.2	22.6	0	16.7	43.5
Operating Expenses	41.8	38.1	46.3	41.2	43.4	21.5	27.8	42.5
Distribution Expenses 3 year	193	0	86	361	497	0	50	421
Distribution Expenses 7 year	332	0	201	598	587	0	117	595
Adjusted Dist Expenses	10.7	0	14.9	15.7	14.0	0	12.6	15.6
Adjusted Operating Expenses	65.8	38.1	60.0	85.3	52.1	21.5	31.8	70.4
Adjusted Dist. Expenses 3 year	145	0	45	280	471	0	38	374
Adjusted Dist. Expenses 7 year	164	0	104	293	527	0	89	399

Table 2: Relationship between distribution expenses and operating expenses for index funds

Table shows results of regression analysis where adjusted operating expense is the dependent variable. All regressions are weighted by net assets which emphasizes larger funds in the sample relative to smaller funds. T-statistics are in parentheses. An asterisk means the coefficient is significant at the 1% level.

	I	II	III	IV	V	VI
Intercept	22.7* (14.7)	22.7* (14.3)	26.4* (14.7)	21.7* (10.8)	26.1* (11.8)	24.4* (14.8)
Adjusted Distribution Expenses 3 year	8.01* (5.26)					7.85* (5.29)
Adjusted Distribution Expenses 7 year		6.60* (4.65)				
High Min			-11.3* (-2.57)			-10.4* (-2.65)
Turnover				0.407 (2.39)		
Net of Expense Tracking Error					-3.95 (-0.96)	
R-square	.20	.17	.06	.05	.01	.25

APPENDIX

Fund 12b-1 fees are named for Rule 12b-1, the SEC rule that permits funds to use their assets to pay for distribution. Such expenditures must comply with the requirements of the rule. For example, they must be made pursuant to a 12b-1 plan that has been approved by the fund's independent directors. The expenditure of fund assets for distribution outside of a 12b-1 plan can result in a violation of Section 12(b) of the Investment Company Act. For this reason, and because fund distributors receiving 12b-1 fees often receive both operating and distribution fees, fund sponsors typically are quite cautious in deciding whether an expense should be treated as a distribution expense to which rule 12b-1 is applicable. There is little benefit to and significant risk in excluding any expenses that could conceivably be considered distribution expenses from a 12b-1 plan. Many 12b-1 plans therefore are known as "defensive 12b-1 plans" because they cover both distribution and administrative expenses.

One illustration of how 12b-1 fees may be used to cover distribution and administrative expenses is provided by payments to fund supermarkets. Fund supermarkets enable investors to purchase shares of funds of many different fund families through a single intermediary. The fund supermarket typically does not charge the investor for this service, but receives compensation from the fund, often out of 12b-1 fees. Those charges cover administrative services, such as the transfer agency services involved in tracking individual shareholder accounts and processing individual shareholder transactions, as well as distribution services, such as promoting funds offered by the supermarket. In this case, 12b-1 fees are used to pay for both administrative and distribution services.

Funds do not publicly disclose the amount of their 12b-1 fees that cover administrative as opposed to distribution services. The Investment Company Institute has conducted two studies in which it asked fund sponsors to classify the different uses of 12b-1 fees. In both studies, the ICI found that a large portion of 12b-1 fees were used for administrative expenses. In its 2000 12b-1 Study, the ICI found that 63% of 12b-1 fees were used to compensate brokers and related expenses, 32% for administrative services, and 5% for advertising and other sales promotion activities. In its 2004 12b-1 study, the ICI divided the categories of 12b-1 fee uses differently. It found that 52% of the fees were used for "ongoing assistance" provided by financial advisers and others, 40% for compensate advisers for initial assistance, 6% to compensate fund underwriters (who act as intermediaries between investors and financial advisers), and 2% for advertising and promotion. While the latter three categories constitute distribution services, the "ongoing assistance" provided by financial planners appears to cover both distribution and administrative services.

We have assumed that no material changes in the actual allocation of 12b-1 fees between distributive and administrative services occurred between the 2000 and 2004 studies. There is no reason why such changes would have occurred, and the ICI found that the 2004 "survey results are similar to those from a study the ICI conducted in 2000." On this basis we have treated 32% of the 12b-1 fees as operating expenses, consistent with the 2000 study. We also have treated advertising and promotion expenses as operating expenses. Although they are distribution expenses, they are *fund* distribution expenses that are not related to fees that reflect services provided by financial advisers to investors. We accordingly added this part of the 12b-1 fee to the total allocation for operating expenses. The advertising and promotion totals for 2000 and 2004 are, respectively, 5% and 2%, and we have added the average of these two amounts (3.5%) to the starting point

of 32% for a total of 35.5%. Finally, we have treated the 2004 12b-1 study's fund underwriter expenses, representing 6% of total 12b-1 fees, as distribution expenses on the ground that they are necessary to provide support to the services provided by the broker to its clients.

Another difficulty with the ICI data is that it does not distinguish among different classes. Load mutual funds typically offer three classes of shares that carry 12b-1 fees. Class A shares typically carry a front-end sales load that is paid at the time of the purchase and a 0.25% 12b-1 fee. Class B shares typically charge a contingent deferred sales load and carry a 1.00% 12b-1 fee. Class B shares usually convert to Class A shares at the end of the contingent period, after which they pay the 12b-1 fee applicable to Class A shares. Class C shares typically carry a 1.00% 12b-1 fee for the life of the investment.

Assuming that 35.5% of the 12b-1 fees for each of these classes covered operating expenses would imply that the operating expenses of Class A shares were substantially lower than for Class B and C shares, which we do not believe to be the case. To address this issue, we first isolated the funds in our sample that have 12b-1 fees. The average 12b-1 fee for the funds that have 12b-1 fees is 47 basis points. We multiply the 47 basis points by 35.5% to get an estimate of the amount spent out of the average fund's 12b-1 fee for operating expenses. This estimate is 17 basis points. The basis for this approach is the assumption that each class of shares for any given fund would have similar operating costs, so the total dollar amount of 12b-1 fees spent on operating costs would be the same for each class (17 basis points). We made one exception to this approach for 12b-1 fees that are 17 basis points or less. For these 12b-1 fees, we assumed that 100% of the fee was paid for distribution. Note that we have not independently gathered information on the percentage of 12b-1 fees that are used for distribution. We have not verified the ICI study and have no way to vouch for its accuracy.