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Competition and Shareholder Fees in the Mutual Fund Industry:

Evidence and Implications for Policy

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Executive Summary

This paper examines claims that price competition in the mutual fund industry either does not exist or is too weak to prevent anticompetitive pricing by investment advisors to retail investors. These claims draw on a view of mutual fund competition tracing to the 1960s, which was not supported by economic analysis. In contrast to the 1960s view, contemporary analysis demonstrates that competition in the mutual fund industry prevents “excessive fees.” Numerous structural and performance characteristics of the mutual fund industry demonstrate that it is price competitive. Demonstrating that competition is present, and not limited by the fund-advisor governance structure, is sufficient to reject claims of “excessive fees.” These observations about the centrality of price competition from an economic perspective imply a prominent role for competition as a factor in the legal analysis of “excessive fees” in the framework of the *Gartenberg* decisions interpreting Section 36(b) of the Investment Company Act.

Our paper offers the following conclusions, each of which corresponds to a major section of the paper.

The Structure of the Mutual Fund Industry Is Conducive to Competition.

The mutual fund industry is a classic, competitively structured industry, with hundreds of competing firms offering thousands of products, low barriers to entry and firm expansion, and low concentration. Any attempt at pricing above the competitive level is threatened by lower prices from rivals and entrants, and investors switching to rival firms.

Fund shares are purchased through numerous competing distribution channels, ranging from direct purchases by investors from funds to purchases through brokerage houses, independent financial advisors, banks, insurance companies, and pension plans. Investors are free to choose the channel offering them the best price and service.

The Performance of the Mutual Fund Industry Is Competitive.

Claims that price competition is absent among equity mutual funds are unfounded. Investors have thousands of rival, substitutable product choices, and face small transaction costs in moving from one fund to another. Fee waivers and price decreases are at least as common as price increases. Fund complexes frequently attempt to undercut rivals’ prices.

Investors’ demand for equity mutual funds is sensitive to shareholder fees. Investors concentrate their investments in low-fee, high-return funds for a given risk class. We estimate that, on average, a 10 percent increase in equity fund fees leads to an approximately 25 percent decline in a fund’s asset share and a 15 to 18 percent decline in a complex’s share of total assets managed by mutual funds.

Equity fund complex market shares change from year to year, reflecting in part the relative ability of complexes to attract investors through lower fees and higher returns.

Claims that expense ratios have risen since the 1970s, reflecting a lack of price competition, do not survive careful scrutiny. Recent economic research shows that expense ratios both rise and fall, depending on the fund sample and time periods examined, and that when total costs are measured – including load fees – expense ratios have fallen consistently since 1980.

The existence of price dispersion across funds within various investment objective categories offers further evidence of price competition and consumer choice. Price dispersion reflects, among other factors, differences in services and the quality and content of services sought by investors, as well as consumer search costs, including the opportunity cost of investors' time.

The Competitive Market for Mutual Funds Is Consistent with “Pricing Anomalies” Noted by Critics.

Studies report economies of scale and scope exist in mutual funds and mutual fund complexes, benefiting investors. However, the 1960s view that such economies necessarily lead to declining mutual fund costs in the long run is not consistent with economic theory. Economies of scale across firm sizes do not imply that costs will necessarily decline over time with ever increasing volume. Moreover, economies of scale do not rule out competition or drive market structure in the mutual fund industry. Hundreds of smaller funds and complexes successfully compete against much larger funds and complexes, suggesting that such economies are relatively modest.

The differences in fees paid by institutional and retail mutual fund investors are consistent with a competitive market, and fee disparities reflect differences in services provided. For example, while both public pension plans and retail clients seek traditional portfolio management services, retail portfolio management also involves managing portfolio liquidity to minimize the cost of accommodating investors' deposits and redemptions, and costs for websites and investor information, trading, and financial counseling. In contrast, external portfolio managers for public pension plans generally devote minimal if not zero resources to liquidity management and incur little or no costs for pension investor websites, telephone access, and counseling services.

Investors capture so-called fall-out benefits, consistent with a competitive market. Attempts to exploit investors by withholding fall-out benefits will be undercut by rival mutual funds.

The Governance Structure of Funds Does Not Forestall the Ability to Capture the Benefits of Competition.

In over 40 years of head-to-head competition between the internal and external governance structures of mutual funds, the external form has proven more efficient and thus beneficial to investors. Regardless of whether internal or external forms are used, investment advisors earn their profits on invested capital from fund shareholders, must earn a competitive rate of return, and must charge investors competitive fees to survive. If internal organizational forms provided investors with more protection against conflicts of interest between shareholders and advisors, holding other factors constant, they would have prospered in much larger numbers relative to external forms.

Shareholders' best protection against conflicts of interest is a competitive market. Investors seek high returns and low fees. To gain new customers and expand assets under management, advisors seek high returns, which are produced in part by low fees. Thus, competitive market conditions provide a common goal for investors and advisors.

The Competitive Market for Mutual Funds Suggests Caution for Regulatory or Judicial Intervention in Fee Setting.

Economic analysis suggests limiting principles for the law and regulation of mutual funds. The law does not provide for rate regulation of shareholder fees or mandatory bidding for advisory contracts. Instead, the law relies on competition to prevent rates above the competitive level.

These limiting principles are consistent with Section 36(b) of the Investment Company Act, which established the fiduciary duty of investment advisors to fund shareholders regarding the advisors' compensation.

As interpreted in the legal framework established by *Gartenberg*, Section 36(b) imposes an upper bound on advisory fees and requires a full consideration of all facts relevant to advisory fees, including the existence and effect of price competition.

Economic analysis, limiting principles, and changes in the mutual fund industry suggest the importance of competitive market conditions as a factor to be considered under the *Gartenberg* legal framework

Competition and Shareholder Fees in the Mutual Fund Industry: Evidence and Implications for Policy

John C. Coates IV and R. Glenn Hubbard¹

I. Framework for Assessing Competition in the Mutual Fund Industry

A. Contemporary Analysis of the Fund Industry Centers on Competition

Despite the enormous growth and acceptance of mutual funds by millions of individual and institutional investors, mutual funds have periodically been accused of charging investors excessive fees – that is, fees above the competitive level.² From an economic perspective, however, a competitive market is the best guardian against fees above the level required to guarantee a well functioning market. With price competition, fund advisors cannot set fees above the competitive level in the long run without driving themselves out of business.

This paper is organized around evidence for and implications of a contemporary view of the mutual fund industry. Section II begins with a review of the structure of the mutual fund industry; structural factors are conducive to competition in the industry. We present the core of our economic analysis in section III, offering evidence that the performance of the mutual fund industry is consistent with competition. In addition to analyzing competitive dynamics in price decreases and market shares, we offer new empirical evidence documenting that investor sensitivity to fees leads funds to compete on fees.³ In section IV, we address “pricing anomalies” noted by skeptics of mutual fund price competition. We conclude that shareholders capture economies of scale and scope as well as so-called “fall-out” benefits. We also explain that the differences in fees paid by institutional investors and retail mutual fund investors are consistent with a competitive market. Section V extends our analysis of competition for investors to the governance structure of funds; we conclude that the governance structure of mutual funds does not prevent investors from capturing the benefits of price competition. Finally, in section VI, we consider implications of our economic analysis for regulatory or judicial intervention. We argue that the competitive market for mutual funds suggests caution for regulatory or judicial intervention in fee setting. In particular, economic analysis and changes in the mutual fund industry suggest the importance of competitive market conditions as a factor to be considered under the *Gartenberg* legal framework.

B. An Alternative Approach: The 1960s View of Investor Fees Ignores the Contemporary Economic Framework and Evidence

Claims of excessive fees in equity mutual funds first arose in the 1950s and 1960s, when the mutual fund industry was far different in structure and scope than it is today. In the early 1960s, there were fewer than 200 mutual funds and most were load funds. The U.S. Securities and Exchange Commission (“SEC”) contracted in 1958 with the Wharton School of Finance and Commerce to conduct a study of the mutual fund industry. The Wharton Report, issued in 1962, concluded that mutual fund assets grew substantially in the 1950s, providing lower cost through economies of scale, yet shareholder fees remained at approximately 0.5 percent of assets for most mutual funds.⁴ The report also concluded that investment advisor fees were lower for non-mutual fund clients, where advisors were allegedly easily fired, in contrast to mutual funds.⁵ The report concluded that competition had “not been substantially operative in fixing the advisory fee rates paid by mutual funds”⁶ because lower costs from economies of scale had not led to lower fees and because advisors did not compete for retail mutual fund contracts. The Wharton Report, however, did not test for the existence and size of economies of scale and offered no evidence that costs had declined. It simply assumed such economies were prominent and had resulted in lower costs for mutual funds. Additionally, no analysis of non-mutual fund clients was offered; nor did the study attempt to adjust for differences in asset size, size of accounts, number of accounts, and other factors that distinguished mutual fund and non-mutual fund clients. Finally, the report offered no economic basis whatsoever for the claim that price competition depended on advisors competing for mutual fund contracts.

The SEC issued a report in 1966, accepting without question the Wharton Report’s conclusions that the organizational relationship between investment advisors and mutual funds made arm’s-length bargaining on shareholder fees impossible due to the leverage that advisors had over mutual fund boards of directors, and that competition on fees was absent.⁷ The SEC concluded that then current law in the Investment Company Act of 1940 (“ICA”) and SEC regulations did not protect investors from excessive fees.⁸ To guard against the possibility of excessive fees, Congress amended the ICA in 1970 by requiring advisors to act as fiduciaries in regard to their compensation from shareholders and granting shareholders the right to sue based on claims of excessive fees.⁹

The size and number of competitors in the mutual fund industry have changed drastically since the SEC and Wharton reports. According to the SEC, in June 1966, there were 379 mutual funds in the United States with assets of \$38.2 billion and approximately 80 percent of mutual fund assets were accounted for by load funds.¹⁰ In 2004, there were over 8,000 mutual funds with assets of \$8,100 billion, and no-load funds accounted for the majority of fund assets.¹¹ Particularly since the early 1980s, there

has been significant new entry and existing firm expansion.¹² In addition, numerous innovations have changed the mutual fund industry since the 1960s. For example, money market funds, index funds, exchange-traded funds, fund supermarkets, and defined contribution pension plans all came into existence since the 1960s.

Despite increases in the number of competing funds and distribution channels, the 1970 ICA amendments and additional legal protections for fund shareholders (discussed in section VI below), and limits in the economic analysis underlying the 1960s view of excessive mutual fund fees, this view was revived in 1998 Congressional hearings.¹³ According to the 1960s view, excessive mutual fund fees and the absence of price competition have allegedly persisted because: (1) investment advisors do not compete for contracts to manage mutual funds; (2) advisors control the mutual funds' boards of directors, so that advisors are not vulnerable to being fired and the boards have little independent power to contest the fees charged to shareholders; and (3) advisors deny investors clear knowledge of the fees they are paying.

At the heart of the 1960s view is a perceived conflict of interest between investment advisors and mutual funds. A mutual fund is created and operated by the fund's investment advisor, who also appoints the fund's initial board of directors. The fund's board of directors contracts out all services to the investment advisor. The fees that an advisor charges a fund for the advisor's services require approval by the fund's board of directors (as well as the shareholders for any fee increase).¹⁴ The conflict is seen as the advisor's incentive to maximize its profits by charging the highest possible fees for its services, the fund's shareholders' desire to minimize fees so as to maximize the fund's return on investment, and the advisor's alleged control over the fee approval process. Because they are generally not vulnerable to being fired by the mutual fund's board of directors, advisors are sometimes alleged to be dealing in effect with themselves when seeking approval of shareholder fees.¹⁵

There are two primary types of this alleged conflict of interest. One is the conflict between those wishing to sell at the highest price and those wishing to buy at the lowest price. This conflict is, of course, inherent in all economic transactions and such conflicts are addressed in a market economy by ensuring that competition prevails. Under competition, sellers and buyers transact exchanges at competitive prices. Under competition, the desire to maximize profits forces firms to minimize costs in order to survive in the long term.

The second type of alleged conflict is the advisors' alleged ability to have noncompetitive shareholder fees approved by the mutual funds' boards of directors. But mutual fund investors have alternative mutual fund and non-mutual fund investment choices. While investment advisors may typically not compete for mutual fund contracts (although some compete to be sub-advisors to other

funds), advisors clearly compete for individual investors' assets by striving for superior returns in order to increase money inflows. Investors in turn can fire any investment advisor on their own by redeeming their shares and investing their assets elsewhere. If price competition prevails, advisors' attempts to charge excessive fees relative to the services offered will fail in the long run as investors move to lower-fee funds. As long as investors can switch at relatively low cost to lower-cost, better-performing funds, excessive fees cannot persist for more than a short period of time despite the perceived conflict of interest between advisors and fund shareholders.

Proponents of the 1960s view try to buttress their conflict-of-interest theory with claims that investment advisors engage in fee competition for institutional clients but not for mutual fund clients. The explanations offered for these contrasting views are that investment advisors engage in competitive bidding to manage portfolios for institutional clients and institutions can fire external investment advisors on short notice.¹⁶ By contrast, retail investment advisors are rarely fired by their mutual funds for either poor performance or fee levels.¹⁷ The alternative, investors firing the investment advisor by moving to lower-cost, higher-return funds, is given little credence in the 1960s view. The 1960s view concludes that competition has not served to protect the interests of retail mutual fund shareholders by ensuring that they pay no more than competitive fees.¹⁸

II. The Structure of the Mutual Fund Industry is Conducive to Competition

Basic economic theory shows that price competition is determined, in part, by the number of rivals and the extent of barriers to entry and expansion (and thus the effect of potential competition on existing competitors). In addition, both law and regulation provide additional support for price competition in a given industry. In this section, we review the evidence on market structure in the mutual fund industry, and show that structural conditions are consistent with and conducive to the presence of price competition.

A. Trends in the Number and Concentration of Assets in Mutual Funds and Fund Complexes Support Competition

As noted, one element of economic models of competition is the number of firms competing in a market. While under certain market conditions two firms are sufficient to assure competitive prices, various models show that the larger the number of rivals, the more choices available to consumers and the greater the likelihood of competitive pricing.¹⁹ Thus, the greater the number of rivals and choices available to buyers in a market the less likely is collusion and rivals fixing prices above the competitive level.²⁰ Empirical studies of auction markets and various product lines, such as airlines, railroads, books,

and pharmaceuticals, show prices declining as the number of bidders or rivals increases and as concentration of sales in a few firms declines.²¹

The mutual fund industry offers many choices for investors, and with choice comes competition. There are thousands of mutual funds divided among equity, bond, balanced (stocks and bonds), and money market funds.²² Using data on equity funds from Strategic Insight, Table 1 shows the number of U.S. equity funds and complexes annually from 1985 through 2004. The number of equity funds and complexes has increased dramatically since 1985. Funds are offered by hundreds of complexes and single fund investment advisors. Figure 1 shows the distribution of funds by complex size in terms of number of funds from 1985 through 2004. The majority of funds, over 70 percent, exist as single funds or part of complexes up through 10 funds. However, fund complexes with from 11 to over 100 equity funds have increased their share of total funds since 1985.

Table 1 also shows that the Herfindahl-Hirschman Indexes (“HHI”) of industry concentration for equity funds and for complexes (measured as the sum of the percent market shares of funds or complexes) are relatively low, indicating that no fund, complex, or small group of funds or complexes, has a dominant market share. The HHI for funds has fallen steadily as the number of funds increased, while the HHI for fund complexes has risen since 1985 but has remained low. HHIs with a value of 1,000 or less are considered consistent with competition by the U.S. Department of Justice and Federal Trade Commission horizontal merger guidelines.²³ Similar results of relatively low fund HHI levels are shown in Table 2 for the five largest Morningstar investment style categories. As the number of funds increased, concentration declined. Table 3 presents a comparable table at the complex level, where there are fewer entities, and somewhat higher HHIs. HHIs fell in each category over the period to below 1,000, except for the large-cap value category, which declined from 1985 but remained slightly above 1,000 in 2004. However, the HHIs remain today well below what would be considered high levels of concentration – that is, sales dominated by a few funds or complexes.

With thousands of investment choices available to individual investors from hundreds of investment advisors, the likelihood of price collusion is virtually zero. An individual firm gains more from deviating from a price-fixing agreement than by adhering to price collusion, so the likelihood of effective price collusion decreases with the number of firms. Thus, the structure of the mutual fund industry, with thousands of funds and hundreds of investment advisors competing for investors, implies effective price competition.

Firms have different business models and strategies. Some choose to compete for investors by offering extensive services, incurring higher costs with commensurately higher prices, while others choose to compete with less service, lower overhead, and lower prices. With hundreds of complexes

seeking to gain a competitive advantage on their rivals, “price” is an integral element of competition. The view that all fund complexes select not to compete on price, when price competition can gain new customers and increase advisor profits, is economically unfounded.²⁴

B. The Absence of Barriers to New Firm Entry and Expansion of Existing Firm Supports Price Competition

Conditions that facilitate entry of new firms and expansion of existing firms enhance price competition. Low barriers to entry and expansion inhibit existing firms from raising price (adjusted for product quality and customer service) above the competitive level. Although price competition *per se* is not inconsistent with high barriers to entry and expansion, potential entry and expansion enhance price competition.

The most direct indicator of barriers to entry and expansion is the extent of actual firm entry and existing firm expansion. Recall that Table 1 demonstrated that the number of equity mutual funds and complexes have grown at a rapid pace since 1985. New mutual funds have been created by both new and existing firms expanding the breadth of their fund complexes. Many of the funds and complexes existing in 2004 entered from 1985 to 2004.²⁵ Table 4 shows the 20 largest equity mutual funds in 2004 that did not exist in 1994 and Table 5 shows the same thing for equity complexes. The top fund entrants are larger than 95 percent of existing funds while the top complex entrants are generally larger than approximately 70 percent of existing complexes. Funds and complexes entering in the past 15 years have secured billions in new investments. Existing firms have also expanded through new investment flows and asset appreciation.²⁶ A further indicator of growth in the number of funds is presented in Figure 1, which presents the distribution of funds by complex size. Complexes in various sizes from 6 to 100 funds have increased in the number of funds offered. Given no substantial barriers to entry and expansion in equity mutual funds, as indicated by new entry since 1985, there is little basis to claim that such funds have been able to price above the competitive level.

The 1960s view claims that investment advisors earn above competitive rates of return owing to their pricing above the competitive level. Absent barriers to entry and expansion, this observation simply cannot be correct. While some firms will earn above average returns owing to their superiority, with no significant barriers to entry and expansion investment advisors will not earn monopoly rates of return. Instead, there will be a distribution of returns to investment advisors, with superior firms earning above average returns and funds with persistently low returns unable to attract new investment funds and possibly exiting or being merged into better-performing mutual funds. At the margin, firms that remain will earn a risk-adjusted, competitive rate of return.

C. Numerous Distribution Channels and Trends in Distribution Costs Promote Competition

Multiple channels of distribution offer more industry contacts with consumers and greater competition. The more channels the more competition for mutual fund investors, and the more competition for investors the greater the pressure on shareholder fees. Mutual funds are distributed through a variety of channels, all competing for investor funds. With multiple funds competing in each channel, the structure of distribution channels in mutual funds is consistent with price competition. Institutional investors have their own channel, with direct sales from mutual funds to institutions. Current channels include: (1) direct sales,²⁷ (2) retirement plans,²⁸ (3) full-service financial firms,²⁹ (4) fund supermarkets and discount brokers,³⁰ and (5) direct sales to institutional investors.³¹

Mutual fund purchases in 2001 by major distribution channel segment were approximately: 48 percent through retirement plans; 37 percent through sales force outlets, such as brokers, financial advisors, and insurance brokers; 10 percent through direct sales by funds; and 5 percent through broker-provided fund supermarkets, whereas in 2005 60 percent of shareholders used defined contribution retirement plans as their main mutual fund purchase source.³² The growing importance of retirement plans, such as 401(k) plans, as a main channel for mutual fund investments place additional price pressure on mutual funds as funds compete to be one of a limited number of employee fund investment options. To be selected by an employer, acting as an agent for employees, a fund must offer competitive prices.

Multiple share classes with different fee structures also provide alternatives for purchasing mutual funds. Investors have a range of price choices, depending in part on how long they intend to hold the mutual fund assets. For those purchasing load funds, there are A, B, and C class shares. The A class shares are most common, generally having a front-end load at the time of purchase and a small annual 12b-1 fee. B class shares have a 12b-1 annual fee and a back-end load, more formally known as a contingent deferred sales load (“CDSL”). After the first year, the CDSL generally decreases by one percent each year until reaching zero. C class shares are a modified form of B class shares; they have a 12b-1 annual fee and a CDSL set at one percent the first year, and generally not charged thereafter.³³

Funds are subject to competition in each share class. Investors can choose which class is most suitable for financing their mutual fund investments, and determine which fund offers the best financial terms.

Distribution costs have been declining since 1980, with average equity fund distribution costs declining from 149 basis points in 1980 to 40 in 2001.³⁴ Part of the decline came from a shift by consumers from load to no-load equity funds, with no-load funds increasing from 34 percent of total

equity sales in 1980 to 58 percent in 2001.³⁵ Among funds with loads, average load fees declined from 227 basis points in 1980 to 47 points in 2001, and average maximum equity load fees fell from 7.4 percent in 1980 to 4.9 percent in 2001.³⁶ This decline was partially offset by a rise in average 12b-1 fees from 15 basis points in 1985 to 43 in 2001.³⁷ The net decline in distribution costs from load and 12b-1 fees provides unambiguous evidence of price competition in the total fees facing equity mutual fund customers.

D. Law and Regulation Offer Structural Underpinnings for Competition

Law and regulation offer important structural underpinnings for competition in the mutual fund industry. In particular, restrictions under the ICA and SEC have helped funds successfully compete with other sectors of the financial services industry; that is, investors could invest in funds knowing that the usual temptations for self-dealing or outright theft were greatly mitigated by law and regulatory oversight.³⁸ Unlike traditional business corporations, funds are subject to detailed laws and regulations that channel the myriad ways that fiduciaries can extract value from funds into a single, readily monitored path – advisory fees.³⁹ Regulators require that fee increases be approved by fund shareholders (who have little interest in raising fees). Recent scandals involving the fund industry do not change the fact that the industry has long been regulated and that it has been a remarkable success not only from the perspective of growth, but also in remaining relatively untroubled by serious financial lapses (compare the thrift crises of the 1980s, the bank crisis of the early 1990s, and the large numbers of complaints brought by individual investors against brokers in the last few years).⁴⁰ The indignant and rapid public and regulatory response to the discovery of late trading and undisclosed frequent trading (both of which were already illegal) demonstrates the seriousness of the oversight of funds.⁴¹ More directly relevant to fees, fund directors are subject to fiduciary duties under both the ICA and state corporation or equivalent business trust law.⁴²

Another legal restraint – from an economic perspective arguably more important in structurally supporting competition than the ICA, SEC or fiduciary duties – is embedded in the contracts between funds and fund shareholders: *redeemable shares*.⁴³ Investors' ability to demand nearly immediate repayment of their investment at current net asset value ("NAV") is the defining feature of the open-end investment company (that is, the mutual fund).⁴⁴ While the ICA and SEC regulations help make redeemable shares even more effective at providing investors with assurance that advisors will deal fairly with funds, it is worth noting that redeemable shares in mutual funds were developed in the marketplace in the 1920s, and that market forces had already begun to allow mutual funds to dominate closed-end companies prior to enactment of the ICA.⁴⁵ Along with mandatory disclosure, the requirement of an independent custodian for fund assets, and rules governing how NAV is calculated, the simple mechanism

of redeemable shares is perhaps the most important aspect of fund regulation – often neglected by critics⁴⁶ – that directly facilitate competition in the fund industry. That redeemable shares facilitate competition among funds is consistent with the fact that, in the market for pooled investments, open-end companies with redeemable shares have largely displaced closed-end funds, which lack redeemable shares and instead sell shares only on a sporadic basis.⁴⁷

III. The Performance of the Mutual Fund Industry is Competitive

In addition to theory and evidence showing that the structure of the fund industry is price-competitive, the performance of the industry and the behavior of investors show that it is price competitive. Funds have frequently reduced fees, as we review in subsection A, and the evidence of overall trends in fees is at least as consistent with long-term reductions in fees as it is with long-term increases (subsection B). Funds and fund complexes experience large and frequent changes in market shares (subsection C), and we provide new econometric evidence showing that an important factor in the demand for funds and complexes is investor sensitivity to fees and changes in fees (subsection D). Funds with lower expenses, holding other factors constant, perform better – that is, have higher net returns. Such funds outperform rivals and grow in asset size.⁴⁸ Shifts in funds' size are therefore indicative of relative returns and price competition.

A. Price Reductions Provide Evidence of Competition

A clear example of price competition takes place in money market mutual funds. Differences in money market fund net returns can be traced to differences in shareholder fee expenses, with the lowest-fee money market fund having the highest net return.⁴⁹ Susan Christoffersen found that close to 80 percent of institutional money market fund managers waived almost half of their contractual advisory fees and 55 percent of retail money market fund managers waived almost two-thirds of their contracted-for fees.⁵⁰ Almost half of money market fund total expenses were being waived in the early 1990s. Low-performing retail and institutional funds waived fees to improve their net performance and ranking relative to rivals. High-performing retail money market funds also waived fees to improve performance in an attempt to increase investment flows into their funds. For equity mutual funds, Christoffersen found that 37 percent waived fees to be more price competitive. Christoffersen also found that fee waivers changed frequently throughout a calendar year, reflecting price responses to competitive pressures. Such widespread waiving of fees by investment advisors reflects price competition in both money market and equity mutual funds.

Table 6 shows the number of equity mutual fund classes annually with fee waivers in the Simfund dataset. Over 40 percent of the share classes waived fees annually since 1998, with 48 to 49 percent in recent years. Price reductions through waivers rose substantially since 2001.

Also seen in Table 6 is the number of equity share classes with fee increases, decreases, and no change in price. Fee decreases occurred more frequently than fee increases in some years. The 1960s view's claim that conflicts of interest determine advisor fees implies that fees never decline and are pushed steadily upward in the absence of price competition. The evidence is to the contrary; fee decreases are relatively common.

B. Trends in Shareholder Expense Ratios Offer Evidence of Price Competition

Proponents of the 1960s view contend that average shareholder expense ratios for equity mutual funds have risen since the 1950s.⁵¹ Based on this finding, they conclude there is no (or, at best, little) price competition among mutual funds. They argue that if price competition existed, expense ratios would have declined over time given economies of scale in mutual fund operation, especially in spreading the fixed costs of research and portfolio management over more assets through new investment funds and the large appreciation in fund assets since the 1970s.⁵²

Studies of trends in average expense ratios report conflicting results, depending on the time period analyzed, how expense ratios are measured, and the sample of funds analyzed. Some studies find increasing average expense ratios over long time periods and some find decreasing ratios. Results are also mixed within shorter time periods.

Studies on trends in expense ratios tend not to follow a fixed group of funds over an extended period of time, instead focusing on all funds in a given year and comparing results across years. The number, size, and composition of funds have changed substantially over the past 25 years, and those changes have affected average expense ratios.⁵³ For example, higher expense ratios predominate in international funds, small-cap funds, funds in smaller complexes, and newer funds.⁵⁴ Conversely, lower expense ratios predominate in index funds, bond funds, money market funds, and large, older income and value funds.

Studies finding apparent evidence of increasing expense ratios over various subperiods since the 1970s, as shown in Table 7, include those by the SEC, John C. Bogle, Brad M. Barber, *et al.*, and the Investment Company Institute.⁵⁵ For the S&P 500 Index funds, Ali Hortacsu and Chad Syverson found that while large new fund entry occurred from 1995 to 2000, it was dominated by higher-fee firms and thus asset-weighted average fees in their sample increased from 0.27 percent in 1995 to 0.32 percent in 2000.⁵⁶ The SEC concluded that the primary cause of increasing average expense ratios was that firms

shifted from load fees, which are not included in expense ratios, to 12b-1 fees, which are part of expense ratios and have been rising over time. Examining pure no-load funds, with no 12b-1 fees, the SEC found the average expense ratio rose slightly from 0.75 percent in 1979 to 0.80 percent in 1992, but declined to 0.66 percent in 1998, followed by a rise to 0.69 percent in 1999.⁵⁷ Thus, overall, the SEC actually found a decline in expense ratios.

A number of studies have found evidence of expense ratios declining over time. The U.S. General Accounting Office found the average expense ratio (without accounting for load fees) for the 46 largest equity funds, declined from 0.74 percent in 1990 to 0.65 percent in 1998, with a rise to 0.70 percent in 2001.⁵⁸ They found that 39 of the 46 funds reduced their expense ratio from 1990 to 1998, two did not change, and five experienced a higher expense ratio. Despite this general decline in expense ratios, the GAO concluded that fund advisors compete primarily on the basis of performance (returns) or services to investors rather than on fees charged. Because returns necessarily embody fees and advisors compete on returns, competition on returns includes competition on fees.

Michele LaPlante examined equity and bond expense ratios for the period 1994 through 1998, distinguishing between funds sold through no-transaction-fee fund supermarkets and those sold outside fund supermarkets.⁵⁹ The expense ratio of no-load funds available outside supermarket channels declined from an average of 0.74 percent to 0.54 percent, while the ratios of funds sold through supermarkets fell from 1.06 to 0.89 percent.⁶⁰ Expense ratios for funds sold through supermarkets were 0.17 to 0.19 percentage points higher on average than expense ratios for funds unavailable through supermarket channels due to the added cost of distribution.

As Table 7 shows, studies examining total fees, including amortized load fees, tend to find declining total fees. Examining expense ratios from 1970 to 1989 for no-load and load funds, Erik Sirri and Peter Tufano found that expense ratios rose in no-load funds from approximately 0.60 to 0.75 percent and fell in load funds from approximately 2.25 to 1.9 percent. Overall, total fees fell from 2.2 to 1.5 percent.⁶¹ In a second study of 690 mutual funds from 1971 to 1990, the authors found that average expense ratios increased over the period from 0.96 percent to 1.44 percent, but total fees fell over the same period from 1.66 percent to 1.37 percent.⁶² Studies by the SEC and Investment Company Institute looking at load fees alone found significant declines from 1980 to 1999 (SEC)⁶³ and from 1980 to 2002 (Investment Company Institute).⁶⁴ Calculating expense ratios by fund complex and amortizing loads, Khorana and Servaes found average expense ratios declined from 1.40 to 1.19 percent over the period 1979 to 1998.⁶⁵ Amortizing loads over a five-year period, the SEC found average expense ratios fell from 2.28 percent in 1979 to 1.88 percent in 1999.⁶⁶ Similarly, adding amortized load fees to expense ratios, the Investment Company Institute found expense ratios declined from 1980 to 2002 in equity funds from

2.26 to 1.25 percent, in bond funds from 1.53 to 0.88 percent, and in money market funds from 0.55 to 0.34 percent.⁶⁷

These results indicate that drawing conclusions about price competition in mutual funds based on trends in expense ratios can be misleading unless one accounts for total shareholder costs, including front- and back-end loads, changes over time in the composition of the funds examined, and changes in distribution channels. The large increase in small, new funds in the 1990s and the shift in investing toward international and specialty-sector funds with higher expense ratios tended to push average expense ratios higher, while the fall in load fees pushed average total fees lower. The rise in 12b-1 fees, including financial advisor fees, tended to move expense ratios higher. In addition, the introduction of no-transaction-fee fund supermarkets in the early 1990s offered direct competition to fund complexes and thus provided easier access to more investment choices in funds and transfers between funds, but added to higher expense ratios. To summarize, the 1960s view's conclusion that expense ratios have risen over time is contradicted by numerous studies, and the results are sensitive to how the expense ratio is measured and over what period of time. Drawing a conclusion that price competition is absent in mutual funds because expense ratios are rising is unwarranted.⁶⁸

C. Changes in Market Shares Offer Evidence of Competition

Changes in market shares are a direct reflection of competition, with more successful funds growing at the expense of rivals. Table 8 presents market shares of the top 25 equity fund complexes in select years from 1985 through 2004. As the table shows, market shares for complexes are not stable, reflecting competition among complexes. Some funds experienced substantial declines in business, such as American Express' market share falling from 3.7 percent in 1985 to 1.1 percent in 2004 and Dreyfus' share declining from 3.2 percent to 0.9 percent over the same period. Other funds experienced significant growth in share, including American Funds, Fidelity, and Vanguard. Tables 9a through 9e show similar market share data for five investment style categories. Again, market shares are far from stable, reflecting competition among complexes within investment style categories.

Even in the short term, substantial shifts in shares occur as competition on performance leads investors to shift among funds and fund complexes. Examples from Table 8 for the period 2000 to 2004 include American Funds' share increasing from 8.5 percent to 14.1 percent and Dodge and Cox's share rising from 0.3 to 1.6 percent.⁶⁹ Substantial share changes from 1990 to 2000 include Janus' share rising from 0.6 to 4.5 percent and Putnam Funds' share rising from 2.8 to 5.4 percent. American Funds outperformed the S&P 500 in recent years. As a consequence, American Funds grew faster than many of its rivals over the past three years and its share grew accordingly. American Funds' strong performance is attributed to astute stock selection as well as low shareholder fees, in some cases 50 percent lower than

similar funds according to Morningstar, enhancing American Funds' performance.⁷⁰ Low fees represent price competition and are reflected in returns to stockholders.

D. Investor Mobility Across Funds Provides Important Evidence of Price Competition

Effective mutual fund competition entails the ability to redeem shares and move assets to better performing funds. If investors' movements from one fund to another are subject to high switching costs, such as large back-end loads, and switching costs are not revealed *a priori*, investors are more susceptible to fees being raised to reflect the switching costs. Accordingly, choosing no-load funds and funds with no or reduced back-end loads facilitates investor mobility, and increased mobility enhances price competition.

However, investors can avoid switching costs on old investments by investing new contributions elsewhere. In addition, markets have evolved to minimize switching costs. Supermarket-style fund marketing provides no-transaction-fee investing in numerous funds, facilitating shifts between mutual funds. Through fund supermarkets investors can readily switch to the hot funds of the moment, or invest in a set of funds for the long term. Furthermore, fund complexes typically charge no fees for switching within the fund complex. Large fund complexes may offer scores of funds, facilitating asset allocation and diversification. Most importantly, with the widespread availability of no-load funds, switching costs are very low. The Simfund equity fund dataset indicates that 58 percent of assets were in no-load funds in 2003 and 59 percent in 2004.⁷¹

Equity mutual funds typically seek long-term investors. However, nothing prevents investors from switching from one type of fund to another, such as equity, bond, and money market funds; within a fund sector, such as specialized equity funds; or within bond funds. (However, funds seek to minimize high frequency trading to reduce overall shareholder transaction costs.) With low switching costs, investors can move in and out of stock, bond, and money market funds with changes in their personal requirements and market conditions, such as interest rates, unemployment, and expectations for business profits.⁷²

Not all buyers have to switch from high- to low-cost products to affect price competition; only price-sensitive buyers. Given a sufficient number of buyers engaging in price search for a given quality of product and service, rivals must price competitively to retain price-sensitive customers, which benefits all their customers, both price searching and non-price searching customers. This process applies as much to mutual funds as it does to everyday goods, such as foods, clothing, and household products.

Mutual funds compete for investment funds by striving to outperform their rivals. Superior returns increase fund flows and market share. A variety of studies have tested for price competition

between funds by determining whether investor costs, expense ratios, and load fees are related to returns, fund flows, and market shares. These studies provide direct tests of price competition. For example, an inverse relationship between expense ratios and returns, flows, and market share is consistent with price competition. The lower expenses the greater returns, leading to greater fund flows and market share relative to rivals. The consensus results show price competition between mutual funds affecting market shares and fund flows. Stated differently, studies show that investors are sensitive to expense ratios, investing where expense ratios are relatively low.

Ajay Khorana and Henri Servaes examined the relationship between fund expenses and fund complex shares over the period 1979 to 1998 for the universe of open-ended fund complexes.⁷³ They found a strong inverse relationship between expenses and market share; the lower expenses the higher fund market share. They found the same inverse relationship between fees and market share at the fund objective level and concluded that “Competing on price is an effective way of obtaining market share.”⁷⁴ The results held after they adjusted for the fact that larger funds may charge lower fees. Similar results were found by Mark Carhart who examined diversified mutual funds from 1962 to 1993, finding a negative relationship between expense ratios and fund abnormal returns and between load fees and abnormal returns.⁷⁵ To summarize, the best-performing fund complexes had the lowest fees and the highest market shares. Consistent with these findings, Barber, *et al.* found the lowest decile of operating expenses in their sample represented 36 percent of total net assets while the highest operating expense decile represented only one percent of assets.⁷⁶ Investors are sensitive to price and concentrate their investments in the lowest-fee funds.

Studies have found that fund flows are positively related to various measures of returns over the period and fund ratings, and ratings are based in large part on past returns.⁷⁷ In a sample of 690 funds from 1971 through 1990, Erik Sirri and Peter Tufano found a positive relationship between returns and fund flows and the relationship was especially strong for firms in the top quintile of returns.⁷⁸ They also found that total fees and changes in fees were inversely related to growth in fund flows. Lower-fee funds and funds that reduced their fees grew faster than higher-fee funds. In a study of 632 equity mutual funds from 1979 to 1990, the same authors found that lower-fee funds gained market share over higher-fee funds.⁷⁹ Funds charging 10 percent more than the average level (approximately 15 basis points) experienced 1.2 percentage points lower growth than funds charging the average fee.⁸⁰ Vikram Nanda, *et al.* examined the relationship between money growth in mutual funds and expense ratios, along with other variables, finding an inverse relationship; the lower expense ratios the greater the funds’ money growth.⁸¹ Specifically, Nanda, *et al.* estimated the extent to which mutual funds’ cash flows are affected by their performance and the performance of other funds in the mutual fund complex. They showed that

complexes with at least one Morningstar five-star-rated fund attract greater inflows both to the star fund and to other funds in the complex. Their estimates imply that a 10 percent decline in expenses increases new fund flow by 2.5 percent, confirming the sensitivity of investors to fees.

These recent studies – confirming price competition – in which lower-fee funds have higher market share, grow faster, and have greater returns than higher-fee funds – raise additional questions, which we explore below. First, the “demand for funds” is in part a demand for the complex of funds. Second, as Michael Koehn, Jimmy Royer, and Marc van Audenrode point out, the empirical specifications used by existing studies on fund flows (such as Nanda, *et al.*) underestimate the sensitivity of investors to fees.⁸²

Using the Simfund data over the period from 1998 through 2004, we find that both a fund complex’s and an individual fund’s total assets are very responsive to fees. (We present our findings in detail in the appendix to this paper.) In our econometric tests, we estimate the effect of fees on a fund’s (complex’s) total net assets in each year from 1998 through 2004. In so doing, we hold constant other factors determining investors’ relative fund asset allocation. Those factors in our analysis include a fund’s Morningstar rating, number of funds in a complex, complex or fund age, investment category, and channel of distribution.

We estimate a range of elasticities of market share with respect to fees for funds of approximately -2.3 to -2.8 and for fund complexes of -1.5 to -1.9. These estimates imply that a 10 percent increase in fund fees, all else equal, decreases a fund’s share of total net assets by 23 to 28 percent and a complex’s share of assets by 15 to 19 percent. While broadly consistent with implied elasticities estimated by William Baumol, *et al.*,⁸³ our estimated effects of fees are larger than those implied in some earlier studies.⁸⁴ In addition, we find that investors select fund complexes and not just individual funds in making their asset allocation decisions. Taken together, our results strongly support competitive responses of assets to fees.⁸⁵

IV. The Competitive Market for Mutual Funds Is Consistent with “Pricing Anomalies” Noted by Critics

A. Economies of Scale and Scope in Funds and Complexes Must be Analyzed Carefully

The existence and size of economies of scale in mutual fund management, that is, declining costs per unit as output increases, have been a central issue in the debate over whether shareholders are being charged excessive fees. The Wharton Report found that investment advisors tended to charge an approximately 0.5 percent fee in the 1950s and early 1960s, and the fee did not change appreciably during

the rapid growth in mutual fund assets in the 1950s.⁸⁶ In approximately 80 percent of the funds they studied, the fee rate remained at 0.5 percent despite growth in assets managed. As a consequence, the Wharton Report concluded that investment advisors were gaining from economies of scale but not sharing the cost savings with shareholders. Had there been competition on fees, the report concluded, cost savings would have resulted in non-trivial reductions in fees. Therefore, according to the Wharton Report, mutual fund investment advisors did not compete for mutual fund contracts or investors on the basis of fees. The Wharton Report further argued that because investment advisors ran the funds and were difficult to discharge, there was a lack of arm's-length bargaining, so advisors did not have to compete on fees.

As noted above, this view, an absence of price competition on shareholder fees, was accepted by the SEC in the 1960s.⁸⁷ Indeed, the view that large economies of scale existed in mutual fund management, but were not being passed on to shareholders due to an absence of price competition, motivated the SEC to recommend changes to the ICA in the late 1960s, some of which were adopted by Congress in the 1970 Amendments to the ICA.

Lower costs per unit as output increases can arise from a variety of sources – including greater specialization in the use of capital and labor, learning-by-doing as output grows, and spreading fixed set-up and operating costs over greater output. Observers have long assumed that there are economies of scale in mutual fund operation due to fixed set-up costs. Using assets as a measure of output, they assume that the costs of securities research and portfolio management are relatively fixed so it costs roughly the same to conduct research and manage portfolios for both small and large asset portfolios.⁸⁸ Even if research and portfolio management costs increase with asset growth, economies of scale may exist if advisors become more efficient in managing resources through specialization and learning-by-doing.

Total assets in mutual funds have grown decade by decade through market price appreciation and new investment, prompting some observers to expect declining expense ratios and shareholder fees. The 1960s view claims that expense ratios have risen with asset growth, which allegedly shows that cost savings from economies of scale are not benefiting investors due to an absence of competition on shareholder fees.

This argument makes little economic sense. Underlying costs for mutual funds can increase over time while economies of scale exist at any point in time. Hence, economies of scale do not necessarily imply that average costs decline over time. Numerous industries experience large economies of scale, such as automobiles, beer, and telecommunications, while their underlying costs rise as the costs of inputs – labor, raw materials, technology, and so forth – increase. Moreover, in mutual funds, economies of scale do not rule out competition between small and large funds and complexes.

One approach to identifying the presents of economies of scale is to examine the survival of firms or plants by size distribution categories. Optimum sizes can be inferred by shifts in the size distribution of firms over time, as firms move to the most efficient size ranges or depart the industry.⁸⁹ Such analysis shows that there is a wide dispersion in sizes across mutual funds and mutual fund complexes; small funds and fund complexes have competed for years against much larger funds and complexes, indicating that there is no unique optimum size (minimum efficient scale) associated with economies of scale in mutual funds. Tables 10 and 11 present the distribution of surviving funds and complexes through 2004, respectively, by size decile, with 1 representing the bottom 10 percent. As shown in Table 10, 44.6 percent of funds in the smallest decile in 1985 survived through 2004 and 46.7 percent of the smallest funds survived starting from 1995. The survival rate of funds increases with decile size which is not unexpected because larger funds can survive a given percentage redemption rate better than smaller funds.

The matrices on the right hand side of Table 10 indicate the percentage of surviving funds that did not change size deciles (shown in bold) between the starting year and 2004. Within a given decile size, cells to the right of the highlighted cells show the percentage of funds that moved into larger size deciles over time and cells to the left show funds that moved into smaller fund deciles over time. If the 1960s view that economies of scale were large and ubiquitous was correct, small funds would suffer a cost disadvantage and would not survive. The fund survivor table shows this was not the case. Of the surviving fund in the smallest decile starting in 1985, 34 percent remained in the bottom half of the distribution. For funds starting in 1995 that survived through 2004, 66 percent remained in the bottom half of the size distribution. The analysis also shows that some funds decline in size over time, contrary to the 1960s view that economies of scale are large and pervasive.

Similar data for complexes are shown in Table 11. Of the surviving complexes in the smallest decile starting in 1985, 55 percent remained in the bottom half of the size distribution by 2004. For complexes as of 1995 in the smallest decile, 79 percent remained in the bottom half of the distribution by 2004. As with funds, large complexes frequently decline in size, indicating that smaller size complexes, as with funds, do not suffer a major cost disadvantage relative to larger size complexes.

If economies of scale in mutual funds were significant, small funds and complexes would not be cost competitive. While economies of scale in mutual funds may exist, they are likely relatively modest because small funds and complexes compete with larger funds and complexes. To summarize, the claim that economies of scale in mutual fund management necessarily lead to declining industry expense ratios over time given price competition is inconsistent with basic economics and industry reality.

Costs extend well beyond portfolio management. Management costs can include distribution and marketing costs. Such costs may be subject to economies of scope as a fund complex adds more products. Additional expenses include transfer agency, communication with investors (websites, telephone access, fund reports), custodial service, reports to regulatory agencies, brokerage fees, and overhead expenses such as management, legal, regulatory, and accounting. Whether economies of scale in these and other areas exist has been discussed in court cases challenging the level of shareholder fees.⁹⁰

Some prominent studies have found evidence of, or evidence consistent with, economies of scale in mutual fund complexes. The studies range from simple examinations of how expense ratios change with fund asset size to econometric models of fund costs and size. Holding other influences on costs constant, such as portfolio turnover, number of funds in a complex, prior fund returns, fund objective, and age of fund, regression analysis using assets as the measure of output generally find evidence of economies of scale – that is, declining cost per unit of assets as assets increase.⁹¹ The consensus view from regression analysis is that economies of scale exist; however, there is no consensus on the size of such economies and at what level of output unit costs no longer decline or diseconomies of scale occur.

Economies of scope (lower costs to produce two or more products jointly than to produce them independently) have also been estimated for mutual fund complexes. Adding funds to a complex can contribute to covering common costs, such as information technology and a computer system. Studies tend to find economies of scope in mutual funds for smaller complexes, implying that such economies are exhausted in the earlier stages of product extensions.⁹² This finding is consistent with the evidence that small complexes compete with larger complexes, indicating that small complexes need not incur a significant cost disadvantage.⁹³

To summarize, a number of studies have found evidence of economies of scale and scope in the mutual fund industry, however, the studies disagree on the magnitude of such economies. As noted, economies of scale are not so large as to limit competition to a few firms, given that hundreds of complexes of varying size compete in equity funds alone. The claim that mutual funds experience large economies of scale that do not benefit investors because expense ratios have risen over time is false; there is substantial evidence that expense ratios have declined over time and little evidence of large economies of scale.

B. Price Dispersion Supports Investor Demand for Mutual Funds in a Competitive Market

Claimants of excessive fees and expense ratios also point to the range of price dispersion in shareholder fees across passive funds, such as S&P 500 index funds, as reflecting an absence of price

competition.⁹⁴ Such claims reason that if price competition prevails, there will be little price dispersion across funds, especially for an essentially identical good like the returns on S&P 500 index funds. These claims also point to a difference in fees charged to retail and institutional investors in passive funds as further evidence that price competition is absent. If price competition existed in retail funds, as in institutional funds, according to this view there would be little difference between retail and institutional investor fees for identical services. The view implicitly assumes that the cost of duplicating the S&P 500's performance is identical for retail and institutional funds.

Common experience and economic research show that price dispersion for specific products is widespread in competitive markets and is perfectly compatible with price competition. Careful shoppers are well aware that prices for identical items differ across types of outlets, such as full service department stores versus mass merchandiser price discount stores. Price dispersion in everyday highly competitive markets is well documented by economists.⁹⁵ Economic theory shows that price dispersion in homogeneous good markets is a function in part of search costs.⁹⁶ Given that consumers lack perfect information, they search up to the point where search costs just exceed the expected lower price. Thus, search cost, including the opportunity costs of an investor's time, provide a basis for price dispersion in competitive markets.

Economic theory also points to differentiation by type of outlet, such as services offered, and differences in preferences of buyers as further causes of price dispersion among homogeneous products. Products are necessarily associated with the services, amenities, reputation, and location of outlets, which differentiates products in accordance with buyer preferences.⁹⁷ Thus, not even for physically homogeneous goods is a homogeneous purchasing experience ensured.⁹⁸

The importance of search costs and seller differentiation in explaining price dispersion applies with equal force to variation in prices across mutual fund investors and, more specifically, investors in S&P 500 index funds. Given that there are over 8,000 mutual funds, there are obviously search costs in choosing between mutual funds. Various specialized research firms, such as Morningstar, Lipper, and Yahoo Financial, have long served the demand for information on mutual funds to reduce buyer search costs. In addition, there are thousands of financial advisors and pension plan administrators serving to economize on search costs by providing information for first-time and subsequent mutual fund investors. Moreover, while gross returns vary little across S&P 500 index funds, the funds are differentiated in terms of marketing and investor access in order to serve different segments of the demand for mutual funds. At one end is a fund like the Vanguard 500, which promotes low prices. Investors seeking a low-price fund with basic service can select the Vanguard 500, assuming they meet Vanguard's minimum investment requirements and do not subsequently fall below that minimum investment, which would trigger

additional fees by Vanguard. At the other end of the service and price spectrum are funds providing more access to fund personnel and financial advice, with higher costs of marketing. Vanguard and other funds' business model is based on being a low-cost alternative, while still other funds provide a larger set of services to investors, at a higher price.⁹⁹ That is, expense ratios will vary depending on the type of services provided and selected by investors.

Ali Hortacsu and Chad Syverson studied price dispersion and the role of search costs and seller differentiation in S&P 500 index funds.¹⁰⁰ They found substantial price dispersion across 85 S&P 500 index funds. At the extremes, prices ranged from 9.5 to 268 basis points. The price differences are not likely due to differences in returns because gross returns are similar across the funds. In addition, the number of S&P funds increased from 24 in 1995 to 85 in 2000. The authors ask: if entry and more firms increase competition, why did price dispersion remain wide and persistent?

Hortacsu and Syverson found that price dispersion in retail S&P 500 index funds is consistent with investor search costs, differences in services offered to investors across the funds, and changes in the demographics of investors in the late 1990s. Over the 1995-2000 period, entry into S&P 500 index funds was dominated by higher-price funds and asset market shares within this sector shifted from lower- to higher-price funds. Simultaneously, large numbers of new investors with little knowledge of mutual funds entered. As novice investors with a high demand for information, they tended to rely on financial advisors, whose services are paid for by front- and back-end loads and 12b-1 fees – that is, the highest-price funds. In the face of search costs and large differentiation across funds, new investors sought financial advice and guidance, which is not as extensively available through the lowest-price S&P 500 index funds. It is not surprising that price dispersion persisted with new entry during this time period.

Focusing on the price of an individual fund may also be misleading. The median number of funds owned by an investor is four.¹⁰¹ If investors prefer the convenience of multiple funds at the same fund complex, then investors are interested in the bundled price of all their funds, including investing in the complex's index fund. The price of the fund as a standalone product is not as relevant as the bundled price across all the funds in a complex and the services received. Index funds arise to serve the divergent interests of all index fund investors, from those who seek financial advice, asset allocation recommendations, access to a broad fund complex, an inexpensive place to park their funds, high-quality investor services, and easy access to investment and redemption choices – to those who want no more than the lowest-price S&P 500 index fund with limited investor services. The range in fees reflects these divergent interests in the services sought; they are not a sign that price competition is absent.

Table 12 shows measures of price dispersion across investment styles. Price spreads differ across the various styles and sectors. As seen, the S&P 500 index fund style has the lowest median expense

ratio, but relatively high price dispersion. It is also the case that more than 90 percent of investments in the S&P 500 index sector are concentrated in funds with the lowest expense ratios, below 0.5 percent (see Figure 2). In a low-price sector, investors are concentrating their investments in the lowest-priced funds, indicating investors' responsiveness to the level of fees.

To summarize, while the 1960s view contends that price dispersion reflects an absence of price competition, the opposite is true: price dispersion is perfectly consistent with a competitive equilibrium. Indeed, price dispersion reflects search costs for some investors. Prices also differ because of cost differences across funds due, for example to average balance size. Buyer choice is a hallmark of competitive markets. The price dispersion in, for example, S&P 500 index funds demonstrates substantial choice available to investors.

C. Fees Paid By Institutional and Retail Investors Are Consistent With a Competitive Market

The 1960s view concludes that investment advisors compete aggressively on price for institutional clients, in particular public pension plans, in contrast to the alleged lack of price competition for retail mutual fund customers.¹⁰² Starting with the 1962 Wharton Report, various studies have reported that public pension plans, due to price competition, incur lower advisory fees than retail mutual funds.¹⁰³ Some attribute the lower prices to institutional clients to the absence of a conflict of interest between investment advisors and institutional clients.¹⁰⁴ Advisory fees to public pension funds are viewed by the 1960s school as the competitive benchmark for what retail mutual fund prices would be if price competition prevailed.

To be meaningful, price comparisons among goods or services require the supply and demand conditions for the products to be equivalent. Without comparing the same product under the same market conditions, there is no basis for a price comparison. If retail and institutional customers consume different services or differ in the underlying cost of generating services, simple price comparisons are invalid.

On an overall cost basis, there is little justification for comparing fees paid by public pension plans and retail mutual fund shareholders. There are significant product and cost differences between advising retail mutual funds and public pension plans. Retail mutual funds provide investors liquidity, incurring costs for cash management and possibly lower returns to meet claims and the costs of processing redemptions. Retail customers purchase, sell, and communicate with funds, resulting in costs to the fund. External portfolio managers for public pension funds do not face the same costs associated with providing liquidity, websites, and shareholders moving in and out of the fund. Servicing retail

mutual fund shareholders requires providing 24-hour telephone access, Internet websites, checking and direct deposit services, tax information, transfers between mutual funds, preparation and distribution of prospectuses, reports to the SEC, and retirement plan advice. Retail mutual funds also face costs in distribution and marketing to replace redeemed assets and to grow the fund. Managing a portfolio for a public pension fund does not entail similar distribution and marketing expenses. The products and costs of servicing retail shareholders and public pension fund clients are quite distinct, invalidating any comparisons of operating expense ratios and investor fees.¹⁰⁵

The Wharton Report examined 54 investment advisors on the fees they charged mutual and non-mutual fund clients. Fees were found to be at least 50 percent higher to mutual funds in 39 cases, and reached 500 percent higher in nine cases.¹⁰⁶ The SEC's 1966 study examined advisory fees at six banks for pension and profit-sharing plans. The fee was 0.06 percent on a portfolio of \$100 million at five of the banks and 0.07 percent at the remaining bank.¹⁰⁷ The SEC compared these fees to the 0.50 percent fee that the Wharton Report found the majority of investment advisors at the time were allegedly charging retail mutual funds. The SEC concluded the disparity reflected a lack of price competition between retail mutual funds. However, it acknowledged that part of the fee difference came from: (1) the lower cost of managing pension portfolios owing to a greater emphasis on fixed-income securities in pension plans; and (2) the greater risk and cost of starting and operating a retail mutual fund.¹⁰⁸ The Wharton and SEC fee studies are examples of nonsensical comparisons of two different products with different services. In neither case is there a basis for concluding that price competition is absent in retail mutual funds.

To avoid nonsensical product price comparisons, some studies of fee levels attempt to compare like services between retail mutual funds and public pension plans, such as the pure costs of stock selection and portfolio management. They reason that such services are identical for each client base, be it retail mutual funds or public pension plans, so pure portfolio management costs and thus fees should be identical if price competition prevails in both market areas. A further refinement is to compare like investment styles in portfolios. As we noted earlier, expense ratios are generally higher for international, small-cap, and specialized funds as compared to large-cap income or growth funds.¹⁰⁹ Therefore, valid comparisons of fees must consider similar style funds, such as large-cap income funds, mid-cap growth funds, small-cap growth funds, and so forth. However, even if stock research, selection, and portfolio management costs could theoretically be accurately identified, the portfolio management requirements are sufficiently different – managing liquidity in one case and not the other – that price comparisons would be invalid.¹¹⁰

More recently, John P. Freeman and Stewart L. Brown surveyed the top 100 public pension plans in 1998 on the fees they paid external equity portfolio managers. They received usable responses from 36

plans, with the majority sending the fee schedule for different asset size funds.¹¹¹ The authors concluded that retail mutual fund advisory fees were twice as high on average as fees paid by public pension plans, 56 versus 28 basis points. They found similar differences when the public pension and mutual funds were divided into large-cap, mid-cap, and small-cap portfolios, although the difference was not as large in the case of small-cap stock portfolios, with an average fee of 71 basis points for mutual funds and 58 basis points for pension plans.¹¹² But Freeman and Brown did not compare pure portfolio management fees at retail mutual funds with pension plan external portfolio manager fees. They could not isolate pure portfolio management costs for mutual funds. Indeed, they could not distinguish between administrative and management costs in some cases, and within management costs they could not isolate the pure cost of equity research and portfolio management that constitutes the primary service (along with reporting, checking for compliance, and communicating and meeting with pension fund clients) investment advisors provide to pension funds.¹¹³ Mutual funds report different costs in the same categories of expenses. Management fees sometimes include administrative and costs other than pure portfolio management.¹¹⁴ Any decomposition of pure portfolio management costs would entail arbitrary cost allocations.

Freeman and Brown compared retail fees to public rather than private pension plans. Corporate private pension plans may contract for portfolio management at higher costs than public pension plans, and there is no reason to believe that price competition does not exist for managing assets of private pension plans.

In an attempt to correct the poor measures used in the Freeman and Brown study, Sean Collins compared a closer approximation of pure portfolio management fees for mutual funds to comparable fees for pension plans.¹¹⁵ Some mutual funds, such as Vanguard, contract out to third parties (sub-advisors) to manage active funds, which entails security selection, trading, portfolio balancing, and reporting. Money managers can serve as advisors to their own fund complex, sub-advisors to other mutual funds, and external portfolio managers to pension plans. Fees vary by asset size of portfolios, whether the portfolio is an equity or fixed-income portfolio, and by equity portfolio styles.¹¹⁶ Collins compared investment advisors' sub-advisory fees to fees paid to external investment advisors by pension plans, hypothesizing that sub-advisory fees were a closer approximation to actual charges for mutual fund portfolio management than reported management expenses. He found that sub-advisory fees for small- and medium-size portfolios were lower than the fees Freeman and Brown found were paid by public pension plans to external advisors. For large portfolios, public pension plan fees were lower than sub-advisory fees. Overall, fees paid by public pension plans averaged 28 basis points and sub-advisory fees averaged 31 basis points.¹¹⁷ There was little difference in portfolio management fees, indicating, based on the

approach of Freeman and Brown, that price competition prevails for retail mutual fund investment advisors who engage in sub-advising other mutual funds.

Freeman and Brown also compiled sub-advisory fees for 10 actively managed Vanguard funds, with asset sizes ranging from \$200 million to \$23 billion.¹¹⁸ They report average sub-advisor fees of approximately 13 basis points. By contrast, they found public pension plans paid average external advisory fees of 20 basis points for portfolios with assets of \$1.55 billion and above.¹¹⁹ They do not explain how Vanguard was able to obtain sub-advisory services at prices below what they contend is the competitive price for portfolio management – that is, the price paid by public pension plans.

To summarize, claims that public pension plans pay lower fees than retail investors for identical services are not supported by credible studies. A number of cost-related factors differ between public pension funds and retail customers, including liquidity requirements, number and size of accounts, and services provided to retail but not public pension plans. Data are not readily available to accurately isolate the pure costs of portfolio management, and even if they were, differences in liquidity requirements prevent a one-to-one comparison of portfolio management costs. But even if such costs differences do hypothetically exist, they do not prove a lack of price competition in retail mutual funds. Incremental pricing to public pension clients, for example, can easily explain price differences.

D. Investors are not Denied Fall-out Benefits, Consistent with a Competitive Market

Successful investment advisors earn profits from portfolio management through shareholder fees and complementary sources of revenues. Profits are also affected by cost reductions generated by the fund's existence and success, such as through economies of scale and scope. Additional potential contributors toward advisor profits, beyond shareholder fees, are known in various litigations against mutual funds as “fall-out benefits.”¹²⁰ More succinctly, the so-called fall-out benefits are derivative or indirect profits to an investment advisor generated in some manner by the existence of the fund.¹²¹

In various lawsuits charging investment advisors with imposing excessive fees on fund shareholders, plaintiffs have argued that shareholder fees should be offset by fall-out benefits because the benefits accrue by virtue of the fund's existence and the shareholders own the fund.¹²² Two kinds of benefits are alleged – additional sales revenues and lower costs. Among the sources of additional revenues and cost savings mentioned in various complaints are: interest income, additional business income, and lower costs of operation.

Fall-out benefits are viewed by those who claim mutual fund fees are excessive as “extra profits” accruing to investment advisors, beyond those generated by shareholder fees, which allegedly belong to the fund's shareholders. The additional profits are supposedly separate from profits earned from purely

managing the fund and providing all the services required by investors. Fall-out benefits are also characterized by plaintiffs in excessive fee cases as sources of profits that have been hidden from the funds' boards of directors when board members are considering the level of fees and negotiating fees with the investment advisor.

The claim of extra profits from fall-out benefits presumes that investment advisors earn at least a competitive rate of return, including a return on capital, based on shareholder fees alone. In other words, indirect profits from derivative activities are viewed by critics as pure surplus, not needed to cover the total costs (including the cost of capital) of portfolio management and administration. If this were not the case and various derivative sources of income contribute to covering total costs, the claim of foregone fall-out benefits has little meaning. Thus, if derivative revenues and profits contribute to recovering the total costs of investment management, then incumbent fund shareholders benefit directly from their existence.

The primary business of investment advisors is managing and expanding assets under management in mutual funds. Whatever the sources of the advisors' revenues – shareholder fees, brokerage commissions, additional business from new or existing customers, or reduced costs from new business – under competitive market conditions advisors can only price their services to shareholders at the competitive level. If fees are competitive for the level of services and fund performance provided, imposing fee offsets from alleged fall-out benefits will reduce fees below the competitive level. If the other business segments are earning competitive returns, this type of cross-subsidization will force losses on the advisor, increasing the risk of business failure. As such, contrary to shareholders' alleged wishes to gain fall-out benefit offsets through lower fees, the advisor will seek to return to competitive profitability by raising shareholder fees, although this would make it less competitive relative to rival funds. If another business segment is earning above a competitive rate of return, forcing shareholder fees below the competitive level through cross-subsidization can in theory subsidize shareholder fees.

But how can a business segment earn above a competitive return? Under competitive market conditions, if the advisor earns more than a competitive rate of return it is due to cost superiority and/or increasing demand for the advisor's products and services. Profits are a consequence of the advisor's superiority. If such profits are extracted by shareholders in the form of fall-out benefit offsets, the advisor's incentive for superiority in demand or costs is greatly reduced. By removing the incentive to become more efficient, shareholders are harmed.

Are shareholders denied fall-out benefits? Claimed fall-out benefits result in part from the multi-product, multi-service, one-stop offerings by large fund complexes. That is, a fund's investors can add more funds, purchase non-fund services, and use the advisor/broker for other transactions. By purchasing

multiple products and services, shareholders contribute to growth, leading to economies of scale and scope and reductions in fees. In this sense fall-out benefits accrue to shareholders.¹²³

A fund contracts with its investment advisor for portfolio management and other services. How it compensates the investment advisor for the advisor's costs and profit is embodied in the contract. For the fund to gain and maintain shareholders, its investment advisor must offer services and performance at a competitive price. If shareholders and directors believe there are fall-out benefits from the success of the fund, such benefits are subject to contract negotiations. For example, if float interest and free credit balances are an issue, funds' boards can negotiate to minimize such transaction costs.

To summarize, if funds were somehow earning fall-out benefits, which did not accrue to shareholders, rivals could easily offer better terms to shareholders, capturing market share at the expense of firms earning the alleged fall-out benefits. In a competitive market, such as that for mutual funds, the notion of fall-out benefits somehow denied investors lacks economic credibility.

V. The Governance Structure of Mutual Funds Does Not Forestall the Ability to Capture the Benefits of Competition

All firms engage in some form of do-it-yourself activities, meaning that they are vertically integrated. However, at the boundaries of firms' operation they can choose between generating goods and services internally or acquiring them through external markets, depending on which alternative is more cost efficient. Over time, with competition between different organizational forms in an industry, if one is more efficient it will become the predominant form. Alternatively, if no one form is always the most efficient, a mix of forms will continue to compete. Mutual funds can vertically integrate and supply research and portfolio management internally, as well as other services such as accounting and administration, or they can contract out for some or all services.

The 1960s view blames the organizational structure of mutual funds – that is, contracting out for portfolio management services – as the basis for excessive fees and self-dealing behavior by investment advisors. Critics reason that if funds were internally managed, where investment advisors could be easily monitored and replaced, management and shareholders' interests would be coincident, maximizing the returns to the mutual fund, and excessive fees would disappear. Investment advisors would presumably no longer be able to dictate fee terms to funds.

In a vertically integrated operation with multiple business segments under common ownership, internal transfer prices between business segments should be at competitive levels. Anything other than competitive transfer prices, charging above or below the competitive level, will misallocate the firm's

resources and reduce the efficiency of its operations. In mutual funds, the internal transfer price for research, portfolio management, and other services to fund shareholders would be at the competitive level, and investors would not be charged an allegedly excessive price.

If vertically integrated funds, with internal management of portfolios and investor services were more price-competitive and efficient than external management, as some concluded based on 1960s analysis,¹²⁴ investors and funds would switch to internal management. Alternatively, if external management were more efficient and cost competitive, investors and funds would switch to external management and it would predominate.

In the early years of mutual fund development in the United States, internally managed funds were not uncommon. One of the earliest open-end funds, Massachusetts Investors Trust started in 1924, was internally managed. The firm followed with a second internally managed fund in 1934, Massachusetts Investors Growth Stock Fund.¹²⁵ These two funds thrived as internally managed well into the 1960s, with their combined assets of \$3 billion ranking as the second largest U.S. fund complex in June 1966, behind Investors Diversified Services at \$5.2 billion and ahead of Fidelity Management and Research at \$2.7 billion.¹²⁶ The seventh largest fund complex in that year, at \$1.4 billion in assets, was a combination of four internally managed funds by Union Service Company, which was owned by the four funds. However, there were only 11 internally managed U.S. funds (six open-end and five closed-end) in the mid-1960s with assets of \$100 million or more versus 57 externally managed funds with \$100 million or more in assets.¹²⁷ In 1970, the Massachusetts Investors Trust converted to external management.¹²⁸ Other internally managed funds from the 1960s also converted to external management. By the early 1970s, internally managed funds had largely vanished. After decades of competition between internal and external management of mutual funds, external management proved to be more efficient for investors.

These results are contrary to claims that internally managed funds are necessarily more cost-efficient and charge lower advisory fees to shareholders. If this were so, internally managed firms would have won the competitive battle. Investors would have shifted to internally managed funds to gain the lower costs and higher returns. Instead, by the 1960s, a small percentage of funds were internally managed and they subsequently reorganized as externally managed funds. Internal management proved less cost-efficient than external management and largely disappeared from the fund industry by the early 1970s.

Current critics, however, point to the Vanguard Group, started in 1974, when extolling the superiority of internal management and its ability to prevent excessive fees.¹²⁹ Vanguard states that it provides services to shareholders, including investment advisory, corporate management, administration, and marketing and distribution, at cost, with no amount added on for profits to Vanguard.¹³⁰ Vanguard

contrasts its no-profit-on-fees policy with rival funds that it characterizes as earning profits on shareholder fees. The Vanguard Group explains its low fee structure on, for example, the Vanguard 500 Index fund, as due to its policy of not earning profits on the fees it charges shareholders.

Vanguard's description of its fee policies implies that as an internally managed mutual company – that is, in which the fund shareholders indirectly own the Vanguard advisory company – it does not have to earn a profit on the fees it charges the shareholders. It provides services at cost to its shareholders, whereas external portfolio managers, as for-profit companies, set fees to include a profit.

However, this description and assessment of Vanguard is incomplete. Vanguard competes in competitive capital and labor markets, and, to be competitive it must pay competitive prices for capital and labor, and to pay competitive prices it must earn at least its cost of capital. As a privately held company, Vanguard Corporation's profits and rate of return are not publicly disclosed. However, Vanguard must earn a profit on its invested capital to remain in business and that profit must come from the funds' shareholders. Vanguard can generate profits for its services from fees charged to shareholders or by taking directly a share of the funds' net asset value. In both cases, returns to shareholders are diminished as Vanguard is compensated as the manager. Vanguard takes a share of its funds' net asset value as a "Contribution to Capital," which contributes to profits and a return on capital.¹³¹ Assuming that Vanguard charges shareholders for its services at cost, with no profit margin imbedded in its costs for services, it nevertheless earns some profit by taking a portion of the shareholders' net asset value, reducing the return to shareholders. Either way, Vanguard must earn a profit from its funds' shareholders. Its mutual organizational form status does not shield it from having to earn a profit on invested capital to remain competitive and supply competitive products.

By keeping costs low and competing on fees against rivals, Vanguard has stimulated price competition and become one of the largest fund complexes in the U.S.¹³² Vanguard differentiates its product by offering low prices to investors who prefer to buy independent of a broker or financial advisor. Low-price strategies are commonplace, such as Wal-Mart, Costco, and Southwest Airlines. With growth come increases in net assets, a portion of which Vanguard takes for managing shareholders' monies.

The view that Vanguard is a wholly internally managed fund complex is also misleading. Vanguard offers approximately 100 funds, with a substantial portion of the complex's assets in index funds. Managing index funds does not require the research and portfolio management expenditures of an actively managed fund. Vanguard manages its index funds internally but contracts with external managers for research and portfolio management for most of its actively managed funds.¹³³ In that regard, its compensation to external managers includes a profit for their services, paid for by Vanguard investors. While Vanguard may continue to provide administrative and marketing services internally to

the shareholders of its actively managed funds, the fees that shareholders pay investment advisors for active fund research and portfolio management include a profit for the external investment advisor. The view that Vanguard does not charge a fee which includes profits to advisors on all its funds is misplaced.

After decades of head-to-head competition between internal and external organization forms for actively managed mutual funds, external management became preeminent as the most efficient organizational form. The Vanguard example simply shows that price competition by firms that strive to be low-cost flourishes in the mutual fund industry.¹³⁴ By keeping costs and prices low, Vanguard has grown to become one of the largest fund complexes in the U.S. The example that fee critics like to point to, Vanguard, provides evidence contrary to their claim that price competition is absent in the mutual fund industry.¹³⁵

VI. The Competitive Market for Mutual Funds Suggests Caution for Regulatory or Judicial Intervention on Fee Setting

The foregoing economic analysis points to two principles that limit the domain over which policy regarding mutual fund fees may range, both clearly established as a matter of law: Advisory fees are not set by the government, nor are funds required to put advisory contracts up for bid. After briefly discussing these principles, we discuss the one provision of existing law that directly addresses advisor fees – ICA Section 36(b) – and the lead cases interpreting that section. Here, we apply the results of our earlier analysis: Competition among funds for shareholders is strong; price competition does not require that advisory contracts themselves be the direct subject of competition, only competition for investors; and small differences in the total return to fund shareholders – including the effects of advisory fees – can have a substantial impact on investors’ decisions and advisors’ policies.

Based on the facts from our economic analysis, we argue that the lead case interpreting ICA Section 36(b) – *Gartenberg* – was correct in its overall holding, but that specific statements in the Second Circuit opinions in that case adopting the 1960s view of competition in the fund industry are unfounded from an economic perspective. Given the impact of the many changes in the fund industry since *Gartenberg* was decided, we argue that even if a court otherwise felt compelled to adopt the reasoning as well as the holding of *Gartenberg*, subsequent changes in industry conditions and regulation provide an alternative basis to revisit *Gartenberg*’s adoption of the 1960s view of price competition in the fund industry. We then suggest modest modifications to the *Gartenberg* approach that will allow an appropriate consideration of price competition in cases brought under Section 36(b).

A. Economic Analysis Suggests Limiting Principles for Law and Regulation

Two limiting principles are important from an economic and legal perspective. First, the law does not provide for mutual fund advisory fees to be set by the government, or any agency of the government. Second, the law does not require that funds or fund directors conduct bidding competition among third parties for advisory contracts or otherwise run the equivalent of an auction. Both of these legal principles have been twice clearly established by Congress – once in 1940 when the ICA was first adopted, and again in 1970 when the ICA was amended to add Section 36(b) to address fees specifically. The reason for stating and supporting these limiting principles at the outset of our legal and policy analysis is that some of the judicial or regulatory remedies proposed by proponents of the 1960s view that price competition is absent in the fund industry would violate these principles in practice.¹³⁶

Government-determined prices should be avoided. Only in a few select industries in the past have market failures been perceived to be so substantial that government has stepped in to determine prices directly, or to set price ranges for private actors.¹³⁷ Currently, only in the utility industries is direct price setting typical, and even there rate regulation and deregulation have been the subject of serious debate. Congress specifically considered and rejected such regulation for the fund industry on two occasions.¹³⁸ The Senate Report accompanying what became the 1970 Amendment to the ICA stated in clear terms, “It is not intended to introduce general concepts of rate regulation as applied to public utilities.”¹³⁹

Mandatory bidding for investment advisory contracts is not necessary to ensure competitive pricing. A second principle for regulation of funds relates to the structure of fund complexes and the means by which funds choose advisors. Funds have long been managed either externally (as at the great majority of funds) or internally (as at Vanguard, discussed above). In neither structure, however, have mutual funds generally put the advisory function out for bid, with the possible exception of using sub-advisors. As frequently noted by both critics and defenders of the fund industry, funds are generally organized by fund advisory companies, who then enter into advisory contracts with the funds. As we noted above, funds rarely “fire” their advisors once created, and this fact has misled some observers, including courts, to the view that price competition has no effect on fund fees.

Among the reasons for not firing advisors and conducting auctions are: First, fund investors often invest on the basis of an advisor’s reputation, and rarely invest on the expectation that fund directors will take an active role in managing the portfolio or shopping around for advisors; second, fund investors often prefer to invest in a complex of funds with different investment styles and investment objectives that are nevertheless advised by commonly controlled advisors; third, advisor-organizers of funds need to earn a competitive return on their invested capital, which would be jeopardized if funds frequently

changed advisors; fourth, it is difficult to evaluate the quality of advisors over short periods of time; fifth, because of the key feature of redeemable shares, funds seek to maintain liquidity and attract new investors on a continual basis, and the operations of advisors and fund share distributors are frequently highly connected; and sixth, perhaps most important, redeemable shares allow fund shareholders to rapidly and cheaply “fire” advisors by switching investments from one fund to another, and this pressure makes it largely unnecessary for competition between funds to exist in the selection of advisors. [Are there supporting citations for some of these points, such as numbers 1 and 2.]

Any effort to mandate bidding for advisory contracts would be a radical change for the fund industry, would represent a sharp break from the more than three-quarters of a century of successful fund growth, and would require significant statutory changes by Congress to the time-tested success of regulation under the ICA. Common sense suggests that for an entire industry with a track record of success, any such radical change should occur only after demonstrating that the change was both feasible and desirable. Thus, we assume that laws and regulations governing fees will continue to be adopted or interpreted in the context of current fund practices regarding advisors. Advisors, we assume, will not begin competing to manage funds; instead, they will continue to compete for investors in the funds they advise.

B. These Limiting Principles Shape Section 36(b) of the Investment Company Act

With those limiting principles in mind, we turn to the primary existing law on advisory fees – Section 36(b) of the ICA. Section 36(b) provides:

The investment adviser ... shall be deemed to have a fiduciary duty with respect to the receipt of compensation for services, or of payments of a material nature, paid by such registered investment company, or by the security holders thereof, to such investment company or any affiliated person of such investment adviser.

The plain language of Section 36(b) is consistent with both limiting principles: Nothing in it suggests that fees should be subject to government regulation, whether set in advance by the SEC or evaluated after the fact by a court; and by imposing a fiduciary duty on fund advisors, the section embraces industry practices in which advisors maintain close and ongoing relationships with the funds they advise.

Understanding the content of Section 36(b) requires context. To understand what Section 36(b) was intended to do when it was adopted in 1970, an understanding of pre-existing law is essential. First, then as now, fund directors owe fiduciary duties of care and loyalty to the funds they oversee, and those duties are enforceable in court at the initiation of a fund shareholder. However, the standard by which directors’ acts are measured under most state laws depends crucially on the nature of the acts, the process

by which those acts were approved, and the identity and characteristics of those who approved those acts. If directors approve a transaction in which they have no special financial interest, and do so after deliberating for a reasonable amount of time and with a reasonable amount of information, courts generally apply the “business judgment rule,” which establishes a generally irrebuttable presumption that the transaction was not improper. Similarly, if disinterested shareholders approve a transaction after disclosure of material facts, courts will rarely if ever intervene. For conventional corporations, these presumptions make enormous sense. Judges are not generally experienced or capable businesspeople, and neither they nor self-appointed, aggrieved shareholder representatives can be reasonably expected to make better business judgments than disinterested, informed, and reasonably careful directors, who typically are experienced businesspeople, and who have in any event been elected by shareholders to oversee their corporation. If shareholders as a class receive sufficient information about a given transaction, and affirmatively approve or ratify the transaction, it is unlikely that the law would advance shareholder interests generally by allowing a subset of shareholders to overturn that decision in court.

Based on this law, when pre-1970 courts – predominantly Delaware courts – were asked to uphold challenges to fund advisory fees that were required by the ICA to be, and had been, approved by disinterested fund directors and/or shareholders, those courts declined to do so. Absent clear evidence of “waste” – a fee so excessive that it could not be justified as rational – the courts said they would not intervene. This seemingly straightforward application of traditional common law principles to the fund industry proved controversial. Critics – eventually including the SEC in the 1966 report to Congress we discussed earlier – argued that shareholder approval, in particular, was not likely to produce pressure on advisors to reduce fees because shareholder rejection of an advisory contract “might leave the fund without an effective advisory contract [and] possibly ... harm ... the fund’s operations,” and because shareholders themselves – dispersed, unorganized, and prevented by law from usurping the management role of fund directors – “cannot select a new advisor, formulate a new advisory contract or set a new advisory fee.”¹⁴⁰ Thus, the combination of a mandate under the ICA for shareholder approval of advisory contracts, a practical and legal bar against shareholders attempting to negotiate with advisors or select new advisors, and a state law doctrine that effectively barred suits attacking transactions that had been approved by shareholders was said to have resulted in the effective elimination of *any* fiduciary duty constraint on advisor fees.¹⁴¹ Section 36(b) was adopted largely in response to these concerns.

A second important part of the historical background to Section 36(b) is that the final language of the provision replaced language that had been previously proposed by the SEC and rejected by Congress. Bills introduced in Congress in both 1967 and 1968 would have imposed a “reasonableness” standard on advisory fees, but neither was enacted.¹⁴² Instead, the language quoted above was adopted, providing that

advisors are subject to “a fiduciary duty” in respect of their compensation. The clear implication is that Congress considered but rejected the idea of allowing suits to attack fees as “unreasonable.”¹⁴³

What, then, was Section 36(b) meant to accomplish? Again, the plain language of the statute is relatively clear in any action under Section 36(b):

approval by the board of directors of [the fund of the] compensation or payments, or of contracts or other arrangements providing for such compensation or payments, and ratification or approval of such compensation or payments, or of contracts or other arrangements providing for such compensation or payments, by the shareholders of such [fund] *shall be given such consideration by the court as is deemed appropriate under all circumstances.*¹⁴⁴ [emphasis added]

The effect of this language is to modify the pre-1970 common law of fiduciary duties described above to eliminate the *automatic* shift upward in the standard to be applied by a court to that of “waste” when reviewing advisory fees. Thus, the standard to be applied is neither “reasonableness,” which would shift too much discretion from fund directors to courts, nor is it *always* to be “waste,” which would make fee challenges too difficult even where an analysis of the facts and circumstances suggests that approval by disinterested directors and shareholders added no meaningful constraint to the size or structure of the fee. Nowhere did Congress specifically identify the standard that *should* apply in fee challenges where board or shareholder approval was viewed as meaningless by a court.

What, then, would the baseline legal standard be in fee cases? Absent a clear statutory amendment, courts traditionally fall back on the common law, and absent the presumption of the business judgment rule, that standard would ordinarily be a “fairness” standard. Although “fairness” may be no less subjective than “reasonableness,” the concept as applied by courts has one important difference: A “fairness” standard requires a price to fall within a *range* of values, rather than to match the adjudicator’s specific notion of a reasonable price. In other words, a fairness standard imposes an upper bound on fees. That upper bound could be moved even higher – potentially even as high as the pre-1970 standard of “waste” – if a court were to find, in the particular instance, that the effect of disinterested director or shareholder approval were meaningful.

Section 36(b) made two other important changes to fiduciary duty law. First, it clarified that the advisors themselves could be sued directly as fiduciaries, without any showing that they had dominated a fund’s board or taken on a fiduciary role voluntarily, as would have been required under pre-1970 law. Second, under pre-1970 law, not only was the baseline standard one of fairness, but the burden of proof was imposed on the fiduciary, rather than on the plaintiff (on whom it would typically fall), but if disinterested directors or shareholders approved the transaction, not only would the standard be raised to waste but the burden would also shift back to the plaintiffs. In cases of uncertainty – which fee cases

almost always are – the burden of proof can be particularly important. Thus, even where a court decides under Section 36(b) that approval of directors or shareholders is meaningless, on the facts, the plaintiffs will continue to have to overcome difficulties of proving that the fee is so high as to fall outside the range of fairness.

To conclude, the intent of Section 36(b) was to increase the pressure of shareholder lawsuits on advisory fees by eliminating any automatic application of the very high “waste” standard that had previously applied, and by making it clear that advisors were subject to the same duties as other fund fiduciaries in respect of their compensation. Congress, however, balanced this increase in pressure by mandating that plaintiffs bear the burden of proof in all Section 36(b) cases, and by rejecting the idea that courts could simply substitute their judgment for fund directors as to what fees a fund should pay. Congress not only preserved a role for disinterested directors and shareholders to approve fees, but directed courts to consider the particular facts and circumstances surrounding such approvals in their consideration of fee challenges.

The economic effect of Section 36(b) is to advance competition. The net effect of these changes was to impose a real but uncertain upper bound on the fair range of fees that an advisor could charge to a fund. By setting an (uncertain) upper bound, Congress accomplished three plausible goals. First, Section 36(b) effectively prevents fund advisors from engaging in egregious extractions of fund value through advisory contracts. The ordinary constraints of disclosure requirements and redeemable shares would prevent advisors from extracting rents more than once, of course; but it remains possible (absent fiduciary duty constraints of Section 36(b)) that an advisor might engage in a one-time, massive payment to itself. Even that kind of one-time event would be constrained by reputation concerns and the requirement that the fee be disclosed and approved by fund directors and shareholders. However, if a person controlling an advisor were to plan to exit the fund business entirely, if the fund directors were dominated by the advisor, and if the SEC’s concerns about shareholder approval in fact were serious in the circumstances, at least some risk of excess compensation would remain. Section 36(b) helps eliminate that risk.

A second, related goal is that by diminishing the ability of advisors to extract unexpected, one-time egregious payments, Section 36(b) helps preserve the mechanism of competitive feedback on advisors by ensuring that the functional relationship between fund returns and advisor fees that has obtained in the past for a given fund will continue to hold in the future. Without the threat of a Section 36(b) suit, an advisor could subsidize returns by underpaying itself in the form of below-market fees, and then more than reverse those subsidies in a one-time extraction of benefits. By capping the amount of compensation an advisor can extract from a fund, Section 36(b) eliminates the possibility of such inter-temporal game-playing by advisors.

Third, Section 36(b) helps promote competition among fund advisors. Although (as we show above) competition for fund investors already disciplines fund advisors, any attempt to raise fees above the competitive level is mitigated by Section 36(b). By permitting shareholder plaintiffs to gather compelling evidence that such non-competitive pricing is occurring, Section 36(b) serves a quasi-antitrust role by preserving the incentives of advisors to price competitively and avoid lawsuits.

C. Economic Analysis and Limiting Principles Suggest the Relevance of a Competitive Market in the *Gartenberg* Framework

The lead cases interpreting Section 36(b) are a pair of related Second Circuit decisions from the 1980s in *Gartenberg v. Merrill Lynch Asset Management, Inc.*¹⁴⁵ In those decisions, the appellate court discussed a wide range of issues under Section 36(b). The most important holding in the case was to affirm the lower court’s dismissal of the fee challenge and in so doing specify more clearly the standard to be used by trial courts in evaluating fees under the ICA. To violate Section 36(b), the court wrote:

the Adviser-manager must charge a fee that is so disproportionately large that it bears no reasonable relationship to the services rendered and could not have been the product of arm’s-length bargaining.¹⁴⁶

This interpretation of Section 36(b) comports with the economic analysis and limiting principles discussed above, and represents a careful synthesis of the limited guidance provided in the legislative history of Section 36(b) and pre-existing common law on fiduciary duties. It implicitly builds in the concept that fees can fall into a range of acceptable prices by focusing not on whether a given fee is a “reasonable” price in the subjective evaluation of a judge but whether it is beyond an upper bound. It also properly accords a role to the marketplace and competition by directing courts to compare fees to prices set by arm’s-length bargaining, which in competitive markets will be similar for similar services. The standard does not condone courts simply substituting their own judgment for that of fund directors, and instead directs courts to look for fees of an extreme nature – “so disproportionately large...” – that could allow an advisor to use its position to extract a one-time egregious benefit without regard to the feedback normally provided by the competitive market.

A second set of issues in *Gartenberg* relate to the information trial courts should consider in evaluating fees under Section 36(b). Here, the central holding is clear: “To make this determination all pertinent facts must be weighed.” This conclusion fits with the traditional common law role played by courts sitting in equity, to do “justice” by considering all relevant facts and circumstances, and not simply to follow bright-line rules or focus on a narrow set of facts. Three particular sets of facts should thus remain a part of Section 36(b) cases: (a) evidence of competition for investors by funds similar to the type of fund at issue in a given case; (b) evidence of how much of a constraint such competition imposes

on the setting of fees by the advisor and the fund's directors, and whether the setting of fees as so constrained by competition is likely to be similar to arm's-length bargaining; and (c) evidence about the role and effectiveness of approval of fees by disinterested directors and/or shareholders. None of these facts are ruled out by the holdings in *Gartenberg*; to the contrary, they are either explicitly or implicitly ruled *in*.

It is true that the *Gartenberg* appellate decisions evince skepticism about the importance of competition in the fund industry for evaluations of fees. The court criticized the trial court for suggesting that the fees charged to other funds be the “principal factor” to be considered, that comparable fees necessarily establish the “free and open market level for fiduciary compensation,” and that fees are *per se* fair if they are in line with comparable fees.¹⁴⁷ This criticism has subsequently led some trial courts to exclude expert testimony and other evidence of the competitiveness of the fund industry, of its effect on fees, and of comparable fees.¹⁴⁸ This interpretation seems to be a misreading of *Gartenberg*, however, which – even after expressing its general views about the relevance of competition for investors to fees (discussed more below) – was clear in reaffirming its general holding that courts should be open to considering all relevant facts: “We do not suggest that rates charged by other adviser-managers to other similar funds are not a factor to be taken into account.”¹⁴⁹ Likewise, even in its skeptical comments about the effect of competition, it used language that did not foreclose consideration of evidence of such competition: “the existence ... of an unseverable relationship between the adviser-manager and the fund ... tends to weaken the weight to be given to rates charged by advisers of other similar funds” (emphasis added).¹⁵⁰ Evidence cannot be given a low “weight” unless it is considered, and a “tendency” to give evidence a low weight does not mandate a low weight in every case. *Gartenberg*, thus, when carefully read, provides courts with ample room to consider evidence regarding competition in the market for fund investors, and of the constraints that competition imposes on advisors when they propose fees.

Just as evidence of competition and its effect on fees remains admissible after *Gartenberg*, so too does evidence of the role of disinterested directors and shareholders. In *Gartenberg* and most subsequent opinions, the courts appropriately spend a substantial amount of time evaluating the credibility, credentials, and reasonableness of fund directors in their evaluation of fees, as directed in Section 36(b). In this respect, case law under Section 36(b) departs significantly from the extreme skepticism about disinterested directors suggested in the SEC's 1966 report and by more contemporary critics, and is more consistent with a complete analysis of the bargaining power of disinterested directors.

Insisting on high fees at the risk of being fired is also not in the advisor's interest. Not only would the advisor lose the fees from managing that fund (including a competitive rate of return on its invested capital), but the advisor would almost certainly face substantial reputational costs from being fired, which

would likely lead to lost revenues in other business lines. Such a firing would be readily observable and would tell the market that the fund directors believed the advisor had been trying to take advantage of its customers. Both lost fees and reputational harm would be even larger if, as is now common, the advisor served a multi-fund complex, because the firing would likely lead to increased redemptions by shareholders of other funds. And if the same fund directors were directors for other funds advised by the same advisor, the advisor might lose its entire advisory business. Thus, contrary to the skeptical view, which sees risks from bargaining breakdowns only on the fund side, both fund directors and advisors have strong incentives to reach agreement on fees.

In essence, rather than advisors having complete control over fee levels, unconstrained by a market, in fact, the bargaining is constrained by the competitive market for fund investors. In such a situation, real bargaining *can* take place if fund directors are capable and motivated to do so. Thus, where a court is convinced, based on the evidence in the case, that fund directors are disinterested, reputable, and capable business people, were reasonably informed, and engaged in bargaining, such a court may and should under *Gartenberg* give those findings substantial weight in evaluating the fees that are the product of that bargaining.

Putting these arguments together, *Gartenberg*'s three principal holdings are sensible from legal and economic perspectives: (1) affirming the trial court's rejection of the fee challenge in large part on the ground that the plaintiffs had not met their burden of proving unfairness; (2) stating the affirmative standard to be used by courts in evaluating fee challenges as one envisioning that fees can fall within a range of fair values; and (3) making clear that trial courts can and should consider all relevant facts, including evidence of price competition and its relevance, and evidence concerning active bargaining by fund directors.

Although the holdings in *Gartenberg* just reviewed are sensible, the Second Circuit did in the course of its opinions include statements about the mutual fund industry and the best methods for analyzing fee cases that are both unnecessary for its holdings (and thus are not binding in the same legal sense as those core holdings) and, as a factual economic matter, unconvincing, especially as applied to the current, competitive fund market. First, the court seemed to adopt the 1960s view that competition for fund investors is irrelevant to the setting of advisory fees. In the words of the court:

Competition between money market funds for shareholder business does not support an inference that competition must therefore also exist between adviser-managers for fund business. The former may be vigorous even though the latter is virtually non-existent. Each is governed by different forces. ... [T]he existence in most cases of an unseverable relationship between the adviser-manager and the fund it services tends to weaken the weight to be given to rates charged by advisers of other similar funds. ... A fund cannot

easily move from one adviser-manager to another. Therefore, ‘investment advisers seldom, if ever, compete with each other for advisory contracts with mutual funds.’¹⁵¹

Second, the court supported these general claims with the following more specific claim:

One reason why fund competition for shareholder business does not lead to competition between adviser-managers for fund business is the relative insignificance of the adviser’s fee to each shareholder. The fund customer’s share of the advisory fee is usually too small a factor to lead him to invest in one fund rather than in another or to monitor adviser-manager’s fees. ‘Cost reductions in the form of lower advisory fees ... do not figure significantly in the battle for investor favor.’¹⁵²

Third, the court quotes a Congressional report to the effect that:

Negotiations between [fund] directors and fund advisers over advisory fees would lack an essential element of arm’s-length bargaining – the freedom to terminate the negotiations and to bargain with other parties for the same services.¹⁵³

These conclusions largely track (and indeed quote) the 1966 SEC Report and legislative history behind the 1970 Amendments to the ICA. These assertions, however, are belied by the economic evidence and are contrary to other parts of the legislative history behind the 1970 Amendments to the ICA; because they were not necessary to the holdings in *Gartenberg*, they are in any event not binding on other courts as a matter of law; and even if they were true in the 1960s or the 1980s, they are no longer true today.

As we have shown above, price competition among funds for investors is robust. Advisor fees are based on fund assets, which in turn depend on competition among funds for investors. Any attempt by an advisor to use either excess fees or fund assets to subsidize the marketing of shares (and increase assets and fees) at the expense of performance is self-limiting and can only work over the short term. As a result of the relationship between fees and returns, competition among funds for investors necessarily affects advisors when they propose their fees, and affects the bargaining process between advisors and fund directors. Both advisors and fund directors are constrained by the effects of competition for fund investors.

This outcome holds if there is no “market for advisors” in any direct sense – that is, even if funds rarely fire advisors or put their advisory contracts out for bid. The lack of existence of a market for advisors separate and apart from the market for funds only indicates what has already been stated above – that both advisors and funds are generally well served by maintaining long-term relationships with one another, and thus rarely putting advisory contracts out for bid. While the law formally requires a separation of legal personality and governance between the advisor and the fund, the two organizations are, for practical and economic purposes, vertically integrated. That integration does not mean, however, that competition does not affect the advisor and the fund directors in setting advisory fee levels. In

markets for non-financial goods and services, such as cars, price competition at the retail level prevents a parts manufacturer that is vertically integrated with the overall wholesaler, such as General Motors, from indiscriminately raising the prices it charges for parts. The profits of the upstream producer (advisors, car parts manufacturers) both affect and are affected by the profits of the downstream producer (funds, car wholesalers), and that is true regardless of how many of the upstream and downstream producers are vertically integrated, as long as there are enough producers at the retail level (among funds or car wholesalers) to produce competition at that level. Put differently, imagine that a car parts manufacturer raised its prices higher and higher. The wholesaler would be forced to try to raise its prices; but if it is facing competition from other wholesalers, it would be unable to raise prices without losing market share, and eventually going out of business. The car parts manufacturer knows this, and is thus constrained by competition among wholesalers from raising its prices.

A critic might respond to the foregoing by granting that competition among fund investors imposes *some* constraints on advisors, but then claiming that the constraints are very loose, and then quote the portion of *Gartenberg* quoted above, to the effect that because fees are “small,” relative to overall returns, they (or the impact they have on returns) are ignored by fund investors. But this weaker claim, too, is simply inconsistent with the economic facts. Throughout the economy, it is clear that marginal changes in prices can have significant effects on consumer choices, and in the fund context, the evidence demonstrates that general economic truth holds for advisory services. Marginal changes in fees can have material impact on advisors. In some sectors of the fund industry – money market and S&P 500 index funds, for example – investment portfolios are sufficiently similar that prices (that is, fees) are among the most important factors affecting returns that are within the control of the advisor, and thus among the most important bases on which consumers can and do choose funds (as we described in section III.E above).

Even if one thought that the fund industry was relatively uncompetitive in the 1960s or the 1980s, or that competition in the industry somehow was disconnected from the way that advisors and funds negotiate fees, changes in the industry have rendered these beliefs implausible. Changes in both the structure and regulation of the fund industry have made it far more likely that competition is a powerful force constraining advisory fees today. Thus, even if *Gartenberg* had squarely held that competition among funds was *per se* inadmissible in fee cases (which it did not), and even if *Gartenberg*'s statements about the weak connection between competition among funds and advisory fees were legally binding holdings (which they were not), changes in circumstances since *Gartenberg* was decided would strongly support a reinterpretation of Section 36(b) to not only permit but *require* consideration of evidence of competition among funds for investors.

Among the economic changes in the industry since the adoption of Section 36(b) and the *Gartenberg* decision are those we noted earlier, particularly the growth in the number of funds and complexes, the advent of 401(k) plans and associated distribution channels, the advent and success of low-fee complexes, such as Vanguard, and the introduction of index funds and exchange-traded funds.

Among the legal changes relevant to fees since *Gartenberg* has been the SEC's Plain English Initiative,¹⁵⁴ which improved the clarity of the fund disclosures generally, and the SEC's numerous revisions to mutual fund disclosures, which among other things require more specificity about advisory fees and expenses and fund boards' basis for approving advisory contracts in fund advertising and in SEC filings.¹⁵⁵ Also, the proportion of a fund's board that must be disinterested was increased by the SEC twice, in 2001 and 2005. For these reasons, any interpretation of Section 36(b) that would lead courts to exclude evidence of fund competition altogether as either nonexistent or irrelevant to advisory fees is outdated.

C. Economic and Legal Analysis Suggests Refinements to the *Gartenberg* Interpretation of Section 36(b)

Based on economic analysis, our recommendations for the law governing advisory fees are few, simple, and modest. Radical shifts in existing law, or for sweeping new laws and regulations, are unwise on the ground that the case has not been made that the existing framework for regulation of funds and advisory fees is intrinsically flawed. The combination of regulatory constraints (disclosure and protection against conflicts of interest) with the contractual innovation most distinctive to the mutual fund industry (redeemable shares) create the necessary and sufficient conditions for robust competition among funds for investors, and competition in turn imposes strong constraints on advisory fees without the need for counterproductive governmental price-setting via regulators or courts, and without the need for mandatory bids for advisory contracts, both of which (if required) would impose substantial costs on investors.

More subtly, we also reject calls for substantially tightening the standards for evaluating advisory fees under Section 36(b) in court, whether by legislation or evolution of the common law of fiduciary duties. The existing standard announced in *Gartenberg* strikes an appropriate balance between preventing the only plausible means by which advisors could negate the effects of the competitive market for fund investors, through one-time "grabs" of large amounts of fees, on the one hand, and avoiding the real costs and risks associated with frequent and intrusive litigation over fees on the other hand. Not only would routine fee litigation impose out-of-pocket legal costs and distract advisors and fund directors, but it would come very close to violating the first limiting principle we sketched above – no government setting of prices for advisory services – by effectively shifting discretion and final approval of fees from fund

directors to courts. And because fee litigation under Section 36(b) is representative shareholder litigation, with its attendant flaws, any substantial tightening of standards for evaluating fees would bring about government price-setting in what is likely its least efficient form.

Affirmatively, our economic and legal analysis suggests that courts should be open to evidence about price competition in a given sector of the mutual fund industry – both pro and con. Case law interpreting Section 36(b) and *Gartenberg* as preventing the consideration of such evidence is ungrounded in the language of the statute, its legislative history, or the holdings and language of *Gartenberg*. Such a bar would also blind the courts to a fact that will be directly relevant to evaluating advisory fees, contrary to the general common law of fiduciary duties, which directs courts to consider all relevant facts. The multiple factors first listed in *Gartenberg* and then elaborated in subsequent cases are starting points for courts to use in deciding whether a given fee meets the general Section 36(b) standard. But those lists should not be viewed as exclusive, or controlling, when other relevant evidence of competition exists.

Where evidence regarding competition among funds for investors exists, courts should also consider expert testimony or other evidence that supports the claim in the particular circumstances that such competition has worked to constrain the particular advisor in proposing its fees to the fund in question. Courts should not blindly accept the simple assertions in *Gartenberg*, which date back to the unsubstantiated claims of the Wharton Report and the 1966 SEC Report that price competition among funds is somehow made irrelevant to advisors in proposing fees because advisory contracts are not generally put up for bid. Again, where evidence can be presented that refutes or undermines those assertions – as we believe we have presented above – it should and as a legal matter can be considered by a court under Section 36(b). Nothing in statute, the legislative history, or the *Gartenberg* case itself compels a different conclusion.

Finally, where a linkage between competition among funds and the setting of advisory fees can be shown, courts should be willing to consider comparable fees paid by comparable funds for comparable services in evaluating the fees in a Section 36(b) case. Competition among funds is strong, and competition constrains advisors in proposing fees, so that the general breakdown in arm's-length bargaining that has been assumed by the 1960s view is unconvincing.

Appendix

Evaluating the Responsiveness of Mutual Fund Assets to Fees

We estimated the responsiveness of mutual fund assets to fees using the Simfund database from Strategic Insight, for the period February 1998 to January 2005. Strategic Insight constructs the Simfund database by integrating its own research on mutual fund data with information from Standard & Poor's, Morningstar, ICI, and SEC N-SAR filings. These data do not suffer from survivor bias – that is, all funds existing in a given month are included in the database.

In our econometric tests, we estimated a model of the following specification:

$$\ln(TNA_f) = \alpha + \beta \ln(Fees_f) + \Gamma X_f, \quad (A1)$$

where the log of total assets in fund (complex) f , $\ln(TNA_f)$, is explained by the value of fees charged by the fund (complex) ($Fees_f$) and a set of control variables (X_f). The dependent variables can be viewed as either assets or asset shares, since to obtain shares a constant industry total asset amount would be used. The model is estimated at both the fund and complex level. Fees at the fund level are measured by the expense ratio and at the complex level by the net asset-weighted average expense ratio. The control variables in addition to fees include number of funds in a complex; fund (complex) age; dummy variables for investment capitalization (small-cap and mid-cap relative to large-cap); dummy variables for investment style (blend and value styles relative to growth); performance measured by the Morningstar ratings of 2, 3, 4, and 5 relative to 1; and a dummy variable for distribution channel (distribution dummy variables are weighted by net assets at the complex level, making them equivalent to percentages of the complex net asset value). To summarize, we estimate the effect of fees on a fund's (complex's) relative assets, conditional on proxies for fund performance, experience, investment capitalization, style categories, and distribution channel.

Mutual fund demand models typically use either flow of funds or market share to measure demand. We use assets, which is consistent with prior market share studies by Baumol et al. and Khorana and Servaes.¹⁵⁶ As noted earlier, flow of funds models are subject to a bias toward zero in the price elasticity and other explanatory variables.¹⁵⁷ Because the price or fee variable results are of greatest interest for our purposes, we use assets rather than flow of funds. In addition, most of the variation in fees is cross-sectional (over funds), not time-series (across months and years).

We estimate the model for December of each year in the data set rather than pooling across years because, as noted, there is little variation in assets from month to month and fees are announced annually, not monthly. We estimate the model using both ordinary least squares (“OLS”) and two-stage least squares (“2SLS”). If fees are purely exogenous, then OLS is applicable. However, if fees are related to

fund or complex size and economies of scale, then OLS results on fees are biased and inconsistent, but efficient. In that case 2SLS corrects for the inconsistency in fee elasticity results.¹⁵⁸ Our 2SLS approach can be described as follows:

$$\ln(TNA_f) = \alpha + \beta \ln(Fees_f) + \Gamma X_f + \varepsilon_f \quad (A2)$$

$$\ln(Fees_f) = \gamma + \lambda \ln(TNA_f) + \Lambda Z_f + e_f \quad (A3)$$

where TNA is total net assets and Z is a vector of controls.

The instruments used (that is, variables included in vector Z and excluded from vector X) are :

At the fund-level:

- log of complex mean weighted price, excluding all classes of the fund of interest;
- log of turnover ratio.

No suitable instruments were available at the complex-level, so we report only OLS results for complexes.

We apply the model to actively managed funds over the period 1998 through 2004, excluding all international and specialty sector funds. The OLS and 2SLS regression results at the fund level are presented in Tables A1 and A2, respectively. The Hausman test indicates an endogeneity problem with fees in 2002 and 2004 at the 10 percent level, but not for 1998 through 2001 and 2003, so we present both OLS and 2SLS results.¹⁵⁹ The estimated sensitivity of price to asset shares are higher in the 2SLS results. As noted, at the complex level, we present only OLS results (Table 3A). However, given the lack of empirical support for substantial economies of scale and scope at the complex level, as noted above, OLS likely does not suffer from bias and inconsistency.

At the fund level, using 2SLS, asset share sensitivities relative to price vary between -2.3 and -2.8, and, using OLS, from -1.3 to -1.9. For example, say a fund has a 1 percent share, a fairly high share given all the funds in existence, and fees are raised 10 percent. The regression results indicate a decline in share from 1 percent to from approximately a 0.72 to 0.87 percent share, depending on whether the OLS or 2SLS results are used. At the complex level, share sensitivity to price varies across years from -1.5 to -2.2, but is generally in the -1.7 to -1.8 range, suggesting that for a complex with 1 percent of assets, a 10 percent increase in fees would produce a decline to approximately a 0.82 or 0.83 percent share. The results indicate that investors consider fees when selecting mutual fund investments, contrary

to claims of fee critics and the 1960s view. Funds and complexes with lower fees have greater net asset shares, holding other factors constant. Although estimated price coefficients vary across years and between funds and complexes, the results show that demand is consistently inversely sensitive to price, indicating that attempts at raising price will reduce asset shares and thus advisors' profitability, contrary to the 1960s view.

At the fund level, assets increase with number of funds and the age of funds. Assets also increase with higher Morningstar ratings, consistent with numerous studies finding that investors respond to fund returns and rankings. In 2003 and 2004 assets are related to net assets in small and mid-cap funds relative to large-cap, however, blend and value are significant relative to growth funds for 2004 only using 2SLS. At the complex level, assets are positively related to the number of funds in the complex and the weighted age of the funds in the complex. Assets do not appear to be related to investment categories. In addition, complex assets are generally inversely related to the bank and institutional channels relative to the omitted direct channel.

Table 1A: Fund Level Asset Equations (Estimated by OLS)

	1998	1999	2000	2001	2002	2003	2004
Intercept	-4.7237 (0.6688)	-3.8399 (0.7738)	-5.5917 (0.6224)	-5.2293 (0.5420)	-6.3182 (0.4767)	-6.9751 (0.4519)	-8.0694 (0.4413)
Log of fund-class price	-1.4798 (0.1564)	-1.2947 (0.1762)	-1.6227 (0.1441)	-1.6137 (0.1287)	-1.6092 (0.1130)	-1.7592 (0.1076)	-1.9381 (0.1042)
Log of number of funds	0.3601 (0.0510)	0.2900 (0.0510)	0.2607 (0.0446)	0.2697 (0.0382)	0.2672 (0.0332)	0.2679 (0.0308)	0.1256 (0.0298)
Log of fund-class age	0.8502 (0.0645)	0.9997 (0.0663)	1.0588 (0.0591)	1.2014 (0.0617)	1.3275 (0.0536)	1.3879 (0.0538)	1.5386 (0.0586)
Small	0.2586 (0.1424)	0.4510 (0.1581)	0.1014 (0.1145)	-0.3656 (0.0930)	0.1171 (0.0774)	0.4020 (0.0730)	0.3824 (0.0798)
Mid	0.0227 (0.1342)	0.0163 (0.1322)	-0.2642 (0.1006)	-0.3599 (0.0906)	0.0606 (0.0817)	0.2143 (0.0784)	0.2254 (0.0783)
Blend	-0.3046 (0.1131)	-0.2835 (0.1098)	-0.0160 (0.1002)	-0.4799 (0.0895)	0.0717 (0.0742)	0.1460 (0.0715)	0.2425 (0.0761)
Value	-0.4370 (0.1197)	-0.3582 (0.1309)	0.0368 (0.1159)	-0.7847 (0.0962)	-0.0845 (0.0814)	0.0495 (0.0786)	0.3289 (0.0769)
Has at least Mstar=2	0.8245 (0.1905)	0.2688 (0.2055)	0.1502 (0.1708)	0.2100 (0.1476)	0.1247 (0.1336)	0.0070 (0.1191)	0.0518 (0.1171)
Has at least Mstar=3	0.4379 (0.1312)	0.5795 (0.1438)	0.6959 (0.1213)	0.2963 (0.1016)	0.2914 (0.0872)	0.2595 (0.0821)	0.4803 (0.0849)
Has at least Mstar=4	0.4821 (0.1287)	0.4806 (0.1278)	0.6043 (0.1073)	0.3612 (0.0942)	0.3924 (0.0828)	0.3725 (0.0816)	0.4727 (0.0824)
Has at least Mstar=5	0.5465 (0.1821)	1.1555 (0.1407)	0.6390 (0.1254)	0.6959 (0.1178)	0.5704 (0.1173)	0.8756 (0.1123)	0.7541 (0.1239)
Bank channel	-0.7886 (0.1460)	-0.6404 (0.1510)	-0.6510 (0.1353)	-0.7890 (0.1244)	-0.7609 (0.1149)	-0.8268 (0.1085)	-1.0817 (0.1221)
Institutional channel	-0.9959 (0.1693)	-1.1783 (0.1745)	-1.2943 (0.1615)	-1.3759 (0.1360)	-1.3621 (0.1280)	-1.4313 (0.1230)	-1.6531 (0.1191)
Insurance channel	0.8141 (0.4946)	1.3595 (0.4851)	1.1632 (0.3282)	0.8661 (0.2454)	0.8890 (0.2271)	0.9755 (0.2277)	1.3399 (0.1851)
Non-proprietary channel	-0.1402 (0.1350)	-0.1228 (0.1441)	-0.0902 (0.1274)	-0.1982 (0.1154)	-0.2407 (0.1068)	-0.2478 (0.1047)	-0.0810 (0.1016)
Proprietary channel	-0.1473 (0.1822)	-0.0684 (0.1761)	-0.1545 (0.1652)	-0.1457 (0.1436)	-0.1518 (0.1359)	-0.1015 (0.1302)	0.0921 (0.1252)
R-Square	0.4478	0.4297	0.4435	0.3895	0.3915	0.3927	0.3914
N	985	1121	1537	2052	2628	3009	3540

Table 2A: Fund Level Asset Equations (Estimated by 2SLS)

	1998	1999	2000	2001	2002	2003	2004
Intercept	-7.7292 (0.9874)	-9.0141 (1.3934)	-8.1160 (1.2438)	-8.7092 (0.9097)	-10.570 (0.7781)	-10.376 (0.8567)	-11.499 (0.8125)
Log of fund-class price	-2.2618 (0.2505)	-2.5906 (0.3342)	-2.2545 (0.3015)	-2.5023 (0.2272)	-2.7156 (0.2000)	-2.6416 (0.2179)	-2.8282 (0.2063)
Log of number of funds	0.3328 (0.0513)	0.2552 (0.0531)	0.2417 (0.0449)	0.2411 (0.0387)	0.2317 (0.0342)	0.2385 (0.0317)	0.0979 (0.0310)
Log of fund-class age	0.7023 (0.0728)	0.7749 (0.0792)	0.9586 (0.0700)	1.0528 (0.0655)	1.1537 (0.0587)	1.2495 (0.0615)	1.3869 (0.0657)
Small	0.3119 (0.1461)	0.5798 (0.1744)	0.1723 (0.1212)	-0.2288 (0.1000)	0.2436 (0.0812)	0.4985 (0.0748)	0.4857 (0.0830)
Mid	0.0704 (0.1355)	0.1296 (0.1411)	-0.2123 (0.1042)	-0.2754 (0.0928)	0.1455 (0.0834)	0.2704 (0.0794)	0.2845 (0.0796)
Blend	-0.3339 (0.1168)	-0.3530 (0.1175)	-0.0515 (0.1035)	-0.5197 (0.0929)	-0.0174 (0.0781)	0.0727 (0.0743)	0.1591 (0.0791)
Value	-0.4690 (0.1219)	-0.4313 (0.1357)	0.0128 (0.1170)	-0.8051 (0.0972)	-0.1612 (0.0843)	-0.0207 (0.0808)	0.2467 (0.0798)
Has at least Mstar=2	0.7313 (0.1925)	0.1760 (0.2067)	0.0969 (0.1707)	0.1206 (0.1466)	0.0287 (0.1339)	-0.0266 (0.1202)	0.0103 (0.1185)
Has at least Mstar=3	0.4276 (0.1326)	0.5539 (0.1500)	0.6768 (0.1219)	0.2888 (0.1027)	0.2281 (0.0897)	0.2118 (0.0835)	0.4248 (0.0870)
Has at least Mstar=4	0.4281 (0.1330)	0.4320 (0.1338)	0.5738 (0.1101)	0.3429 (0.0956)	0.3707 (0.0850)	0.3393 (0.0834)	0.4410 (0.0838)
Has at least Mstar=5	0.4640 (0.1915)	1.1324 (0.1495)	0.6630 (0.1261)	0.6811 (0.1214)	0.5598 (0.1199)	0.8670 (0.1132)	0.7407 (0.1236)
Bank channel	-0.7819 (0.1496)	-0.6188 (0.1612)	-0.6443 (0.1376)	-0.7846 (0.1255)	-0.7295 (0.1159)	-0.8121 (0.1086)	-1.0023 (0.1240)
Institutional channel	-1.1927 (0.1762)	-1.4994 (0.1896)	-1.4546 (0.1733)	-1.6412 (0.1495)	-1.7117 (0.1345)	-1.6855 (0.1314)	-1.8517 (0.1229)
Insurance channel	1.0758 (0.5099)	1.8447 (0.5313)	1.4451 (0.3523)	1.3208 (0.2838)	1.4952 (0.2615)	1.4643 (0.2657)	1.7890 (0.2102)
Non-proprietary channel	0.0552 (0.1474)	0.2823 (0.1754)	0.1210 (0.1610)	0.0751 (0.1335)	0.1103 (0.1207)	0.0502 (0.1246)	0.2347 (0.1215)
Proprietary channel	0.0519 (0.1902)	0.3067 (0.1957)	0.0254 (0.1874)	0.0847 (0.1591)	0.1894 (0.1516)	0.2065 (0.1513)	0.4183 (0.1463)
R-Square	0.4303	0.3863	0.4349	0.3713	0.3649	0.3768	0.3780
N	985	1121	1537	2052	2628	3009	3540
Hausman test (p-value)	0.8687	0.6148	0.9994	0.6633	0.0094	0.1120	0.0817

Table 3A: Complex Level Asset Equations (Estimated by OLS)

	1998	1999	2000	2001	2002	2003	2004
Intercept	-6.6355 (1.3469)	-3.7154 (2.0560)	-5.1846 (1.6431)	-5.1023 (1.3145)	-5.4399 (1.3833)	-5.2245 (1.7403)	-5.4179 (1.5833)
Log of weighted price	-2.2322 (0.3107)	-1.4829 (0.4614)	-1.7358 (0.3610)	-1.8823 (0.2966)	-1.7218 (0.3294)	-1.7945 (0.4162)	-1.7634 (0.3719)
Log of number of funds	1.0968 (0.0871)	1.0783 (0.0961)	1.1446 (0.0812)	1.1162 (0.0673)	1.1240 (0.0692)	1.1413 (0.0618)	1.0963 (0.0586)
Log of weighted age	0.6277 (0.1239)	0.6157 (0.2057)	0.7209 (0.1565)	0.5312 (0.1259)	0.6437 (0.1327)	0.7143 (0.1503)	0.6763 (0.1445)
Small cap*	0.5476 (0.4041)	0.9321 (0.4479)	-0.0101 (0.3280)	-0.5440 (0.3413)	0.0290 (0.2909)	-0.0682 (0.2730)	-0.0906 (0.2683)
Mid cap*	0.4690 (0.4889)	0.5082 (0.5135)	0.2336 (0.3961)	-0.1717 (0.3838)	0.4231 (0.3410)	0.3134 (0.3557)	0.6287 (0.3528)
Blend*	-0.7973 (0.3554)	-0.3651 (0.3366)	-0.3826 (0.3173)	-0.8776 (0.3162)	-0.1820 (0.2723)	-0.3846 (0.2531)	-0.1387 (0.2508)
Value*	-0.4347 (0.3898)	0.4078 (0.4651)	0.7527 (0.4453)	-0.6236 (0.3439)	-0.0448 (0.3462)	-0.3620 (0.3282)	-0.1188 (0.3088)
Has at least Mstar=2*	-0.2997 (0.6087)	-0.1672 (0.8023)	-0.7636 (0.5771)	0.5902 (0.5538)	0.6975 (0.4667)	-0.2320 (0.4446)	-0.2589 (0.4278)
Has at least Mstar=3*	0.4980 (0.7186)	0.2451 (0.6086)	1.1883 (0.4840)	-0.0981 (0.4203)	-0.2925 (0.3680)	0.3651 (0.3515)	1.1011 (0.3675)
Has at least Mstar=4*	1.2595 (0.3890)	0.9963 (0.4834)	0.9399 (0.4196)	0.7916 (0.3269)	0.6809 (0.3331)	0.7778 (0.3181)	0.4823 (0.3386)
Has at least Mstar=5*	0.0050 (0.4228)	1.0116 (0.4260)	0.5356 (0.4113)	1.0766 (0.4127)	0.9302 (0.3757)	0.9766 (0.3489)	0.7515 (0.3546)
Bank channel*	-0.4510 (0.2774)	-0.3272 (0.2733)	-0.5040 (0.2263)	-0.4708 (0.2304)	-0.4540 (0.2096)	-0.5964 (0.2006)	-0.7549 (0.2104)
Institutional channel*	-0.9841 (0.2889)	-0.9831 (0.4457)	-0.8730 (0.3891)	-0.8645 (0.3548)	-0.7330 (0.3482)	-0.7918 (0.3173)	-0.6129 (0.3153)
Insurance channel*	0.8998 (0.3057)	1.0919 (0.6341)	-0.0539 (0.7126)	-0.1191 (0.7853)	-0.4398 (0.7161)	-0.5250 (0.7642)	-0.8569 (0.7985)
Non-proprietary channel*	-0.2941 (0.2693)	-0.1766 (0.3393)	-0.4379 (0.2960)	-0.2479 (0.2410)	-0.3219 (0.2384)	-0.3131 (0.2388)	-0.4255 (0.2285)
Proprietary channel*	0.4091 (0.3752)	0.4043 (0.3893)	-0.0802 (0.5323)	0.4382 (0.3814)	0.3094 (0.4133)	0.1923 (0.3974)	0.1122 (0.3600)
R-Square	0.6882	0.6134	0.6857	0.6889	0.7019	0.7259	0.7190
N	151	164	183	207	225	237	246

* These variables are dummies weighted by the net asset value at the fund-class level. Therefore, the interpretation of the dummies is equivalent to percentages of the complex net asset value.

Endnotes

¹ Respectively, Professor of Law, Harvard Law School; and Dean and Russell L. Carson Professor of Finance and Economics, Graduate School of Business, Professor of Economics, Faculty of Arts and Sciences, Columbia University, and Research Associate, National Bureau of Economic Research.

² John C. Bogle, “Mutual Fund Industry Practices and their Effect on Individual Investors,” Statement before the U.S. House of Representatives, Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises of the Committee on Financial Services, (Washington, D.C.: Mar. 12, 2003); U.S. General Accounting Office, *Mutual Funds: Information on Trends in Fees and Their Related Disclosure*, GAO-03-551T (Washington, D.C.: Mar. 12, 2003); U.S. General Accounting Office, *Mutual Funds: Greater Transparency Needed in Disclosures to Investors*, GAO-03-763 (Washington, D.C.: June 2003); U.S. General Accounting Office, *Mutual Fund Fees: Additional Disclosure Could Encourage Price Competition*, GAO/GGD-00-126 (Washington, D.C.: June 7, 2000); John P. Freeman and Stewart L. Brown, “Mutual Fund Advisory Fees: The Cost of Conflicts of Interest,” *The Journal of Corporation Law*, 26 (Spring 2001), pp. 609-674; and Charles A. Trzinka, “Statement,” Hearing before the Subcommittee on Finance and Hazardous Materials of the Committee on Commerce, House of Representatives, 105th Congress, second session (Sept. 29, 1998), pp. 50-58.

³ Because claims of excessive fees stress the absence of price competition between mutual funds, this paper focuses on price competition. This focus does not imply that other forms of competition are less meaningful to investors. Mutual fund competition is multi-dimensional, embodying such factors as returns to investors and fund rankings, fund advisor reputation, breadth and depth of product offerings, and scope and quality of services to investors. For the demand model in Appendix A to this paper, we incorporate variables in addition to price.

⁴ Wharton School of Finance and Commerce, *A Study of Mutual Funds*, Report of the Committee on Interstate and Foreign Commerce, 87th Congress (1962), p. 28.

⁵ *Id.*, p. 29.

⁶ *Id.*, pp. 493-94.

⁷ U.S. Securities and Exchange Commission, *Report on the Public Policy Implications of Investment Company Growth*, H.R. Rep., No. 2274, 87th Cong., 2d Sess. (1966), p. 12.

⁸ *Id.*, p. viii.

⁹ Investment Company Act Amendments of 1970, Public Law, No. 91-547, 84 Stat. 1413 (1970), adding Section 36(b) of the ICA, as codified.

¹⁰ SEC *supra*, note 7, at pp. 44 and 52.

¹¹ Investment Company Institute, *2005 Investment Company Fact Book* (2005), p. 59 and Investment Company Institute, *2004 Mutual Fund Fact Book* (2004), p. 70 (hereafter, *ICI Fact Book*). The SEC found that load funds' share of assets fell from 74 percent in 1992 to 49 percent in 1999. U.S. Securities and Exchange Commission, *Report on Mutual Fund Fees and Expenses* (December 2000), pp. 20-21.

¹² Assets under management in US equity funds increased from \$128.1 billion in 1985 to \$4,212 billion through 2004, an approximately 33-fold increase. Strategic Insight, Simfund.

¹³ Improving Price Competition for Mutual Funds and Bonds, Hearing before the Subcommittee on Finance and Hazardous Materials, Committee on Commerce, House of Representatives, 105th Congress, second session (Sept.

29, 1998); U.S. Securities and Exchange Commission, *Report on Mutual Fund Fees and Expenses* (December 2000), p 5; and *supra*, note 2.

¹⁴ Section 15, ICA as amended 1970.

¹⁵ Although advisory firms are not commonly fired, fund directors retain negotiating leverage and influence with advisory firms. For example, directors can threaten to resign, harming a fund's reputation and ability to attract new investors. On issues of performance, directors can pressure the advisor to replace poorly performing portfolio managers.

¹⁶ Similarly, pension plans can vertically integrate and manage some or all of their investments in competition with external managers. Retail mutual funds can in theory manage their own portfolios but few choose to do so.

¹⁷ Peter Tufano and Matthew Sevick, "Board Structure and Fee Setting in the U.S. Mutual Fund Industry," *Journal of Financial Economics*, 46 (1997), p. 325. However, investment advisors' portfolio managers are fired for poor performance and poor performance is often associated with high fees. Ajay Khorana, "Top Management Turnover: An Empirical Investigation of Mutual Fund Managers," *Journal of Financial Economics*, 12 (1996) pp. 403-427. Just as investors seek to maximize returns, advisors seek high returns because high returns increase inflows and assets, and advisors are generally compensated as a percentage of total assets.

¹⁸ Some studies of equity mutual fund fee levels, such as the study by the U.S. General Accounting Office ("GAO"), acknowledge that equity mutual funds compete for investors' assets, but conclude that they do not compete on the basis of price. According to the GAO, the "Mutual fund industry generally does not attempt to compete on the basis of price. See GAO (2000), *supra*, note 2, p. 62. The GAO concludes that equity mutual funds compete primarily on non-price determinants of consumer choice by differentiating their product through service quality and scope, reputation of fund managers, breadth of fund complex, and, most importantly, historic performance returns to shareholders. The GAO further acknowledges that while funds compete primarily on performance, funds with lower fees tend to have better performance (p. 28). Because returns are enhanced by lower fees (returns equal share appreciation less expenses) and funds compete to a large extent on returns to shareholders, they necessarily compete on shareholder fees. Thus, it is virtually impossible to compete on returns and not compete on fees. Studies show a clear positive association between returns and the demand for mutual funds. See Brad M. Barber, Terrance Odean, and Lu Zheng, "Out of Sight, Out of Mind: The Effects of Expenses on Mutual Fund Flows," *Journal of Business*, 78 (November 2005), pp. 2095-2121; Ajay Khorana and Henri Servaes, "Conflicts of Interest and Competition in the Mutual Fund Industry," Working Paper (March 2005); Erik R. Sirri and Peter Tufano, "Costly Search and Mutual Fund Flows," *Journal of Finance*, 53 (October 1998), pp. 1589-1622; and William J. Baumol, Stephen M. Goldfeld, Lilli A. Gordon, and Michael F. Koehn, *The Economics of Mutual Fund Markets: Competition Versus Regulation*, Boston: Kluwer Academic Publishers (1990). Nevertheless, the GAO and others have concluded that mutual funds generally do not compete on price. The GAO, however, acknowledges that one class of investments – money market mutual funds – do compete primarily on price. GAO (2000), *supra* note 2, pp. 62-63.

¹⁹ R. Glenn Hubbard and Anthony Patrick O'Brien, *Economics*, Prentice Hall, forthcoming (2006), and Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, 4th edition, Boston: Pearson Addison Wesley (2005), pp. 56-87 and 159-99.

²⁰ R. Glenn Hubbard and Anthony Patrick O'Brien, *id.*; Richard A. Posner, *Antitrust Law*, 2nd ed., Chicago: University of Chicago Press, (2001), pp. 62-64 and 66-71, and George J. Stigler, "A Theory of Oligopoly," in *The Organization of Industry*, Homewood, Ill.: Richard D. Irwin, Inc. (1968), pp. 39-63.

²¹ Lance Brannman, J. Douglass Klein, and Leonard Weiss, "The Price Effects of Increased Competition in Auction Markets," *Concentration and Price*, edited by Leonard Weiss, Cambridge, MA.: MIT Press (1989), pp. 67-84; James M. MacDonald, "Competition and Rail Rates for the Shipment of Corn, Soybeans, and Wheat," *RAND Journal of Economics*, 17 (1987), pp. 151-163; Steven N. Wiggins, and Robert Maness, "Price Competition in Pharmaceuticals: The Case of Anti-Infectives," *Economic Inquiry*, 42 (April 2004), pp. 247-63; Thomas Gale Moore, "U.S. Airline Deregulation: Its Effects on Passengers, Capital, and Labor," *Journal of Law and Economics*,

29 (April 1986), pp. 1-28; Ian Domowitz, R. Glenn Hubbard and Bruce C. Petersen, "Business Cycles and the Relationship Between Concentration and Price-Cost Margins," *RAND Journal of Economics*, 17 (Spring 1987), pp. 1-17; and Ian Domowitz, R. Glenn Hubbard and Bruce C. Petersen, "Oligopoly Supergames: Some Empirical Evidence on Prices and Margins," *Journal of Industrial Economics*, 36 (June 1987), pp. 379-398.

²² The ICI reports 8,044 U.S. mutual funds in 2004, including 4,550 equity funds. *ICI Fact Book* (2005), *supra*, note 11, pp. 59 and 63.

²³ U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, Washington D.C.: U.S. Government Printing Office (1992).

²⁴ Some critics alleging a lack of price competition in mutual funds point to the Vanguard Group as an example of a firm that competes on price by maintaining low costs and fees to shareholders. The Managing Director of the Vanguard Group stated that the mutual fund industry competes on price, that low-price funds exist in each category of investment, giving investors an ample choice of low-price funds. See F. William McNabb, III, "Statement," Hearing before the Subcommittee on Finance and Hazardous Materials of the Committee on Commerce, House of Representatives, 105th Congress, second session (September 29, 1998), pp. 69-75. The former head of Vanguard also attributed Vanguard's success to price competition. See John C. Bogle, *supra*, note 2. The fact that the Vanguard Group became one of the largest fund complexes in the United States, based to a large extent on price competition, is simply not consistent with the 1960s view that price competition is absent among retail mutual funds. As a further example, Fidelity and Vanguard engaged in a price war throughout 2005 on their S&P 500 and other market index funds, for both small and large investors. "Fidelity Makes Fee Cuts Permanent," *The Wall Street Journal*, Mar. 2, 2005, p. C15, "Fidelity Cuts Fees for Big Investors," *The Wall Street Journal*, Oct. 18, 2005, p. C15, and *Dow Jones Newswire*, Oct. 17, 2005.

²⁵ A study using a different data set and time period found that the number of fund complexes grew from 167 in 1979 to 525 in 1998; see Ajay Khorana and Henri Servaes, *supra*, note 18, p. 45.

²⁶ American Funds reportedly gained \$65 billion in new money in 2003, the largest increase by a fund complex in mutual fund history. "In Risky Times, Investors Embrace Cautious Dynasty," *Wall Street Journal* (Nov. 11, 2004), p. A1.

²⁷ Investors can purchase shares directly from individual funds by mail, telephone, or the Internet. A few funds charge purchase fees, but most do not.

²⁸ A large share of mutual fund investors own funds through retirement plans, such as 401(k) plans and IRAs. According to one survey, more than 60 percent of mutual fund shareholders in 2004 held shares through defined contribution retirement plans. However, about two-thirds of fund shareholders also owned funds outside of defined contribution plans. *ICI Fact Book* (2005), *supra*, note 11, pp. 32-33. Employers typically provide a choice of about five to ten mutual funds for employees' investment decisions. The employer acts as the agent for employees in selecting funds for investment. Employers frequently provide investment information to aid in selecting funds and allocating assets across funds.

²⁹ Investors seeking more guidance in setting investment goals and matching mutual funds to achieve those goals can gain information and make purchases through securities brokers, registered sales representatives at banks and savings and loans, and independent financial advisors. Investors can seek advice on asset allocations and which funds to purchase. Investments in mutual funds also take place through insurance brokers when purchasing annuities, which are also offered through banks and savings institutions and independent financial advisors. Also available through brokers are exchange traded funds. Exchange-traded funds ("ETFs") select groups of stocks to invest in, such as a market index like the S&P 500 or the Dow Jones Industrial Average, or by investing in a group of stocks in a given sector. ETFs are different than open-ended mutual funds, such as index funds. ETFs do not sell directly to investors. They issue shares in large blocks called "Creation Units" which they exchange for a basket of securities that generally reflect the securities in the ETFs. The large blocks are typically sold to institutions who sell individual shares in the secondary market. ETFs do not provide liquidity through redemption of shares like a mutual

fund. To redeem shares, an investor sells in the secondary market or sells the Creation Units back to the ETFs in exchange for securities underlying the asset. Because shares are not redeemable as in a fund, ETFs cannot call themselves mutual funds. However, they are a vehicle for investing in diversified stock portfolios.

³⁰ In the early 1990s, discount brokerage firms began offering fund supermarkets, through which there was a no-fee transaction; individual investors could select from a large (hundreds) offering of mutual funds. Fund investors can purchase funds in the supermarket as well as transfer assets between such funds, receiving statements from the brokerage firms. Funds make payments to the brokers to have their funds listed in the supermarket and to cover broker expenses. The brokers' costs of providing the funds and servicing the customers are compensated by the fund advisors from 12b-1 fees and other advisor revenues. The supermarket channel provides further price competition between mutual funds. With no-transaction-fee exchanges, investors can easily switch between mutual funds and form their own complexes of funds, both within an existing fund complex or across complexes. With multiple funds available from a single low-cost source, investors can more easily compare funds' fees, operating costs, and historical fund performance and ratings. Fund supermarkets provide direct competition to existing fund complexes by generating greater choice at a single source, with low search and exchange costs. Growth of investments in fund supermarkets is reflected in the asset growth of Charles Schwab's Marketplace fund supermarket. It grew from \$31 billion in 1994 to \$286.4 billion at the end of 2004. *Charles Schwab Annual Report*, 1999 and 2004.

³¹ Large institutional buyers, including government organizations, corporations, foundations, endowments, and pension plans can purchase fund shares directly from the fund. Many investment advisors also offer other products, including individually managed accounts and co-mingled funds. Funds also sell directly to institutional investors, having separate products specifically for institutional buyers.

³² *ICI Fact Book* (2004), *supra*, note 11, p. 47, and *ICI Fact Book* (2005), *supra*, note 11, p. 32.

³³ John K. Reid and John D. Rea, "Mutual Fund Distribution Channels and Distribution Costs," *Perspective*, 9 (July 2003). These fee schedules are not fixed for all investors. Discounts may be offered for large accounts, such as no 12b-1 fees for A class shares.

³⁴ *Id.*, p. 15.

³⁵ *Id.*, p. 16. Over a longer time period, Brad M. Barber, *et al.* found that the proportion of diversified United States equity funds invested in front-end load funds dropped from 91 percent in 1962 to 35 percent in 1999; See Brad M. Barber, *et al.*, *supra* note 18.

³⁶ John K. Reid and John D. Rea, *supra*, note 33, p. 17.

³⁷ A survey of 95 mutual fund complexes in 1999 found that 63 percent of 12b-1 fees were used to compensate broker-dealers and related expenses, with 32 percent going for administrative services, and 5 percent for advertising and promotion. *Id.*, p. 19.

³⁸ For example, mutual funds are subject to a near-complete ban on conflict-of-interest transactions between the advisor and the fund involving portfolio investments, loans from a fund to its advisor, purchases of fund assets by an advisor, and a mandate that funds maintain their securities and other assets in the custody of qualified institutions. 15 U.S.C. §80a-17.

³⁹ Business corporations, by contrast, are vulnerable to value extraction by control persons through multiple channels (or "tunnels"). See generally John C. Coates IV, "Fair Value" as a Default Rule of Corporate Law: Minority Discounts in Conflict Transactions," *University of Pennsylvania Law Review*, 147 (1999), p. 1251 (discussing management buyouts, freezeouts and other conflict transactions and the way such transactions can allow control persons to extract value from partially owned corporations); Simon Johnson, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, "Tunneling," *American Economic Review, Papers and Proceedings*, 90 (May 2000), pp. 22-27 (arguing civil law countries permit more tunneling than common law countries, but

acknowledging U.S. law as applied to ordinary business corporations only imposes loose controls on certain types of tunneling).

⁴⁰ James R. Barth, *The Great Savings and Loan Debacle*, Washington, D.C.: American Enterprise Institute (1991) (reviewing S&L crisis of 1980s); Annual Survey Issue, “Financial Institutions and Regulations, the S&L Crisis: Death and Transfiguration,” *Fordham Law Review*, 59 (1991), pp. S1-S211 (same); Congressional Budget Office, *Economic Effects of the Savings and Loan Crisis: A CBO Study*, Washington D. C.: U.S. Government Printing Office (1992) (same); Federal Deposit Insurance Corporation, *History of the Eighties: Lessons for the Future*, Washington D.C., U.S. Government Printing Office (1998) (reviewing bank crises of early 1990s); and Ruth Simon, “With Wall Street on Defensive, Claims Against Brokers Surge,” *Wall Street Journal*, (Apr. 27, 2003), p. A1 (reporting expected number of arbitration claims against brokers).

⁴¹ U.S. Securities and Exchange Commission Press Release 2003-136, “SEC Chairman Donaldson Releases Statement Regarding Initiatives to Combat Late Trading and Market Timing of Mutual Funds,” available at <http://www.sec.gov/new/press/2003-136.htm> (October 9, 2003) (“staff is aggressively investigating . . . allegations [of] . . . late trading and market timing,” announcing staff consideration of new rules and rule amendments to prevent late trading abuses); SEC Office of Legislative Affairs, “Summary of SEC Initiatives in Response to Scandal,” (Mar. 1, 2004), available at http://www.americanbenefitscouncil.org/documents/sec_mutual_fund_initiatives.pdf (listing over 11 proposed or adopted responses to late trading and market timing scandal); *State of New York v. Canary Capital Partners LLC*, available at http://www.oag.state.ny.us/press/2003/sep/canary_complaint.pdf (Sept. 3, 2003) (initial complaint alleging widespread late trading and market timing abuses).

⁴² *Boss v. La Salle Bank, N.A.*, 84 F. Supp. 2d 947 (N.D. Ill. 1999). These laws also provide special procedural rules allowing fund shareholders to initiate lawsuits on behalf of funds against directors. Fiduciaries are obliged to act with care, loyalty, and in good faith in carrying out their duties. See generally Robert C. Clark, *Corporate Law*, Boston: Little, Brown (1986). As we discuss more below in Section VI, courts have developed procedural devices designed to minimize frivolous shareholder suits to enforce these duties, and (as is the case with similar suits involving business corporations) such suits are usually settled rather than tried on the merits. William P. Rogers and James N. Benedict, “Money Market Fund Management Fees: How Much is Too Much?” *New York University Law Review*, 57 (1982), p. 1098 (frequent settlement of fiduciary cases against fund advisors); Roberta Romano, “The Shareholder Suit: Litigation Without Foundation,” *Journal of Law, Economics, and Organization*, 7 (1991), p. 84 (frequent settlement of fiduciary duty cases against business corporations generally). Nevertheless, they remain important guidelines for director behavior, and form the basis of the legal advice and education that fund directors are typically given about their role and duties in negotiating fees with fund advisors.

⁴³ Redeemable shares are not required by the ICA. See 15 U.S.C. §§80a-5(a) and -18. Another set of important contractual constraints on funds are restrictions on investment activities contained in the funds’ prospectuses and advisory contracts.

⁴⁴ See Victoria E. Schonfeld and Thomas M.J. Kerwin, “Organization of a Mutual Fund,” *Business Law*, 49 (1993), p. 107.

⁴⁵ See SEC, *Report on Investment Trust and Investment Companies*, Part I (1939), pp. 29-30, 101, and SEC, *Report on Investment Trusts and Investment Companies*, Part II (1939), pp. 34-39, 56, 112-13.

⁴⁶ For example, John P. Freeman and Stewart L. Brown, *supra*, note 2, note the fact of redeemable shares, but fail to consider how redeemable shares put competitive pressure on advisors to set fees competitively.

⁴⁷ SEC, Report, Part II, *supra*, note 45, pp. 38-39, 112-13; *ICI Fact Book* (2005), *supra*, note 11, p. 9.

⁴⁸ For evidence on the relationship between expenses and net returns and market shares, see papers listed in *supra*, note 18.

⁴⁹ John C. Bogle, *supra*, note 2.

⁵⁰ Susan E.K. Christoffersen, “Why do Money Fund Managers Voluntarily Waive their Fees?” *Journal of Finance*, 56 (June 2001), pp. 1117-40.

⁵¹ John P. Freeman and Stewart L. Brown, *supra*, note 2, pp. 609-74 and John C. Bogle, *supra*, note 2.

⁵² If research and portfolio management costs are small relative to total costs, then such potential economies of scale may be offset by diseconomies in other costs, such as in servicing investors. Using regression analysis to explain management expenses and test for economies of scale, the SEC did not find a strong relationship between management expenses and fund size, contrary to the 1960s view’s claim of large economies of scale in portfolio management. However, reported management expenses often included costs other than pure portfolio management. SEC, *supra* note 11, p. 29-31.

⁵³ Trends in expense ratios also vary depending on whether the ratios are measured as operating expenses net of 12b-1 fees, inclusive of 12b-1 fees, or operating expenses with 12b-1 fees including amortized front- and back-end load fees; that is, whether the expense ratios measure total shareholder costs or only a portion of total costs. Finally, innovation in marketing through new channels of distribution, such as the supermarkets of funds through brokers, can also affect expense ratios over time due to fees for using certain channels of distribution.

⁵⁴ *Id.*, pp. 24 and 27.

⁵⁵ SEC, *supra*, note 11; John C. Bogle, *supra*, note 2; Brad M. Barber, *et al.*, *supra*, note 18; and Investment Company Institute, “The Cost of Buying and Owning Mutual Funds,” (February 2004).

⁵⁶ Ali Hortacsu and Chad Syverson, “Product Differentiation, Search Costs, and Competition in the Mutual Fund Industry: A Case Study of S&P 500 Index Funds,” *Quarterly Journal of Economics*, 119 (May 2004), p. 412.

⁵⁷ SEC, *supra*, note 11, p. 42.

⁵⁸ GAO (2000), *supra*, note 2, p. 50 and GAO (March 2003), *supra*, note 2, p. 6.

⁵⁹ Michele LaPlante, “Influences and Trends in Mutual Fund Expense Ratios,” *Journal of Financial Research*, 24 (Spring 2001), pp. 45-63.

⁶⁰ *Id.* p. 54.

⁶¹ Erik R. Sirri and Peter Tufano, “Competition and Change in Mutual Fund Industry,” *Financial Services, Perspectives and Challenges*, edited by Samuel L. Hayes, III, Boston: Harvard Business School Press, (1993), p. 200.

⁶² Erik R. Sirri and Peter Tufano, *supra*, note 18, p. 1593.

⁶³ SEC, *supra*, note 11, p. 22.

⁶⁴ ICI, *supra*, note 55.

⁶⁵ Ajay Khorana and Henri Servaes, *supra*, note 18, p. 45.

⁶⁶ SEC, *supra*, note 11, p. 22.

⁶⁷ ICI, *supra*, note 55.

⁶⁸ Such a conclusion is also unwarranted when looking at bond and money market fund expense ratios. Bond and money market mutual funds are organized similarly to equity funds. The 1960s view’s claim that advisors engage in self-dealing in charging excess fees based on organizational structure would apply equally to bond and money

market funds, yet studies do not show a consistent pattern of rising expense ratios in these types of funds. *Id.*, and GAO (2000), *supra*, note 2.

⁶⁹ Shares for AIM, Janus, and Putnam fell during this period, but were affected by the 2003 market timing scandal.

⁷⁰ “In Risky Times, Investors Embrace Cautious Dynasty,” *Wall Street Journal*, (Nov. 15, 2004), p. A1.

⁷¹ Strategic Insight, SimFund.

⁷² Some observers speculate that capital gains reduce investor mobility. However, capital gains have not prevented large redemptions at times in funds under SEC investigation or during stock market downturns.

⁷³ Ajay Khorana and Henri Servaes, *supra*, note 18.

⁷⁴ *Id.*, p. 23.

⁷⁵ Mark M. Carhart, “On the Persistence in Mutual Fund Performance,” *Journal of Finance*, 52 (March 1997), pp. 57-82.

⁷⁶ Brad M. Barber, *et al.*, *supra*, note 18.

⁷⁷ Vikram Nanda, Z. Jay Wang and Lu Zheng, “Family Values and the Star Phenomenon: Strategies of Mutual Fund Complexes,” *Review of Financial Studies*, 17 (2004), pp. 667-98, and Diane Del Guercio and Paula A. Tkac, “Star Power: The Effect of Morningstar Ratings on Mutual Fund Flows,” Working Paper, Federal Reserve Bank of Atlanta, (2004).

⁷⁸ Erik R. Sirri and Peter Tufano, *supra*, note 18, pp. 1589-622.

⁷⁹ Erik R. Sirri and Peter Tufano, *supra*, note 61, pp. 195-96.

⁸⁰ *Id.*

⁸¹ Vikram Nanda, *et al.*, *supra*, note 77.

⁸² Michael Koehn, Jimmy Royer, and Marc van Audenrode, “When Family Values Really Matter: A Comment on ‘Family Values and the Star Phenomenon: Strategies of Mutual Fund Complexes,’” Working Paper, Université de Sherbrooke (July 2005).

⁸³ William J. Baumol, *et al.*, *supra*, note 18.

⁸⁴ See especially Vikram Nanda *et al.*, *supra*, note 77.

⁸⁵ The view that mutual fund advisors grow fee income at the expense of fund shareholders is also contradicted when advisors close funds to new investors in order to improve returns to fund shareholders. Simfund's 2004 data show that approximately 12 percent of small-cap funds were closed to new investors. Various growth and other investment style funds with substantial assets were also closed to new investors, including Fidelity Magellan (\$63.3 billion), Dodge and Cox Stock (\$43.3 billion), Vanguard PRIMECAP (\$23 billion), Dodge and Cox Balanced (\$21 billion), T. Rowe Price Mid-cap (\$12.7 billion), Janus Twenty (\$10 billion), and Longleaf Partners (\$9 billion).

⁸⁶ Wharton Report, *supra*, note 4, pp. 96-100.

⁸⁷ SEC, *supra*, note 7, pp. 11-12.

⁸⁸ *Id.*, p. 11. As reported above, the SEC's 2000 report on fees found little evidence of economies of scale in management fees. SEC, *supra*, note 11, pp. 29-31.

⁸⁹ George Stigler, "The Economies of Scale," *Journal of Law and Economics*, 1 (October 1958), pp. 54-71.

⁹⁰ *Jeffrey Krinsk v. Fund Asset Management, Inc., et al.*, 715 F. Supp. 472, 496 (1988) and *Irving Gartenberg v. Merrill Lynch Asset Management et al.*, 528 F. Supp. 1038, 1055 (1981). Some courts have found that service costs do not decline with increases in the number of a fund's investors. Some courts found that defendant mutual funds provided fee breakpoints with increasing asset size and concluded from the fee schedule that economies of scale existed and were being passed on to shareholders. *Irving Gartenberg v. Merrill Lynch Asset Management et al.* 528 F. Supp. 1038, 1055 (1981), and *Gertrude Schuyt v. Prime Reserve Fund*, 663 F. Supp. 962, 979, 1987 Fed. Sec. L. Rep. (CCH) P93,312. Other courts, however, have required plaintiffs to show that costs per unit of output declined with asset growth before considering whether cost savings were being passed on to shareholders. *Lucyle Kalish and Sol Kamen v. Franklin Advisors, Inc. et al.*, 742 F. Supp. 1222, 1238 (1990), and *Jeffrey Krinsk, v. Fund Asset Management, Inc. et al.*, 715 F. Supp. 472, 496 (1988).

⁹¹ James S. Ang and James Wuh Lin, "A Fundamental Approach to Estimating Economies of Scale and Scope of Financial Products: The Case of Mutual Funds," *Review of Quantitative Finance and Accounting*, 16 (May 2001), pp. 205-21; D. Latzko, "Economies of Scale in Mutual Fund Administration," *The Journal of Financial Research*, 22 (Fall 1999), pp. 331-39; C. Bonanni, J. Dermine, and L. Roller, "Some Evidence as Customer Lock-in in the French Mutual Funds Industry," *Applied Economics Letters*, 5 (May 1998), pp. 275-79; Sean Collins and Phillip Mack, "The Optimal Amount of Assets under Management in the Mutual Fund Industry," *Financial Analysts Journal*, 53 (1997), pp. 70-71; and William J. Baumol, *et al.*, *supra* note 18, pp. 185-89. While using assets as a measure of output is convenient (because fees are typically set as a percentage of assets), assets may not be the best proxy for output for all costs, including research and portfolio management. Indeed, the number of accounts or average account size may be a better proxy for output for some service costs, such as transfer agent expenses.

⁹² Michael K. Berkowitz and Yehuda Yotowitz, "Managerial Quality and the Structure of Management Expenses in the U.S. Mutual Fund Industry," *International Review of Economics and Finance*, 11 (2002), pp. 315-30; Peter Tufano and Matthew Sevick, *supra*, note 14, pp. 321-55; J. Dermine, L.H. Roller, and C. Bonanni, "Customer Loyalty, Scale Economies and Economies of Scope in French Funds: Additional Evidence," INSEAD Working Paper (1993); Jean Dermine and Lars-Hendrik Roller, "Economies of Scope and Scale in French Mutual Funds," *Journal of Financial Intermediation*, 2 (March 1992), pp. 83-93; and William J. Baumol *et al.* (1990), *supra* note 18, pp. 190-92.

⁹³ Daniel Deli focused directly on the issue of whether economies of scale are a benefit to investors, indicating the existence of price competition. Examining a sample of 4,833 funds in 1997 and, holding fund characteristics constant, he found an inverse relationship between the marginal compensation of advisors and both the size of the fund and the fund complex. As the size of funds and fund complexes increase, the marginal compensation of fund advisors declines, indicating cost reductions from economies of scale and scope benefit investors. Daniel N. Deli, "Mutual Fund Advisory Contracts: An Empirical Investigation," *Journal of Finance*, 57 (February 2002), pp. 122.

⁹⁴ John P. Freeman and Stewart L. Brown, *supra*, note 2, pp. 639-640.

⁹⁵ John W. Pratt, David A. Wise, and Richard Zeckhauser, "Price Differences in Almost Competitive Markets," *Quarterly Journal of Economics*, 93 (May 1979), pp. 189-211; Saul Lach, "Existence and Persistence of Price Dispersion: An Empirical Analysis," *Review of Economics and Statistics*, 84 (August 2002), pp. 433-44; and Alan T. Sorenson, "An Empirical Model of Heterogeneous Consumer Search for Retail Prescription Drugs," Working Paper, University of California, San Diego (September 14, 2001). Sorenson shows the extent of price dispersion for prescription drugs across pharmacies. However, the use of third-party payers and the prohibition on price advertising on prescription drugs limit the extent of price competition.

⁹⁶ R. Glenn Hubbard and Anthony Patrick O'Brien, *supra*, note 19, and Dennis W. Carlton and Jeffrey M. Perloff, *supra*, note 19, pp. 440-70.

⁹⁷ Having different preferences and opportunity costs, consumers compare goods across sellers according to the services and other characteristics provided. Indeed, even where search costs for prices are extremely low, such as across Internet sellers (some Internet sites, such as for books and travel, provide price information for multiple sellers), studies show that price dispersion continues to exist and persist. Online examples of price dispersion across identical products include such products as best-selling books, CDs, and life insurance products. Some consumers are interested primarily in price while others have a preference for non-price factors and are willing to make a price-brand tradeoff, paying a premium for a specific seller's brand, such as buying a book from Amazon or Barnes and Noble versus some relatively unknown seller. Michael R. Baye, John Morgan, and Patrick Scholten, "Price Dispersion in the Small and in the Large: Evidence from an Internet Price Comparison Site," *Journal of Industrial Economics*, 52 (December 2004), pp. 463-96; Jeffrey R. Brown and Austan Goolsbee, "Does the Internet Make Markets More Competitive? Evidence from the Life Insurance Industry," *Journal of Political Economy*, 110 (2002), pp. 481-507; Karen Clay, Ramayya Krishnan, and Eric Wolff, "Prices and Price Dispersion on the Web: Evidence from the Online Book Industry," *Journal of Industrial Economics*, 49 (December 2001), pp. 521-40; and Michael D. Smith and Erik Brynjolfsson, "Consumer Decision-Making at an Internet Shopbot: Brand Still Matters," *Journal of Industrial Economics*, 49 (December 2001), pp. 541-58. Wholesale prices have also been found to vary for such commodity-like products as white bread, corrugated boxes, and ready-mix concrete, depending on the seller's plant size. Mark J. Roberts and Dylan Supina, "Output Price, Markups, and Producer Size," *European Economic Review*, 40 (1996), pp. 909-21.

⁹⁸ Stereotypical examples of brand differentiation include brand name versus private labels for chemically identical products, such as competing aspirin or liquid bleach products, where prices can differ significantly. Obvious examples of retailer differentiation in the purchase of an identical good would be Costco versus a full-service retailer, or catalogue and Internet sellers versus brick-and-mortar outlets.

⁹⁹ Vanguard, however, does provide financial planning for an additional fee. For example, it provides a ten-year plan for investors for as much as \$1,500. "Helping Boomers Chart Their Course," *Wall Street Journal* (May 6, 2005), p. R1.

¹⁰⁰ Ali Hortacsu and Chad Syverson, *supra*, note 56.

¹⁰¹ *ICI Fact Book* (2005), *supra*, note 11, p. 30.

¹⁰² Institutional accounts vary widely, including trusts, foundations, life insurance companies, pension plans, and various levels of high-net-worth individuals. Those comparing institutional fees to retail fees focus on public pension plans, or fees where the investment advisor is offering portfolio management services primarily. In contrast, many investment advisors to retail funds also offer institutional funds to large investors, sometimes offering sister funds of the same name to retail customers.

¹⁰³ Wharton Report, *supra* note 4, p. 489; SEC, *supra*, note 7, pp. 114-21; and John P. Freeman and Stewart L. Brown, *supra*, note 2, pp. 627-40.

¹⁰⁴ John P. Freeman and Stewart L. Brown, *supra*, note 2, p. 628, fn. 88, and p. 629, fn. 93. However, if a mutual fund were limited to institutional clients, the alleged conflict of interest between shareholders and investment advisors would likely still prevail.

¹⁰⁵ Courts have recognized the invalidity of comparing fees between institutional and retail clients. *Mark S. Bromson v. Lehman Management Co., Inc. and Lehman Cash Management Fund, Inc.* 1986 U.S. Dist. LEXIS 28223, S.D.N.Y. (March 13, 1986); *Irving Gartenberg v. Merrill Lynch Asset Management*, 694 F.2d 923, 930 n. 3 (2d Cir. 1982, cert denied, 461 U.S. 906, (1983); and *Lucyle Kalish and Sol Joseph Kamen v. Franklin Advisers, Inc., et al.* 742 F. Supp. 1220, 1237 (S.D.N.Y. 1990).

¹⁰⁶ Wharton Report, *supra*, note 4, p. 489.

¹⁰⁷ SEC, *supra*, note 7, p. 115.

¹⁰⁸ It is unclear whether the Wharton Report or the SEC study controlled for differences in asset size, number of accounts, and other factors between their mutual fund and institutional samples. Factors other than an absence of price competition may explain in part the fee differences.

¹⁰⁹ SEC, *supra*, note 11, pp. 24 and 27.

¹¹⁰ Funds experiencing large outflows relative to inflows sell securities in response, exacerbating price below fundamental value in securities held in common by funds experiencing similar liquidity demands. Joshua D. Coval and Erik Stafford, “Asset Fire Sales (and Purchases) in Equity Markets,” NBER Working Paper Series (May 2005). Managing liquidity and performance to avoid such “fire sales” requires investment in research and portfolio management expertise.

¹¹¹ John P. Freeman and Stewart L. Brown, *supra*, note 2, p. 630. Whether the sample is valid is unclear. For example, pension plans paying higher fees may have been reluctant to respond.

¹¹² *Id.*, pp. 631-635.

¹¹³ *Id.*, p. 631, fn. 100. John P. Freeman and Stewart L. Brown also compared average investment advisory fees for S&P 500 index funds charged to retail shareholders, pension plans, and the fee charged by the Vanguard S&P 500 fund. They found that mutual funds were charged 16 basis points on average and pension plans 1.4 basis points. They claim that Vanguard charged only 0.01 percent. *Id.*, p. 640. In 2005 Vanguard charged investors with a minimum \$3,000 investment 17.7 basis points. Investor's in Vanguard's Institutional Index fund, with a minimum \$5 million investment, paid 5 basis points for the same portfolio of S&P 500 assets. *Vanguard 500 Index Fund Prospectus*, Apr. 29, 2005, pp. 3-4, and *Vanguard Institutional Index Fund Prospectus*, Nov. 15, 2005, pp. 1-3.

¹¹⁴ SEC, *supra*, note 11, p. 29, fn. 103.

¹¹⁵ Sean Collins, “The Expenses of Defined Benefit Pension Plans and Mutual Funds,” *Perspective*, 9 (December 2003).

¹¹⁶ *Id.*, p. 8.

¹¹⁷ *Id.*

¹¹⁸ John P. Freeman and Stewart L. Brown, *supra*, note 2, p. 638.

¹¹⁹ *Id.*, p. 631.

¹²⁰ *Irving Gartenberg v. Merrill Lynch Asset Management, Inc. et al.*, 694 F.2d 923, 932 (2nd Cir. 1982)

¹²¹ *Gallus et al. v. American Express Financial Corporation and American Express Financial Advisors, Inc.*, 370 F. Supp. 2d 862, 865 n. 3, D. Minn. (March 7, 2005).

¹²² Courts have not adopted the view that fall-out benefits are offsets to shareholders fees. Rather, the courts' instructions are to consider fall-out benefits when determining whether fees meet the standard of amended ICA §36(b). *Irving Gartenberg v. Merrill Lynch Asset Management, Inc., et al.*, 694 F.2d 923, 932 (2nd Cir. 1982)

¹²³ And, returning to our earlier economic analysis, if competition exists among mutual funds because of investor mobility, fall-out benefits are passed on to shareholders. More specifically, fund stockholders purchase a package of services, including stock selection and portfolio management, research, brokerage transactions, transfer agent, custodial services, financial reporting, communication with the fund, marketing and distribution, compliance with regulations, a complex of alternative fund investments, etc. They pay fees to the investment advisor for the entire package of services rather than engaging in do-it-yourself portfolio management and investing. In return, they receive professional money management and administrative services. In addition, they receive one-stop shopping

from a fund complex, which economizes on customers' expenses by reducing search costs, transaction costs, the investor's record keeping costs, and so forth. As such, fund complexes provide an incentive for investors to concentrate their investments within the complex. Such concentration may benefit investors in all the complex's funds through economies of scale and economies of scope. By offering shareholders a multitude of products and services, an investment advisor seeks to increase demand and lower costs for all of its investors, which reduces shareholder fees.

Consider the following examples:

Income from securities lending. In some cases, securities income goes to the fund, so there is no fall-out benefit. For example, the Fidelity Growth and Income fund receives income from securities lending. Fidelity Investments, *Fidelity Growth & Income Portfolio Annual Report* (July 31, 2004), p. A-20. The annual report states that the fund "lends portfolio securities from time to time in order to earn additional income." (p. A-27) In other cases, securities lending revenues may be split with, for example, the custodian, in exchange for lower custodial fees. In neither case do shareholders fail to capture securities lending income.

Profits from new customers and complementary business. Existing shareholders benefit from the attraction of new investors to a fund by gaining lower fee breakpoints, up to the point at which breakpoints are exhausted. Investment by existing customers in additional funds enhancing economies of scope, which can contribute to lower costs per asset and shareholders' fees, benefiting existing investors.

Alleged rebates and soft dollar payments. Rebates from vendors, such as transfer agents and custodian firms, are equivalent to price reductions. To the extent that competition prevails among funds receiving rebates, it leads to lower fund costs and shareholder fees.

Soft-dollar payments can benefit shareholders. If the payment is in the form of lower brokerage commissions (in exchange for greater trading volume) then shareholders benefit directly by paying lower brokerage fees. If payment is in the form of research for the same commissions, shareholders benefit from additional research findings and insights. If the payment is in the form of slightly higher commissions in exchange for research, shareholders pay somewhat more in commissions for additional research. If the cost of research is less than the cost from the advisor's own research department, assuming no reductions in research quality, then customers benefit by gaining further research at a lower cost.

Reusing research and portfolio management. To the extent that research costs are spread over multiple funds, investors benefit by lower shareholder fees. Using the research for additional portfolio management business, such as contracting to become a sub-advisor for another fund or an external portfolio manager for an institutional client, allows the fund to gain further incremental revenues toward covering total costs, benefiting all fund investors.

Float and free credit balances. Float is an inevitable by-product of transacting business by checks. If customers can select accounts where balances are automatically swept into competitive-return money market funds until redirected to equity or bond investments, there is no fall-out benefit.

¹²⁴ John P. Freeman and Stewart L. Brown, *supra* note 2, p. 618, and SEC *supra*, note 7, p. 103.

¹²⁵ SEC, *supra*, note 7, pp. 104-105.

¹²⁶ *Id.*, p. 88.

¹²⁷ *Id.*, pp. 98 and 102.

¹²⁸ “Major Reorganization Set at Massachusetts Investors Trust Group,” *Wall Street Journal* (July 2, 1969).

¹²⁹ John P. Freeman and Stewart L. Brown, *supra* note 2, pp. 618-19, and John C. Bogle, *supra*, note 2.

¹³⁰ *Vanguard 500 Fund Index Prospectus* (Apr. 23, 2004), p. 8, and *Vanguard 500 Index Annual Report* (Dec. 31, 2004), note B, p. 24.

¹³¹ *Vanguard 500 Index Fund Annual Report* (Dec. 31, 2004), note B, p. 24. Various Vanguard fund prospectuses state that the fund may contribute up to 0.40 percent of net asset value to Vanguard’s capital, but that Vanguard only takes 0.01 percent. This is a relatively small percentage, indicating that Vanguard is likely earning profits from additional sources. As an example, Vanguard manages over \$100 billion in assets in its S&P 500 index fund, yet states that by the end of 2004 it took only \$13.9 million as a contribution to capital from this specific fund.

¹³² Fidelity and American Funds are challenging Vanguard as the low price leader in some product areas. “Vanguard Ups Ante In Fee Wars,” *Wall Street Journal* (Apr. 21, 2005), p. D1. The SEC characterized all three fund groups as having relatively low cost, and as a consequence increasing their share of fund assets from 17 percent at the beginning of 1990 to more than 27 percent at the end of 1999. SEC, *supra*, note 11, p. 13.

¹³³ Based on our review of Vanguard’s prospectuses, we estimate that Vanguard uses external portfolio managers as sub-advisers for over 90 percent of its actively managed assets. In some cases, Vanguard uses multiple portfolio managers for the same fund.

¹³⁴ A fund complex’s success of course depends on more than low fees. TIAA-CREF is managed internally and has a reputation for low fees. However, TIAA-CREF’s actively managed funds have provided low returns to investors in various periods, well below average market returns. Using a measure of return adjusted for risk over a three-year period, we found that TIAA-CREF produced returns statistically significantly below the market average at the end of 2002 and 2003 and not significantly different from the market average in 2000 and 2001. Vanguard’s risk-adjusted returns were not significantly different from the market average in 2000, 2002, and 2003, and above the market average in 2001. In individual cases, low fees by themselves do not necessarily lead to superior returns for investors.

¹³⁵ Replicating Vanguard’s mutual ownership structure may be unlikely today because Vanguard reportedly received various exemptions in the 1970s for its mutual ownership structure from the SEC. However, as noted above, funds with internal portfolio management existed long before Vanguard was formed in 1975.

¹³⁶ Samuel S. King, “Mutual Funds: Solving the Shortcomings of the Independent Director Response to Advisory Self-dealing Through Use of the Undue Influence Standard,” *Columbia Law Review*, 98 (1998), p. 506 (proposing that courts engage in a “reasonableness” inquiry of fees based on inferences about influence that advisors could have on fund director). Interestingly, despite the harsh (and in our view, misplaced) criticism that John P. Freeman and Stewart L. Brown, *supra* note 2, direct at the fund industry, fee levels, and judicial interpretations of Section 36(b) of the ICA, their only specific policy or law reform proposals are (a) for courts to consider comparable fees – a proposal we endorse below, see text accompanying notes 133 to 141 *infra*, although for different reasons – and (b) for the SEC to mandate additional disclosure from advisors on their costs and profits.

¹³⁷ We do not here set out a complete case against government-determined prices, but assume that the case is one that most readers would already accept, absent evidence of serious market failure.

¹³⁸ Nothing in the ICA as initially adopted in 1940 reflects any intent to regulate the prices that funds pay for advisory services. Nor was this an oversight: in 1935, the same year Congress first directed the SEC to study the mutual fund industry, Congress was fully aware of the public utility model for industry regulation, having previously adopted a comprehensive statute regulating utilities (the Public Utilities Holding Company Act).

¹³⁹ Sen. Rep. No. 184, 91st Cong., 2d Sess. (1970), reprinted in [1970] U.S. Code Cong. & Ad. News 4897, 4902. Even if one were tempted to consider rate regulation a viable policy instrument in the fund industry, the courts are

perhaps the last branch of government to which such a complex and time-consuming task would be committed. Among other things, in the Anglo-American tradition, courts do not conduct the independent investigations that would be necessary for even the crudest form of rate regulation. See, e.g., Feeley, "The Adversary System," *Encyclopedia of the American Judicial System*, ed. by R. Janosik, 2 (1987) p. 753 (describing adversarial fact-finding). And even if one imagined that courts might play a routine role in setting prices advisers charge funds, representative litigation nominally initiated by shareholders generates many problems of its own. See generally Conference Report, Private Securities Litigation Reform Act of 1995, H.R. Rep. No. 369, 104th Cong., 1st Sess., 141 Cong. Rec. H13699 (Nov. 28, 1995) (detailing problems with and role of attorneys in controlling representative securities law actions); J. Avery, "Securities Litigation Reform: The Long and Winding Road to the Private Securities Litigation Reform Act of 1995," *Business Law*, 51 (1996), p. 335; Roberta Romano, *supra* note 40, p. 84 ("...shareholder litigation is a weak, if not ineffective, instrument of corporate governance."); Sanjai Bhagat and Roberta Romano, "Event Studies and the Law: Empirical Studies of Corporate Law," *American Law and Economic Review*, 4, (2002), p. 407 ("...wealth effects of derivative lawsuits are negligible."); Jonathon R. Macey and Geoffrey P. Miller, "The Plaintiffs' Attorney's Role in Class Action and Derivative Litigation: Economic Analysis and Recommendations for Reform," *University of Chicago Law Review*, 58 (1991), p. 3 (critiquing representative litigation); Robert B. Thompson and Randall S. Thomas, "The New Look Of Shareholder Litigation: Acquisition-Oriented Class Actions," *Vanderbilt Law Review*, 57 (2004), p. 57 (analyzing results of representative shareholder litigation, generally concluding such litigation provides few benefits outside limited context of acquisition transactions); Elliott J. Weiss and Lawrence J. White, "File Early, Then Free Ride: How Delaware Law (Mis)Shapes Shareholder Class Actions," *Vanderbilt Law Review*, 57 (2004), p. 1797 (critiquing representative shareholder actions).

¹⁴⁰ SEC, *supra*, note 7, p. 129.

¹⁴¹ The claim that pre-1970 fiduciary duty law had no effect on funds is too strong, however. Many suits attacking fees were settled (as has always been and remains true), and the pendency or threat of those suits are credited with the spread of breakpoints in advisor fee schedules in the 1960s. See *id.*, pp. 132-43.

¹⁴² S. 3724, 90th Congress, 2d Session (1998) and *Gartenberg v. Merrill Lynch Asset Management, Inc.*, 528 F. Supp. 1038, 1045 n.7 (S.D.N.Y. 1998).

¹⁴³ This inference from congressional inaction is supported by a basic analysis of what such a standard would entail. The key point is that the word "reasonable" is far from precise; what one "reasonable" person finds "reasonable" another may not. As a result, if courts were charged with determining in the first instance whether a given fee was "reasonable," the result would be to transfer a substantial amount of discretion over fees from fund directors to judges. It is true that the sponsor of the final legislation stated as he introduced the bill into Congress that Section 36(b)'s "imposition of the fiduciary duty, would in effect require a standard of reasonableness," he said that by way of contrasting his characterization of pre-1970 law as requiring a showing that a fee was "excessively excessive." statement of Senator Moss, 116 *Congressional Record* 33281, (Sept. 23, 1970). In any event, in addition to the clear rejection of rate regulation quoted above, the final Senate Report accompanying Section 36(b) states that an:

adviser is entitled to make a profit. Nothing is ... intended to imply otherwise. ... Nothing ... is intended to suggest that a 'cost-plus' type of contract would be required. ... This section is not intended to authorize a Court to substitute its business judgment for that of ... fund ... directors in the area of management fees [or] shift responsibility ... from the directors ... to the judiciary. Senate Report at 6-7, U.S. Code & Cong. & Admin. News 1970, at 4902.

¹⁴⁴ 15 U.S.C. §80a-36(b).

¹⁴⁵ 694 F.2d 923 (2d Cir. 1982), cert. denied, 461 U.S. 906, 103 S. Ct. 1877, 76 L. Ed. 2d 808, 51 U.S.L.W. 3774 (1983) and 740 F.2d 190 (2d Cir. 1984).

¹⁴⁶ 694 F.2d at 927-28.

¹⁴⁷ 694 F.2d at 929.

¹⁴⁸ See *Schuyt v. Rowe Price Prime Reserve Fund, et al.*, 663 F. Supp. 962, 974 (S.D.N.Y. 1987) (declining to rely on expert testimony that found competition in the market for advisors as “directly contradicted” by *Gartenberg*). The Schuyt court stated an alternative rationale for not considering testimony about competition in the fund market the fact that the expert “did not deal in a cohesive fashion with the factors suggested” in *Gartenberg*. It is not clear why the fact that an expert offers evidence about one part of a multi-factor test??? should lead a court to ignore or treat lightly the evidence that is offered, so long as it is relevant, but this alternative explanation is at least compatible with *Gartenberg*. Cf. *Krinsk v. Fund Asset Management*, 715 F.Supp. 472, 497 (considering comparable fees, but citing *Gartenberg* for the proposition that such fees have “limited value due to the lack of competition among advisers for fund business.”).

¹⁴⁹ 694 F.2d at 929.

¹⁵⁰ *Id.*

¹⁵¹ 694 F.2d at 929.

¹⁵² *Id.*

¹⁵³ *Id.* at 929 n.2.

¹⁵⁴ SEC Release No. 33-7494 (October 1, 1998).

¹⁵⁵ See *e.g.*, SEC Releases Nos. 33-8433, 34-49909, IC-26486 (Aug. 5, 2004); IC-26195 (Sept. 29, 2003); and IC-20614 (Oct. 13, 1994).

¹⁵⁶ Baumol *et al.*, *supra*, note 18 and Khorana and Servaes, *supra*, note 18.

¹⁵⁷ Koehn, et al., *supra*, note 82.

¹⁵⁸ Ajay Khorana and Henri Servaes recognize that fees are affected by fund size but do not use two-stage least squares. Instead, they run a regression of fees on assets and other control variables, using the regression residuals in an attempt to correct for the endogeneity of fees. *Supra*, note 18.

¹⁵⁹ Jerry Hausman, “Specification Tests in Econometrics,” *Econometrica*, 46 (1978), pp. 1251-71.

Table 1**Number of Funds, Number of Complexes, and Concentration for Equity Mutual Funds
1985-2004**

Year	Number of Funds	Number of Complexes	Fund Concentration	Complex Concentration
1985	650	192	79	374
1986	811	224	79	423
1987	1,004	251	71	414
1988	1,130	275	75	432
1989	1,194	295	79	455
1990	1,298	302	73	457
1991	1,391	321	72	478
1992	1,612	359	66	490
1993	1,890	390	58	539
1994	2,247	430	55	572
1995	2,467	463	57	596
1996	2,765	495	50	559
1997	3,161	538	50	548
1998	3,535	571	53	572
1999	3,796	614	50	555
2000	4,170	618	46	537
2001	4,218	608	46	549
2002	4,106	588	47	576
2003	3,979	577	46	591
2004	3,934	571	48	619

Note:

Fund and complex concentrations are measured by the Herfindahl-Hirschman Index (HHI), where HHI is defined by:

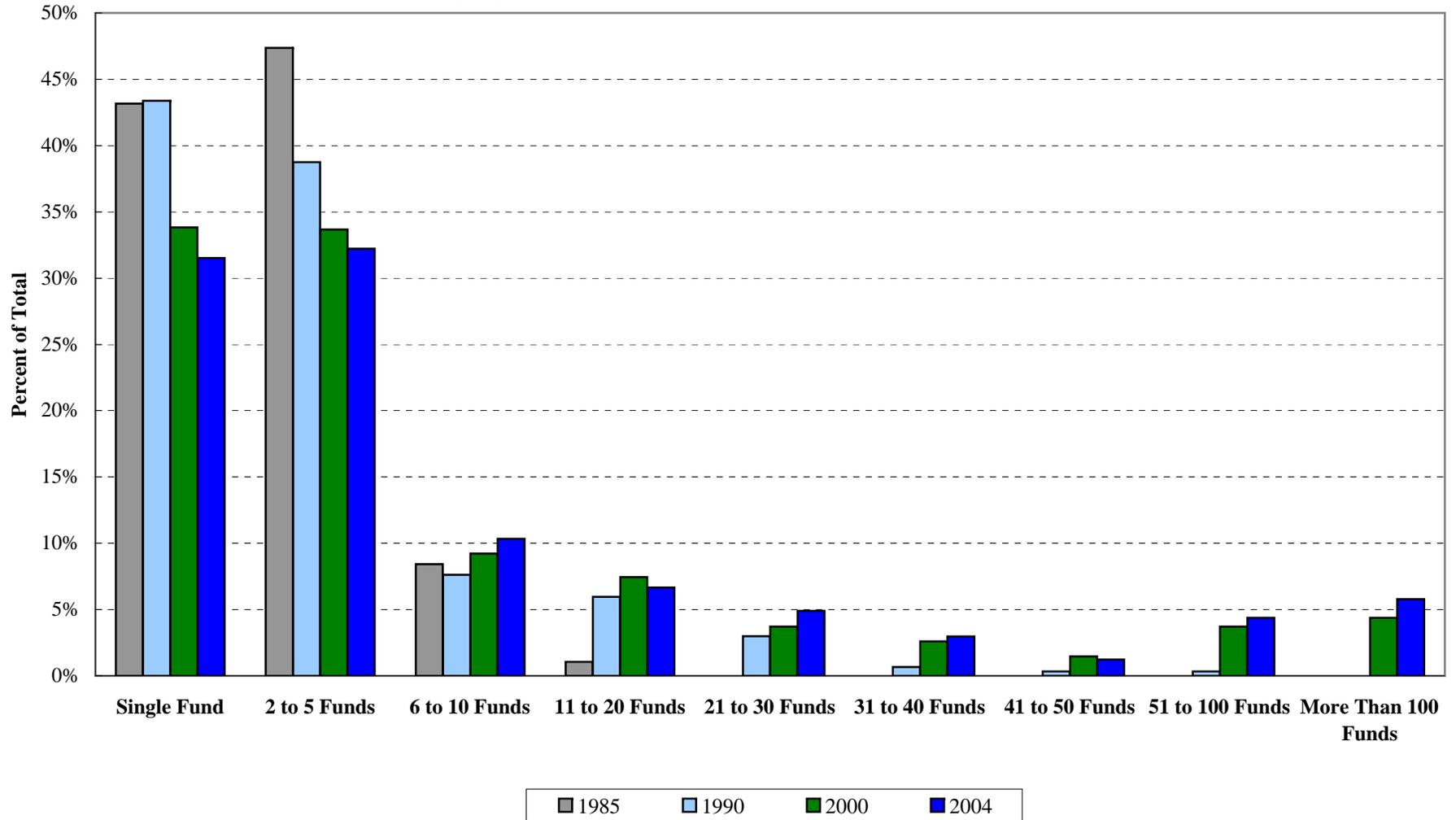
$$HHI = \sum_{i=0}^n (\text{Market Share})^2$$

Source:

Strategic Insight (Simfund)

Figure 1

Distribution of Number of Funds in Complexes for Equity Mutual Funds At Different Points in Time



Source: Strategic Insight (Simfund)

Table 2

**Fund Concentration by Morningstar Category for Equity Mutual Funds
1985-2004**

<u>Year</u>	<u>Large Growth</u>	<u>Large Value</u>	<u>Mid Cap Growth</u>	<u>Small Cap Growth</u>	<u>International</u>
1985	942.05	1,335.82	633.60	1,166.30	1,305.30
1986	928.77	1,199.81	486.18	1,068.20	904.33
1987	827.15	1,042.55	454.89	954.21	840.63
1988	806.95	1,092.03	446.08	1,034.14	856.62
1989	766.74	1,096.68	412.30	1,094.75	729.38
1990	704.29	1,047.85	388.93	1,014.33	479.91
1991	636.94	996.37	319.21	1,007.70	440.78
1992	618.52	909.82	285.25	701.26	361.72
1993	641.84	811.84	295.48	624.78	210.15
1994	678.44	764.03	330.19	615.73	192.57
1995	689.96	720.83	378.74	528.63	213.19
1996	687.08	690.38	381.04	497.60	209.83
1997	531.39	398.34	481.52	477.85	199.94
1998	391.37	362.15	453.33	389.64	190.82
1999	277.85	370.22	342.36	375.23	213.02
2000	236.17	336.05	241.40	373.93	220.91
2001	241.70	347.89	202.66	268.71	233.65
2002	244.88	452.10	203.50	256.49	224.23
2003	301.78	464.74	232.51	288.62	212.91
2004	391.22	416.05	278.26	340.78	219.82

Notes:

"International" is an aggregation of all funds in the following Morningstar categories: Diversified Emerging Markets, Diversified Pac/Asia, Europe Stock, Foreign Large Blend, Foreign Large Growth, Foreign Large Value, Foreign Small/Mid Growth, Foreign Small/Mid Value, Foreign Stock, Japan Stock, Latin America Stock, Pac/Asia Excluding Japan Stock, World Allocation, and World Stock.

Fund and complex concentrations are measured by the Herfindahl-Hirschman Index (HHI), where HHI is defined by:

$$HHI = \sum_{i=0}^n (Market \ Share)^2$$

Source:

Strategic Insight (Simfund)

Table 3

**Complex Concentration by Morningstar Category for Equity Mutual Funds
1985-2004**

<u>Year</u>	<u>Large Growth</u>	<u>Large Value</u>	<u>Mid Cap Growth</u>	<u>Small Cap Growth</u>	<u>International</u>
1985	1,226.84	1,773.17	972.81	1,570.46	2,675.31
1986	1,165.58	1,824.13	772.76	1,504.90	1,557.05
1987	1,058.66	1,744.11	705.50	1,346.94	1,558.13
1988	1,052.74	1,814.06	705.20	1,420.28	1,862.02
1989	1,070.13	1,888.43	659.31	1,354.35	1,722.92
1990	1,020.72	1,932.48	624.57	1,173.32	1,254.97
1991	1,042.74	1,926.37	559.05	1,138.39	1,213.42
1992	1,031.54	1,880.87	493.31	832.85	1,034.74
1993	1,041.03	1,760.59	478.33	734.75	735.61
1994	1,076.71	1,696.04	523.90	694.45	676.19
1995	1,053.18	1,569.00	611.04	593.29	698.99
1996	1,006.46	1,476.74	632.95	553.06	684.16
1997	808.97	886.59	1,101.50	543.63	690.15
1998	720.89	849.09	839.00	464.07	614.44
1999	830.79	1,010.92	544.77	424.15	613.30
2000	840.52	834.64	497.97	469.64	666.46
2001	694.30	901.85	396.66	341.73	747.63
2002	668.65	1,181.81	387.21	356.83	783.10
2003	717.49	1,199.43	482.60	399.04	810.33
2004	943.04	1,056.67	416.49	434.42	863.02

Note:

"International" is an aggregation of all funds in the following Morningstar categories: Diversified Emerging Markets, Diversified Pac/Asia, Europe Stock, Foreign Large Blend, Foreign Large Growth, Foreign Large Value, Foreign Small/Mid Growth, Foreign Small/Mid Value, Foreign Stock, Japan Stock, Latin America Stock, Pac/Asia Excluding Japan Stock, World Allocation, and World Stock.

Fund and complex concentrations are measured by the Herfindahl-Hirschman Index (HHI), where HHI is defined by:

$$HHI = \sum_{i=0}^n (Market \ Share)^2$$

Source:

Strategic Insight (Simfund)

Table 4**The Twenty Largest Equity Mutual Funds in 2004 that Did Not Exist in 1994**

Fund	Fund Inception Year	Total Assets End of Year (\$ in millions)	Size Percentile
Artisan International	1996	\$11,228	1.55%
Schwab S&P 500 Index	1996	\$8,814	2.19%
Fidelity Advisor Mid Cap	1996	\$8,766	2.26%
Oakmark Equity & Income	1995	\$8,704	2.29%
Vanguard Cap Opportunity	1995	\$8,548	2.31%
Vanguard Mid Cap Index	1998	\$8,485	2.34%
Hartford Capital Appreciation	1996	\$8,138	2.49%
AIM Basic Value	1995	\$7,296	2.67%
MFS Value	1996	\$6,941	2.95%
PIMCO Commodity Real Return Strategy	2002	\$6,202	3.25%
Vanguard REIT Index	1996	\$5,998	3.36%
Artisan Mid Cap	1997	\$5,919	3.38%
Oakmark Select	1996	\$5,812	3.46%
Fidelity Advisor Diversified International	1999	\$5,531	3.66%
Grantham Mayo Foreign	1996	\$5,491	3.69%
Fidelity Advisor Dividend Growth	1999	\$5,218	3.84%
SB Large Cap Growth (Managed by Citigroup Asset Management)	1997	\$5,169	3.94%
Price Mid Cap Value	1996	\$5,071	4.02%
Evergreen Asset Allocation	1997	\$4,385	4.65%
ING International Value	1995	\$4,241	4.75%

Notes:

Shares of equity mutual fund assets under management are as of year-end 2004.

Funds are ordered so that the smallest fund has a percentile of 100 percent and the largest fund has a percentile of approximately zero.

Source:

Strategic Insight (Simfund)

Table 5**The Twenty Largest Equity Mutual Fund Complexes in 2004 that Did Not Exist in 1994**

Fund	Fund Inception Year	Total Assets End of Year (\$ in millions)	Size Percentile
Artisan Partners	1995	\$20,772	6.83%
Vantagepoint	1999	\$8,715	11.38%
TIAA-CREF	1997	\$6,983	13.31%
Marsico Capital	1997	\$5,343	16.29%
SBC Financial	2001	\$5,159	16.64%
Thornburg	1995	\$4,884	16.99%
ProFunds	1997	\$3,486	19.26%
L/G Research	1997	\$2,460	21.72%
ICON Advisers	1997	\$2,388	22.24%
Causeway Capital	2001	\$2,345	22.59%
Olstein	1995	\$2,073	23.99%
CRM Advisors	1995	\$1,761	25.22%
Ameristock	1995	\$1,723	25.74%
AssetMark	2001	\$1,671	26.80%
Kensington	1999	\$1,500	28.37%
Hussman Econometrc	2000	\$1,470	28.55%
Westport Advisors	1998	\$1,387	29.42%
Institutional Cap	1995	\$1,342	29.77%
Northwestern Mutual	1997	\$1,307	30.12%
Transamerica Financial	1995	\$945	32.40%

Notes:

Shares of equity mutual fund assets under management are as of year-end 2004.

Complexes are ordered so that the smallest complex has a percentile of 100 percent and the largest complex has a percentile of approximately zero.

Source:

Strategic Insight (Simfund)

Table 6**Fee Waivers and Changes for Equity Mutual Fund Share Classes, 1998-2004**

Year	Share Classes With Fee Waivers		Number of Share Classes With Fee Changes			
	Number of Share Classes	Percentage of Share Classes With Waivers	Decreases	Increases	No Change	Unknown
1998	1,995	42.0%				4,751
1999	2,325	46.9%	921	836	2,033	1,166
2000	2,699	41.7%	1,348	979	2,437	1,716
2001	3,543	45.7%	796	1,748	3,392	1,816
2002	4,168	49.2%	834	2,380	4,031	1,225
2003	4,341	48.4%	949	2,210	4,661	1,155
2004	4,139	48.0%	2,606	660	4,864	493

Notes:

1. A share class is determined to have waived fees if the average gross expense ratio inclusive of reimbursements and waivers, weighted by assets in each share class, exceeds the actual average expense ratio paid by shareholders.
2. Fee changes are based on expense ratios rounded to the hundredth decimal place: any fee change greater than five basis points is counted as a change. Changes of less than five basis points are classified as no change for that year.
3. Fee change for funds in the "Unknown" column cannot be calculated because the prior year's fee is not present in the database.

Source:

Strategic Insight (Simfund)

Table 7

Studies of Trends in Shareholder Fees and Expense Ratios

Study	Cost Measures	Sample and Time Period	Results
Barber, Odean, and Zheng (2005)	Asset Weighted Mean Operating Expense Ratio	U.S. Diversified Equity Mutual Funds, 1962-1999	-Ratio rose from 0.54 in 1962 to 0.90 in 1999. -12b-1 fees rose from 0.14 in 1993 to 0.20 in 1999
Khorana and Servaes (2004)	Weighted average expense ratio by fund family, plus one-seventh of front- and back-end loads	Total fund families in a particular year in all investment objectives, 1979-1998	Ratio fell from 1.4 in 1979 to 1.19 in 1998
Hortacsu and Syverson (2004)	Expenses plus one-seventh of annual loads	85 retail S&P 500 index funds, 1995-2000	Fees rose from 0.268 in 1995 to 0.322 in 2000
ICI (2004)	-Sales weighted expense ratio with amortized loads -Asset weighted expense ratio -Sales weighted operating expense ratio -Sales weighted average load charges	Equity funds, various years, 1980-2002	-Ratio declined from 2.26 in 1980 to 1.25 in 2002 -Ratio rose from 0.68 in 1980 to 1.00 in 1990 and 2002 -Ratio rose from 0.68 in 1980 to 0.86 in 1990, falling to 0.78 in 2002 -Load charges declined from 1.49 in 1980 to 0.18 in 2002
Bogle (2003)	Average expense ratio of mutual funds	1978-2002	Ratio increased from 0.91 in 1974 to 1.36 in 2002
U.S. GAO (2000 and 2003)	Weighted average expense ratios for equity and bond mutual funds, including	77 largest mutual funds, 1990-1998 76 largest mutual funds, 1999-2001	Ratio for the 46 largest equity funds declined from 0.74 in 1990 to 0.65 in 1998. Ratio then rose to 0.70 in 2001. Ratio for bond funds fell from 0.62 in 1990 to 0.58 in 1998 and to 0.54 in 2001.
SEC (2000)	Weighted average expense ratio	1,000 largest fund classes in all equity and bond mutual funds in 1999. Ratios reported for 1979, 1992, and 1995-1999.	Ratio rose from 0.73 in 1979 to 0.94 in 1999. Ratio for no-load funds fell from 0.76 in 1995 to 0.68 in 1998 and 0.72 in 1999. Median front-end load declined from 8.5% in 1979 to 4.75% in 1999.
Sirri and Tufano (1998)	Expense ratio plus amortized load over seven years	690 equity mutual funds from 1971 to 1990	Average ratio rose from 0.96 to 1.44 over the period. Total expense ratio, including loads, fell from 1.66 to 1.37.
Sirri and Tufano (1993)	Total cost weighted by fund assets with loads amortized over seven-years	632 equity mutual funds from 1970 to 1990	No-load funds ratios rose over the period from approximately 0.60 to 0.75 and fell in load funds from 2.25 to 1.9. Overall, total expense ratios fell from 2.2 to 1.5.

Table 8

**Shares of Equity Assets Under Management
of Top 25 Mutual Fund Complexes, 1985-2004**

Complex	1985	1990	1995	2000	2004
AIM Investments	1.17%	2.11%	3.50%	3.73%	1.56%
AllianceBernstein	1.35%	<i>0.86%</i>	<i>0.72%</i>	1.41%	0.93%
American Century	2.11%	2.34%	2.43%	2.18%	1.65%
American Express	3.72%	2.58%	2.10%	1.89%	1.07%
American Funds	7.76%	9.71%	9.48%	8.48%	14.09%
Citigroup Ast Mgmt	1.97%	2.85%	1.42%	1.08%	1.05%
Columbia Mgmt Adv	<i>0.99%</i>	0.92%	1.28%	0.90%	0.93%
DFA		<i>0.40%</i>	<i>0.30%</i>	<i>0.34%</i>	0.89%
Davis-Selected Adv	<i>0.25%</i>	<i>0.30%</i>	<i>0.25%</i>	0.82%	0.87%
Delaware	1.03%	0.95%	<i>0.39%</i>	<i>0.26%</i>	<i>0.27%</i>
Dodge & Cox	<i>0.05%</i>	<i>0.09%</i>	<i>0.24%</i>	<i>0.29%</i>	1.62%
Dreyfus	3.23%	1.90%	0.96%	1.14%	0.94%
Eaton Vance	1.33%	<i>0.55%</i>	<i>0.19%</i>	<i>0.60%</i>	<i>0.61%</i>
Evergreen Investmt	1.87%	1.57%	0.97%	0.73%	<i>0.65%</i>
Fidelity	10.42%	13.46%	18.56%	15.35%	14.05%
Franklin Templeton	4.85%	5.51%	4.20%	2.77%	3.74%
Grantham Mayo	<i>0.02%</i>	<i>0.89%</i>	0.79%	<i>0.24%</i>	0.76%
Ivy Invst Mgmt	1.95%	1.66%	0.86%	<i>0.72%</i>	<i>0.47%</i>
JPMorgan Funds	<i>0.04%</i>	<i>0.16%</i>	<i>0.75%</i>	0.92%	0.85%
Janus	<i>0.36%</i>	<i>0.62%</i>	1.74%	4.53%	1.66%
Lord Abbett	2.41%	1.32%	<i>0.46%</i>	<i>0.46%</i>	0.88%
MFS	2.81%	1.78%	1.14%	2.29%	1.46%
Merrill Lynch	2.28%	3.04%	3.15%	1.47%	1.11%
Morgan Stanley Adv	1.25%	2.32%	2.09%	1.62%	<i>0.70%</i>
OppenheimerFunds	2.41%	1.69%	1.35%	1.68%	1.77%
Phoenix Investment	<i>0.84%</i>	1.03%	0.83%	<i>0.29%</i>	<i>0.15%</i>
Pioneer	3.41%	2.30%	0.99%	<i>0.61%</i>	<i>0.46%</i>
Prudential Finl	<i>0.85%</i>	1.88%	1.15%	0.97%	<i>0.56%</i>
Putnam	4.27%	2.75%	3.43%	5.41%	2.13%
Scudder	2.49%	2.51%	2.11%	1.64%	0.93%
Seligman	1.13%	<i>0.44%</i>	<i>0.47%</i>	<i>0.37%</i>	<i>0.17%</i>
T Rowe Price	3.17%	2.28%	2.54%	2.32%	2.72%
Van Kampen	3.36%	1.61%	<i>0.73%</i>	1.12%	1.23%
Vanguard	6.36%	7.32%	7.70%	10.56%	12.63%
Wells Fargo Bank	<i>0.45%</i>	<i>0.69%</i>	0.96%	0.91%	<i>0.73%</i>

Notes:

Shares of equity assets under management are measured as of year-end.

Complexes with italicized values for a given year are not in the top 25 in that year.

Source:

Strategic Insight (Simfund)

Table 9a
Shares of Equity Assets Under Management
of Top 25 Mutual Fund Complexes, Large Growth Morningstar Category

Complex	1985	1990	1995	2000	2004
ABN AMRO Mgmt			<i>0.06%</i>	<i>0.45%</i>	0.73%
AIM Investments				2.28%	2.63%
Advantus Capital	0.06%	<i>0.07%</i>	<i>0.05%</i>	<i>0.01%</i>	
AllianceBernstein				2.36%	1.12%
American Century	13.67%	13.48%	23.40%	6.59%	5.31%
American Express	4.93%	5.28%	8.65%	1.36%	2.88%
American Funds	21.24%	22.48%	13.78%	5.97%	19.36%
Armstrong	0.12%	<i>0.05%</i>	<i>0.02%</i>	<i>0.00%</i>	<i>0.00%</i>
BlackRock		1.51%	0.41%	<i>0.28%</i>	<i>0.06%</i>
Caterpillar			0.47%	<i>0.09%</i>	<i>0.07%</i>
Citigroup Ast Mgmt		5.42%	3.33%	1.25%	2.34%
Columbia Mgmt Adv	2.69%	1.54%	1.02%	0.80%	<i>0.45%</i>
Consulting Group			1.15%	<i>0.24%</i>	<i>0.22%</i>
Dreyfus	2.01%	1.37%	1.07%	0.72%	<i>0.23%</i>
Evergreen Investmt				<i>0.54%</i>	0.63%
Fidelity	1.93%	3.59%	11.13%	20.41%	20.48%
Fifth Third Bank	0.01%	<i>0.04%</i>	<i>0.02%</i>		<i>0.17%</i>
Fortis		0.17%	<i>0.08%</i>		
Gabelli		1.15%	0.63%		0.23%
Harbor Capital		0.35%	1.19%	1.02%	1.13%
Ivy Invst Mgmt	4.59%	4.13%	1.52%	<i>0.38%</i>	<i>0.44%</i>
JPMorgan Funds		<i>0.03%</i>	<i>0.05%</i>	0.67%	<i>0.40%</i>
Janus	0.07%	1.39%	4.45%	12.18%	6.10%
John Hancock	0.77%	0.58%	<i>0.31%</i>	<i>0.09%</i>	<i>0.27%</i>
MFS	9.73%	4.43%	1.37%	5.04%	2.68%
MainStay Funds				0.61%	<i>0.32%</i>
Marsico Capital				<i>0.43%</i>	0.83%
Merrill Lynch			<i>0.21%</i>	1.22%	0.98%
Morgan Stanley Adv	0.46%	0.51%	2.87%	1.86%	0.87%
Nations Funds				<i>0.48%</i>	0.81%
Northern Trust			0.37%	<i>0.27%</i>	<i>0.22%</i>
Oak Assoc			<i>0.01%</i>	0.72%	<i>0.25%</i>
OppenheimerFunds				1.21%	1.76%
PIMCO/Allianz Gbl	1.04%	1.95%	1.79%	<i>0.35%</i>	<i>0.35%</i>
Phoenix Investment	1.46%	4.68%	3.65%	0.62%	<i>0.24%</i>
Prudential Finl			<i>0.22%</i>	1.32%	0.80%
Putnam				10.68%	3.49%
SEI			0.44%	0.59%	0.66%
SIT Investment	0.04%	<i>0.10%</i>	<i>0.06%</i>	<i>0.02%</i>	<i>0.01%</i>
Scudder	4.28%	3.89%	3.51%	<i>0.49%</i>	<i>0.42%</i>
Seligman	6.73%	2.72%	0.73%	<i>0.15%</i>	<i>0.08%</i>
Stonebridge	0.31%	0.17%	<i>0.04%</i>		
T Rowe Price				<i>0.01%</i>	2.90%
TCW Management				<i>0.10%</i>	0.67%
The Hartford	0.86%	0.81%	<i>0.34%</i>	<i>0.08%</i>	<i>0.15%</i>
Van Kampen	18.87%	12.24%	3.00%	2.70%	1.60%
Vanguard	1.60%	2.02%	5.11%	4.31%	4.11%
Wells Fargo Bank	2.51%	3.67%	1.65%	1.22%	0.91%

Notes:

Shares of equity assets under management are measured as of year-end.
Complexes with italicized values for a given year are not in the top 25 in that year.

Source:

Strategic Insight (Simfund)

Table 9b
Shares of Equity Assets Under Management
of Top 25 Mutual Fund Complexes, Large Value Morningstar Category

Complex	1985	1990	1995	2000	2004
AIM Investments		<i>0.09%</i>	<i>0.14%</i>	4.62%	1.16%
AllianceBernstein				2.19%	1.24%
American Beacon		1.31%	1.40%	<i>0.14%</i>	<i>0.15%</i>
American Century			0.43%	1.58%	2.02%
American Express	0.22%	0.98%	2.27%	0.71%	1.03%
American Funds	17.37%	27.19%	21.02%	23.09%	28.18%
Ameritor	0.16%	<i>0.02%</i>	<i>0.00%</i>	<i>0.00%</i>	
CGM Funds	0.82%	0.89%	0.94%		
Citigroup Ast Mgmt	0.59%	0.26%	<i>0.11%</i>	2.16%	<i>0.40%</i>
Consulting Group			1.01%	<i>0.33%</i>	<i>0.21%</i>
Davis-Selected Adv	0.83%	1.20%	0.75%	4.79%	
Dodge & Cox	0.26%	0.52%	1.00%	0.99%	6.38%
Dreyfus	2.52%	1.42%	0.40%	<i>0.45%</i>	<i>0.26%</i>
Evergreen Investmt	0.02%	0.31%	0.97%	<i>0.37%</i>	<i>0.45%</i>
Federated	1.91%	1.10%	0.79%	1.39%	0.80%
Fidelity	21.50%	17.56%	23.60%	7.07%	6.88%
Fifth Third Bank	0.30%	0.55%	0.53%	<i>0.02%</i>	<i>0.10%</i>
Franklin Templeton		<i>0.03%</i>	<i>0.16%</i>	<i>0.08%</i>	2.00%
Harris Associates					1.92%
Highmark Capital		<i>0.11%</i>	0.39%	<i>0.18%</i>	<i>0.09%</i>
ING Investments	0.45%	0.26%	<i>0.21%</i>	<i>0.15%</i>	<i>0.11%</i>
IXIS Asset Mgmt	0.54%	0.40%	<i>0.23%</i>	<i>0.39%</i>	<i>0.05%</i>
Investors Security	0.03%	<i>0.02%</i>	<i>0.01%</i>	<i>0.00%</i>	
JPMorgan Funds		<i>0.02%</i>	0.44%	1.02%	0.59%
Legg Mason Capital				2.27%	<i>0.11%</i>
Lord Abbett		0.29%	<i>0.11%</i>	2.17%	3.27%
MFS				<i>0.11%</i>	1.27%
Mairs & Power	0.03%	<i>0.02%</i>	<i>0.01%</i>		
Merrill Lynch	3.60%	7.14%	5.48%	1.68%	1.51%
Morgan Stanley Adv			<i>0.07%</i>	2.29%	1.10%
NeubergerBerman	6.05%	2.68%	5.19%	1.37%	
OppenheimerFunds	0.28%	0.30%	1.02%	0.77%	<i>0.57%</i>
Pacific Financial	0.24%	0.37%	0.33%	<i>0.24%</i>	1.06%
Pioneer				2.57%	0.76%
Prudential Finl			<i>0.15%</i>	0.81%	<i>0.29%</i>
Putnam	8.11%	1.70%	0.90%	6.47%	3.62%
Ruane Cuniff	4.08%	2.61%	1.78%	0.69%	<i>0.56%</i>
SEI		0.47%	<i>0.33%</i>	0.63%	0.65%
Scudder		<i>0.04%</i>	<i>0.07%</i>	2.94%	1.25%
So.Eastrn/Longleaf					1.33%
T Rowe Price				2.42%	3.10%
US Bancorp		<i>0.00%</i>	0.41%	<i>0.38%</i>	<i>0.44%</i>
US Trust Company				<i>0.30%</i>	0.65%
USAA		0.28%	1.29%	<i>0.54%</i>	<i>0.32%</i>
Van Kampen				<i>0.36%</i>	3.22%
Vanguard	29.40%	28.41%	22.18%	10.09%	9.92%
Voyageur	0.02%	<i>0.07%</i>	<i>0.25%</i>	<i>0.09%</i>	<i>0.06%</i>
WM Advisors	0.65%	0.37%	0.33%	<i>0.27%</i>	<i>0.59%</i>

Notes:

Shares of equity assets under management are measured as of year-end.
Complexes with italicized values for a given year are not in the top 25 in that year.

Source:

Strategic Insight (Simfund)

Table 9c
Shares of Equity Assets Under Management
of Top 25 Mutual Fund Complexes, Mid-Cap Growth Morningstar Category

Complex	1985	1990	1995	2000	2004
AIM Investments	4.31%	3.06%	11.03%	14.72%	3.77%
Alger		<i>0.34%</i>	1.08%	<i>0.73%</i>	0.95%
American Century	1.16%	5.75%	3.64%	2.98%	2.41%
American Express	3.25%	1.44%	0.96%	1.35%	1.68%
American Funds	5.97%	7.64%	4.61%		
Artisan Partners				<i>0.39%</i>	3.37%
Aster Invest					0.93%
Baron Asset				2.29%	1.81%
Berger	0.11%	<i>0.14%</i>	2.80%	<i>0.29%</i>	
BlackRock		<i>0.47%</i>	1.33%	1.87%	<i>0.29%</i>
Calamos Advisors				<i>0.07%</i>	7.78%
Columbia Mgmt Adv	<i>0.03%</i>	1.17%	1.80%	<i>0.56%</i>	1.26%
Credit Suisse				1.02%	<i>0.22%</i>
Davis-Selected Adv	0.40%	<i>0.48%</i>	<i>0.08%</i>	<i>0.05%</i>	
Delaware		1.85%	1.36%	2.07%	1.69%
Dreyfus	7.63%	5.87%	2.16%	<i>0.76%</i>	1.39%
Eaton Vance	0.54%	<i>0.48%</i>	<i>0.10%</i>		<i>0.13%</i>
Evergreen Investmt	13.14%	10.00%	4.05%	<i>0.46%</i>	<i>0.54%</i>
Excel Advisors	0.11%	<i>0.02%</i>	<i>0.01%</i>		
Federated				1.71%	4.73%
Fidelity	1.77%	7.20%	15.81%	6.56%	10.86%
Franklin Templeton				1.49%	6.41%
Friess Associates	<i>0.00%</i>	2.99%	5.73%	3.12%	2.21%
Investment Adviser			0.94%		
Ivy Invst Mgmt	0.38%	0.56%	<i>0.59%</i>	<i>0.85%</i>	<i>0.79%</i>
JPMorgan Funds				1.42%	1.80%
Janus			2.08%	4.51%	1.43%
Liberty Ridge Cap			<i>0.19%</i>	2.90%	<i>0.48%</i>
MFS	14.20%	10.93%	6.74%	0.93%	1.38%
MainStay Funds		<i>0.37%</i>	1.76%		<i>0.06%</i>
Merrill Lynch		4.96%	4.55%		
Morgan Stanley		<i>0.14%</i>	<i>0.17%</i>	1.38%	0.84%
Morgan Stanley Adv	1.85%	0.74%	1.01%	1.13%	<i>0.56%</i>
PIMCO/Allianz Gbl			1.26%	2.16%	1.08%
Phoenix Investment	3.58%	3.10%	1.22%	<i>0.06%</i>	<i>0.26%</i>
Prudential Finl		0.96%	<i>0.55%</i>	<i>0.89%</i>	<i>0.57%</i>
Putnam			<i>0.56%</i>	10.59%	3.28%
RS Investment Mgmt			1.67%	2.15%	<i>0.24%</i>
SIT Investment	0.28%	0.66%	<i>0.49%</i>	<i>0.37%</i>	<i>0.23%</i>
Security Managemnt	1.29%	<i>0.36%</i>	<i>0.08%</i>	<i>0.12%</i>	<i>0.13%</i>
Seligman	2.11%	1.16%	<i>0.29%</i>	<i>0.42%</i>	<i>0.33%</i>
Stein Roe	1.96%	0.86%	<i>0.43%</i>	<i>0.24%</i>	
T Rowe Price	16.72%	9.25%	5.45%	3.49%	7.79%
The Hartford	1.20%	2.28%	<i>0.85%</i>	2.57%	2.03%
UBS Gbl Asset Mgt	0.52%	0.68%	<i>0.85%</i>	<i>0.21%</i>	<i>0.23%</i>
Value Line	4.83%	4.20%	<i>0.85%</i>	<i>0.20%</i>	<i>0.22%</i>
Van Kampen	11.79%	7.24%	3.86%	1.30%	1.23%
Vanguard			<i>0.11%</i>	2.56%	5.29%
Vantagepoint				2.13%	<i>0.65%</i>
Wells Fargo Bank		<i>0.54%</i>	1.62%	<i>0.53%</i>	<i>0.70%</i>
William Blair	0.80%	0.60%	<i>0.47%</i>		<i>0.01%</i>

Notes:

Shares of equity assets under management are measured as of year-end.

Complexes with italicized values for a given year are not in the top 25 in that year.

Source:

Strategic Insight (Simfund)

Table 9d
Shares of Equity Assets Under Management
of Top 25 Mutual Fund Complexes, Small-Cap Growth Morningstar Category

Complex	1985	1990	1995	2000	2004
AIB Govett			1.59%		
AIM Investments	0.76%	0.26%	7.71%	8.22%	2.55%
Allegiant		2.44%	1.54%	0.31%	0.06%
AllianceBernstein	9.74%	3.79%	0.43%	0.98%	0.54%
American Century	0.20%	0.81%	1.85%	0.57%	0.29%
American Funds		17.03%	14.61%	10.48%	9.74%
Aster Invest	0.45%	0.27%	1.21%	0.14%	
BankAmerica	1.25%	2.29%	0.53%		
Baron Asset		1.18%	1.21%	1.15%	4.85%
Berger			1.75%	1.07%	
Columbia Mgmt Adv	17.82%	21.47%	7.35%	4.18%	12.01%
Consulting Group			1.13%	1.03%	0.27%
Credit Suisse		0.67%	2.41%	0.04%	0.07%
Delaware	4.82%	1.77%	1.51%		0.07%
Dreyfus		0.19%	0.74%	2.64%	0.94%
Evergreen Investmt	1.89%	0.70%	0.35%	0.71%	1.15%
Federated		1.11%	9.55%	0.54%	0.42%
Fidelity				2.32%	3.05%
Franklin Templeton			0.77%	12.31%	1.15%
ING Investments			1.01%	0.95%	0.18%
Ivy Invst Mgmt				0.51%	1.12%
JPMorgan Funds			0.04%	2.50%	2.16%
Janus	0.44%	7.73%	7.02%	1.37%	1.14%
John Hancock	0.18%	0.77%	5.66%	2.15%	1.05%
Kopp Investment				0.91%	0.37%
Kornitzer Capital					1.54%
Liberty Ridge Cap			1.95%	0.98%	0.22%
Lord Abbett				2.07%	0.82%
MFS			0.28%	2.07%	0.97%
Managers Funds	1.37%	0.67%	0.39%	2.80%	4.06%
Monetta Financial		0.17%	1.11%	0.10%	
Morgan Stanley				0.44%	1.05%
Oberweis		0.32%	0.41%	0.10%	0.17%
OppenheimerFunds		1.51%	2.90%	2.43%	0.84%
PIMCO/Allianz Gbl	2.21%	1.08%	3.85%	0.85%	0.74%
RS Investment Mgmt		0.64%	0.49%	0.58%	1.98%
SEI			0.89%	1.15%	0.87%
Scudder	28.45%	15.43%	5.30%	1.49%	0.52%
Seligman	0.56%	0.53%	1.61%	0.24%	0.09%
Sentinel				0.18%	1.07%
SunAmerica		1.28%	0.51%		0.36%
T Rowe Price				5.70%	4.48%
The Hartford		0.49%	0.31%	0.57%	0.44%
US Bancorp			0.15%	0.31%	0.96%
USAA	7.03%	3.77%	1.36%	0.08%	0.26%
Value Line	13.64%	2.90%	0.30%	0.05%	0.29%
Vanguard				4.52%	8.50%
Wall Street	0.44%	0.25%	0.04%		
Wasatch		0.10%	1.44%	0.49%	3.23%
Weiss Peck Greer	8.75%	7.82%	0.70%		0.04%
Wells Fargo Bank			0.26%	1.36%	1.17%

Notes:

Shares of equity assets under management are measured as of year-end.

Complexes with italicized values for a given year are not in the top 25 in that year.

Source:

Strategic Insight (Simfund)

Table 9e
Shares of Equity Assets Under Management
of Top 25 Mutual Fund Complexes, International Morningstar Category

Complex	1985	1990	1995	2000	2004
AIM Investments	0.55%	8.83%	2.46%	1.27%	0.84%
AllianceBernstein			1.24%	1.46%	1.79%
American Century			0.79%	1.67%	0.74%
American Express	0.91%	1.05%	1.12%	0.74%	0.46%
American Funds	9.84%	9.59%	13.64%	17.97%	24.60%
Artisan Partners				1.06%	1.78%
Columbia Mgmt Adv		0.06%	1.59%	1.10%	0.59%
Credit Suisse		0.15%	1.67%	0.39%	0.08%
DFA		1.99%	0.93%	0.68%	1.69%
Dreyfus		0.12%	0.37%	0.67%	0.88%
Evergreen Investmt	0.45%	0.31%	0.47%	0.39%	1.05%
Federated	0.47%	0.32%	0.11%	0.45%	0.15%
Fidelity	1.97%	6.06%	6.98%	4.62%	7.45%
First Eagle	0.59%	0.80%	1.81%	0.46%	2.65%
First Investors	0.35%	0.82%	0.13%	0.07%	0.04%
Franklin Templeton	48.96%	29.84%	15.99%	10.55%	10.10%
GAM	0.17%	0.32%	0.39%	0.14%	0.03%
Gabelli	0.03%	2.79%	0.19%	0.09%	0.03%
Glenmede Trust		0.41%	0.25%	0.36%	0.29%
Grantham Mayo		0.54%	2.35%	0.87%	3.52%
Harbor Capital		0.24%	2.05%	1.30%	1.30%
Harris Associates			0.45%	0.20%	1.08%
ING Investments	0.33%	0.28%	0.28%	0.89%	0.78%
Ivy Invst Mgmt	1.63%	1.22%	0.73%	0.60%	0.25%
JPMorgan Funds			0.01%	0.70%	0.65%
Janus			1.20%	9.04%	1.53%
Julius Baer				0.10%	1.45%
Lazard Asset Mgmt			0.82%	0.83%	0.45%
MFS		0.37%	0.62%	0.60%	0.98%
Meeder Asset Mgmt	0.08%	0.09%	0.01%	0.00%	
Merrill Lynch	4.29%	5.12%	9.42%	3.81%	2.29%
Morgan Stanley			0.96%	1.55%	1.70%
Morgan Stanley Adv	1.52%	2.26%	3.12%	1.68%	0.64%
Nations Funds			0.04%	0.54%	0.93%
Nomura Asset Mgmt	0.26%	0.19%	0.02%	0.00%	
OppenheimerFunds	3.26%	3.45%	1.72%	2.88%	3.08%
Phoenix Investment	0.64%	0.30%	0.23%	0.20%	0.04%
Putnam	1.05%	2.17%	2.03%	6.66%	1.88%
SEI		0.11%	0.21%	0.90%	0.62%
Scudder	5.77%	4.87%	2.98%	2.67%	0.91%
T Rowe Price	4.37%	5.22%	6.55%	3.50%	1.60%
The Japan Fund	4.18%	1.20%	0.31%	0.12%	0.06%
Tweedy Browne			0.46%	0.76%	0.89%
UBS Gbl Asset Mgt			0.71%	0.25%	0.58%
Vanguard	8.34%	6.33%	3.89%	4.09%	5.26%

Notes:

Shares of equity assets under management are measured as of year-end.

Complexes with italicized values for a given year are not in the top 25 in that year.

Source:

Strategic Insight (Simfund)

Table 10

Survival Rate of U.S. Equity Mutual Funds, 1985-2004 and 1995-2004

Initial Year	Initial Complex Size Decile	Percentage of Decile that Did Not Survive to 2004	Percentage of Decile that Survived to 2004	Distribution of Surviving Funds by Size Deciles as of 2004 (As a Percentage of Survivors)									
				1	2	3	4	5	6	7	8	9	10
				1985	1	55.4%	44.6%	3.4%	3.4%	13.8%	3.4%	10.3%	6.9%
1985	2	41.5%	58.5%	7.9%	7.9%	2.6%	10.5%	7.9%	18.4%	7.9%	7.9%	18.4%	10.5%
1985	3	38.5%	61.5%	5.0%	5.0%	0.0%	7.5%	15.0%	10.0%	12.5%	15.0%	7.5%	22.5%
1985	4	40.0%	60.0%	5.1%	5.1%	5.1%	0.0%	10.3%	5.1%	12.8%	5.1%	25.6%	25.6%
1985	5	40.0%	60.0%	0.0%	2.6%	5.1%	5.1%	7.7%	5.1%	30.8%	10.3%	12.8%	20.5%
1985	6	33.8%	66.2%	0.0%	0.0%	4.7%	2.3%	14.0%	9.3%	16.3%	14.0%	16.3%	23.3%
1985	7	29.2%	70.8%	0.0%	0.0%	0.0%	6.5%	6.5%	10.9%	8.7%	17.4%	13.0%	37.0%
1985	8	32.3%	67.7%	0.0%	0.0%	4.5%	2.3%	2.3%	9.1%	11.4%	22.7%	6.8%	40.9%
1985	9	20.0%	80.0%	0.0%	0.0%	0.0%	0.0%	1.9%	3.8%	7.7%	7.7%	19.2%	59.6%
1985	10	4.6%	95.4%	1.6%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	6.5%	19.4%	71.0%
	Average	33.5%	66.5%										
1995	1	53.3%	46.7%	24.3%	12.2%	11.3%	11.3%	7.0%	2.6%	4.3%	10.4%	11.3%	5.2%
1995	2	51.8%	48.2%	10.1%	17.6%	10.1%	14.3%	6.7%	12.6%	13.4%	5.9%	4.2%	5.0%
1995	3	43.7%	56.3%	2.2%	9.4%	9.4%	15.8%	17.3%	11.5%	10.8%	11.5%	9.4%	2.9%
1995	4	44.3%	55.7%	2.2%	6.6%	11.7%	13.1%	18.2%	14.6%	11.7%	9.5%	6.6%	5.8%
1995	5	40.9%	59.1%	0.0%	5.5%	8.2%	17.8%	9.6%	18.5%	9.6%	13.0%	11.0%	6.8%
1995	6	31.2%	68.8%	0.6%	2.4%	3.5%	7.6%	12.4%	19.4%	13.5%	16.5%	13.5%	10.6%
1995	7	27.2%	72.8%	0.6%	2.8%	2.8%	5.0%	8.4%	9.5%	20.1%	24.0%	18.4%	8.4%
1995	8	27.1%	72.9%	0.0%	0.6%	2.2%	3.9%	11.7%	8.3%	16.1%	19.4%	20.6%	17.2%
1995	9	15.8%	84.2%	0.0%	0.0%	1.4%	0.0%	2.4%	7.2%	11.1%	21.2%	26.0%	30.8%
1995	10	6.1%	93.9%	0.0%	0.0%	0.0%	0.0%	0.4%	1.3%	0.9%	6.5%	20.7%	70.3%
	Average	34.1%	65.9%										

Notes:

Deciles are determined by total assets under management. Decile 10 represents the largest funds.

Size deciles are recalculated in 2004 using all funds in existence.

A fund is deemed to have survived if it has positive net assets in 2004. The dataset does not distinguish between funds that were liquidated and funds that were merged into other mutual funds.

Source:

Strategic Insight (Simfund)

Table 11

Survival Rate of U.S. Equity Mutual Fund Complexes, 1985-2004 and 1995-2004

Initial Year	Initial Complex Size Decile	Percentage of Decile that Did Not Survive to 2004	Percentage of Decile that Survived to 2004	Distribution of Surviving Complexes by Size Deciles as of 2004 (As a Percentage of Survivors)									
				1	2	3	4	5	6	7	8	9	10
1985	1	52.6%	47.4%	11.1%	0.0%	11.1%	22.2%	11.1%	0.0%	11.1%	0.0%	33.3%	0.0%
1985	2	47.4%	52.6%	0.0%	10.0%	0.0%	10.0%	30.0%	10.0%	10.0%	10.0%	20.0%	0.0%
1985	3	26.3%	73.7%	14.3%	14.3%	0.0%	7.1%	14.3%	28.6%	7.1%	7.1%	7.1%	0.0%
1985	4	36.8%	63.2%	0.0%	0.0%	8.3%	8.3%	0.0%	0.0%	8.3%	41.7%	25.0%	8.3%
1985	5	40.0%	60.0%	16.7%	0.0%	0.0%	0.0%	0.0%	8.3%	16.7%	8.3%	25.0%	25.0%
1985	6	21.1%	78.9%	0.0%	0.0%	6.7%	20.0%	6.7%	13.3%	0.0%	13.3%	26.7%	13.3%
1985	7	26.3%	73.7%	0.0%	0.0%	0.0%	21.4%	0.0%	7.1%	14.3%	14.3%	35.7%	7.1%
1985	8	10.5%	89.5%	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	11.8%	17.6%	11.8%	52.9%
1985	9	5.3%	94.7%	0.0%	0.0%	0.0%	0.0%	0.0%	5.6%	0.0%	5.6%	22.2%	66.7%
1985	10	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
	Average	26.6%	73.4%										
1995	1	58.7%	41.3%	21.1%	15.8%	15.8%	21.1%	5.3%	5.3%	5.3%	10.5%	0.0%	0.0%
1995	2	37.0%	63.0%	24.1%	20.7%	10.3%	10.3%	3.4%	10.3%	3.4%	3.4%	13.8%	0.0%
1995	3	39.1%	60.9%	10.7%	14.3%	14.3%	17.9%	10.7%	10.7%	3.6%	14.3%	3.6%	0.0%
1995	4	42.6%	57.4%	0.0%	3.7%	7.4%	14.8%	25.9%	11.1%	22.2%	11.1%	0.0%	3.7%
1995	5	23.9%	76.1%	0.0%	0.0%	8.6%	20.0%	22.9%	14.3%	8.6%	25.7%	0.0%	0.0%
1995	6	23.9%	76.1%	0.0%	0.0%	2.9%	5.7%	14.3%	22.9%	34.3%	17.1%	2.9%	0.0%
1995	7	23.4%	76.6%	0.0%	0.0%	0.0%	8.3%	2.8%	11.1%	30.6%	22.2%	22.2%	2.8%
1995	8	28.3%	71.7%	0.0%	0.0%	0.0%	0.0%	3.0%	9.1%	15.2%	33.3%	36.4%	3.0%
1995	9	13.0%	87.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	10.0%	52.5%	35.0%
1995	10	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	10.6%	87.2%
	Average	29.0%	71.0%										

Notes:

Deciles are determined by total assets under management. Decile 10 represents the largest complexes.

Size deciles are recalculated in 2004 using all funds in existence.

A complex is deemed to have survived if it has positive net assets in 2004. The dataset does not distinguish between complexes that were liquidated and those that were merged into other complexes.

Source:

Strategic Insight (Simfund)

Table 12**Dispersion of Expense Ratios by Morningstar Category for Equity Mutual Funds
2004**

Morningstar Category	N	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile	75th Percentile to 25th Percentile Ratio	90th Percentile to 10th Percentile Ratio
Large Blend	1,067	0.48%	0.88%	1.26%	1.87%	2.11%	2.12	4.37
Large Growth	1,071	0.85%	1.11%	1.49%	1.99%	2.26%	1.80	2.65
Large Value	867	0.75%	1.00%	1.34%	1.87%	2.11%	1.87	2.81
Mid-Cap Blend	291	0.70%	1.04%	1.40%	1.90%	2.21%	1.83	3.15
Mid-Cap Growth	652	1.00%	1.22%	1.56%	2.09%	2.31%	1.71	2.31
Mid-Cap Value	220	0.98%	1.20%	1.43%	1.98%	2.15%	1.64	2.19
Small Blend	335	0.75%	1.07%	1.39%	1.92%	2.28%	1.80	3.03
Small Growth	574	1.01%	1.27%	1.59%	2.12%	2.42%	1.68	2.38
Small Value	240	0.93%	1.16%	1.46%	2.01%	2.25%	1.73	2.43
Specialty	1,632	0.92%	1.21%	1.63%	2.09%	2.39%	1.73	2.60
International	1,497	1.01%	1.33%	1.75%	2.30%	2.64%	1.73	2.61
Other	167	0.82%	1.14%	1.53%	2.16%	2.56%	1.90	3.12
¹ S&P 500 Index Objective Funds	58	0.15%	0.23%	0.37%	0.57%	0.86%	2.51	5.88
Over All Equity Funds	8,613	0.85%	1.15%	1.51%	2.03%	2.35%	1.77	2.77

Note:

¹ The S&P 500 Index Objective is taken from Lipper. There is no S&P 500 Index Objective in the Morningstar categories.

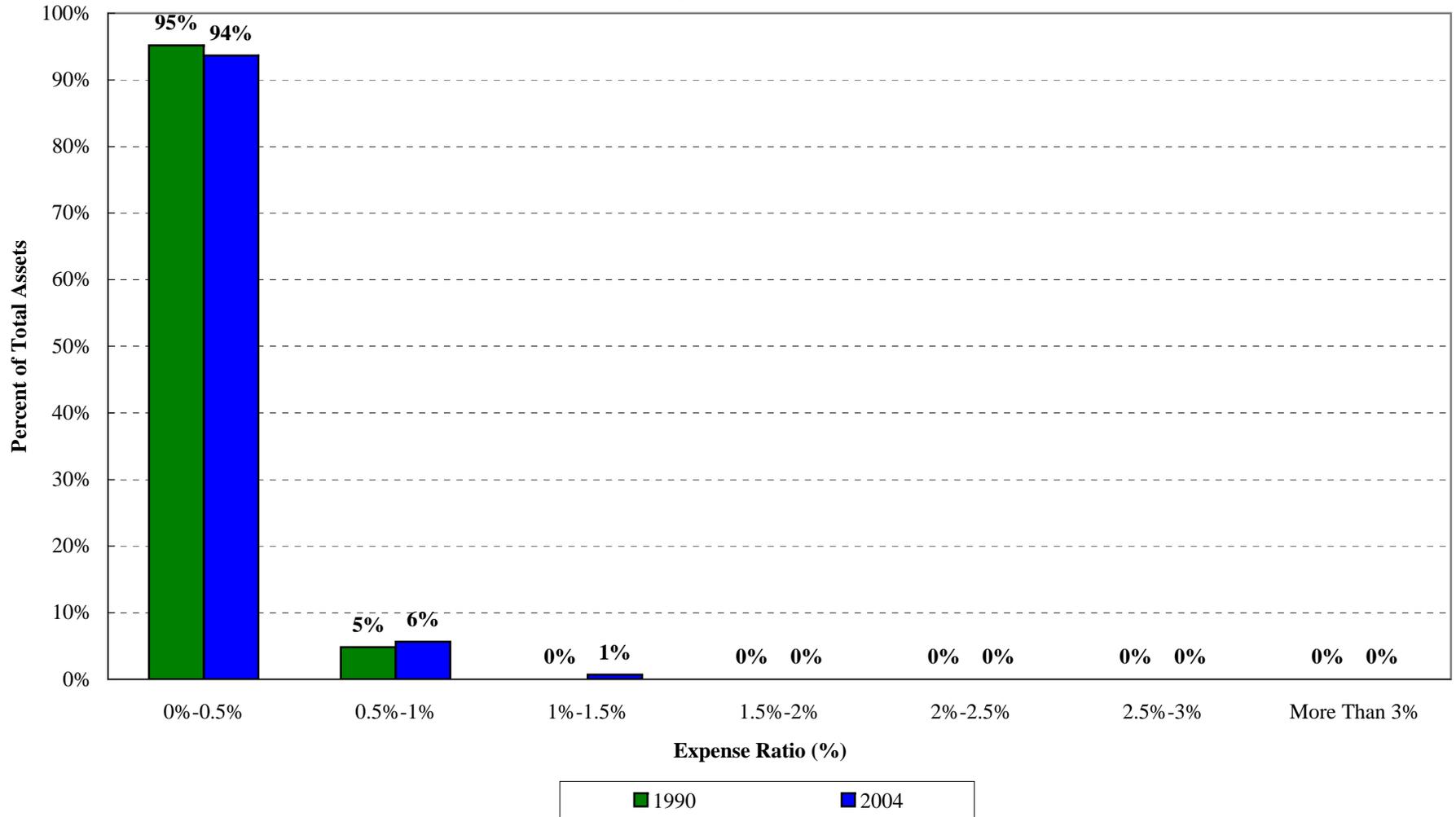
Source:

Strategic Insight (Simfund)

Lipper (LANA)

Figure 2

Distribution of Total Assets of S&P 500 Index Objective Mutual Funds by Expense Ratio in 1990 and 2004



Note: This analysis only includes funds in existence as of June 2005.

Source: Authors' calculations using Lipper (LANA)