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IMPLICATIONS FOR POLICY

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## COMPETITION IN THE MUTUAL FUND INDUSTRY: EVIDENCE AND IMPLICATIONS FOR POLICY

*John C. Coates IV\* and R. Glenn Hubbard\*\**

*Since 1960 the mutual fund industry has grown from 160 funds and \$18 billion in assets under management to over 8,000 funds with \$10.4 trillion in assets. Yet critics— including Yale Chief Investment Officer David Swensen, Vanguard founder Jack Bogle, and New York Governor Eliot Spitzer — call for more fund regulation, claiming that competition has not protected investors from excessive fees. Starting in 2003, the number of class action suits against fund advisors increased sharply, and, consistent with critics' views, some courts have excluded or treated skeptically evidence of competition and comparable fees of other funds. Skepticism about fund competition dates to the 1960s, when the SEC accepted the view that market forces fail to constrain advisory fees, in part because fund boards rarely fire advisors. In this article, we show that economic theory, empirical evidence, and careful analysis of the laws and institutions that shape mutual funds refute this view. Fund critics overlook the most salient characteristic of a mutual fund: redeemable shares. While boards rarely fire advisors, fund investors may 'fire' advisors at any time by redeeming shares and switching into other investments. Industry concentration — including new entry is common, barriers to entry are low, and empirical studies — show higher advisory fees significantly reduce fund market shares, and so constrain fees. Fund performance is consistent with competition exerting a strong disciplinary force on funds and fees. Our findings lead us to reject the critics' views in favor of the legal framework established by §36(b) of the Investment Company Act and the lead case interpreting that law (the Gartenberg decision), while suggesting Gartenberg is best interpreted to allow the introduction of evidence regarding competition between funds.*

### I. INTRODUCTION

Despite enormous growth and acceptance of mutual funds by millions of individual and institutional investors, mutual funds have periodically been accused of charging excessive fees. From an economic perspective, competition is the best guardian against excessive fees. With price competition, fund advisors cannot set fees above the competitive level without driving themselves out of business. The periodic attacks on the mutual fund industry start with a correct premise — that mutual fund boards rarely fire advisors — but reach a faulty conclusion — that the structure of mutual funds prevents competition. As a result, fund critics never seek

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direct evidence as to whether competition exists, much less is a strong force constraining fund advisors. Nor do the most vocal critics take competition into account when they promote proposals for more regulation of what is already the most heavily regulated sector of the financial services industry. We find that price competition is in fact a strong force constraining fund advisors, and discuss the implications of that finding for policy. In particular, we consider how courts should interpret the existing law most directly relevant to advisory fees (Section 36(b) of the Investment Company Act).

We begin with a brief review of recent, prominent criticisms of mutual funds, which we trace historically to a belief, initially formed in the 1960s, that competition is not an important force in the mutual fund industry. That view was fostered by a 1962 study by researchers at the Wharton School that presented evidence and analysis that was on the cutting edge at the time, but which is today primitive and misleading. Nevertheless, that 1960s view continues to shape law and policy, in part because of a more general problem arising at the intersection of law and social science, where the legal custom of relying on precedent sometimes rigidifies not only case outcomes in law but also “common wisdom” about facts relevant to law. That legal custom – which differs significantly from the methodology of social science – has led courts and fund critics to continue to embrace the conclusions of the 1960s view of the fund industry without any re-evaluation of its theoretical or empirical basis.

In the core of the Article, we review the structure, performance and dynamics of the mutual fund industry, and show they are consistent with competition. Concentration and barriers to entry are low, actual entry is common and continuous, pricing exhibits no dominant long-term trend, and market shares fluctuate significantly. We then present the results of our direct estimate of the effects of competition on fees, set out in more detail in Appendix A. Specifically, we find that enough investors are sensitive to advisory pricing that higher fees significantly reduce fund market shares.<sup>1</sup> We also address “pricing anomalies” and other claims by skeptics of mutual fund price competition. Among other things, we explain why differences in fees paid by institutional and retail investors are consistent with competition, why economies of scale do not dictate ever-decreasing fees in a competitive market, why price dispersion among similar funds is consistent with competition, why “switching costs” are not a significant constraint on price competition among funds, and why the presence of uninformed, unsophisticated or irrational investors does not undermine our general finding that price competition is a strong constraint on fund advisors.

We then consider the implications of our findings and analysis for regulatory or judicial policy. We argue that the evidence of competition in the market for mutual funds suggests caution for legal intervention in setting fees. Economic analysis and continuing changes in the mutual fund industry suggest the importance of competitive market conditions as a factor to be considered under the *Gartenberg* legal framework. In particular, we argue, evidence of competition itself, and of fees paid by comparable funds, should be both admissible as evidence and a significant component of judicial analysis in cases under Section 36(b).

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<sup>1</sup> Because claims of excessive fees stress the absence of price competition between mutual funds, this paper focuses on price competition. Our 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 discussed in Section IV and Appendix A, we incorporate variables in addition to price.

## II. BACKGROUND: CRITICISM OF THE MUTUAL FUND INDUSTRY AND AN OVERVIEW OF FUND FEE REGULATION

In the last five years, mutual fund industry critics have spoken out frequently and sharply about what they perceive to be the industry's shortcomings.<sup>2</sup> A continuing thread through these criticisms is the assertion – rarely supported by logic or evidence – that the competition is not a strong force when it comes to mutual funds. “While market forces of competition ... should serve to limit fees,” writes Yale University Chief Investment Officer David Swensen in a top-selling book, “mutual-fund complexes seemingly defy the laws of economics....”<sup>3</sup> New York Governor Eliot Spitzer, touting a settlement of charges unrelated to advisory fees against a prominent mutual fund complex in 2004, wrote: “The advisory fees that mutual funds charge their shareholders greatly exceed those charged to institutional customers. ... [Thus,] I refused to join in a settlement ... that did not provide investors with compensation for the advisory fee overcharges....”<sup>4</sup> Two academics were equally conclusory: “In the advisory fees marketplace, price competition seems particularly weak.”<sup>5</sup> Most recently, the Chief Economist of the U.S. Securities and Exchange Commission (“SEC”) released a memo arguing that “investor assets tend to be ‘sticky’ and may allow certain agency conflicts to persist” in the mutual fund industry.<sup>6</sup>

Reflecting these critical views, the number of lawsuits attacking mutual fund advisors for excessive fees rose dramatically starting in 2003.<sup>7</sup> Over 500 class actions and derivative suits were filed against mutual fund advisers, and cases involving mutual funds accounted for almost 10% of all federal securities class actions in 2003 and 2004.<sup>8</sup> The majority of the cases initiated in those years are still working their way through the courts.<sup>9</sup> In a number of cases in which shareholders have attacked advisory fees as excessive, courts have excluded expert

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<sup>2</sup> 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 (Mar. 12, 2003); U.S. GENERAL ACCOUNTING OFFICE, *MUTUAL FUNDS: INFORMATION ON TRENDS IN FEES AND THEIR RELATED DISCLOSURE*, GAO-03-551T (Mar. 12, 2003); U.S. General Accounting Office, *Mutual Funds: Greater Transparency Needed in Disclosures to Investors*, GAO-03-763 (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) [hereinafter, “GAO Report”]; John P. Freeman and Stewart L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 J. Corp. L. 609 (Spring 2001); and Charles A. Trzinka, Statement, Hearing before the Subcommittee on Finance and Hazardous Materials of the Committee on Commerce, House of Representatives, 105th Cong., 2d Sess. (Sept. 29, 1998) at 50-58.

<sup>3</sup> DAVID F. SWENSEN, *UNCONVENTIONAL SUCCESS: A FUNDAMENTAL APPROACH TO PERSONAL INVESTMENT* (2005) at 222.

<sup>4</sup> Eliot Spitzer, Testimony Before the United States Senate Governmental Affairs Committee, Subcommittee on Financial Management, the Budget and International Security (Jan. 27, 2004), at 2.

<sup>5</sup> Freeman and Brown, *supra* note 4, at 627.

<sup>6</sup> Office of Economic Analysis Memorandum dated 12/29/06 from Chester Spatt, Chief Economist of the SEC, to Investment Company File S7-03-04, at 9 [hereinafter “OEA Memo”].

<sup>7</sup> See Chart and Table, *Securities Class Action Litigation by Type of Lawsuit*, at <http://securities.cornestone.com/> (last visited 1/18/07) (mutual fund filings equal 18 and 21 for 2003 and 2004, compared to 186 and 213 filings overall for those years).

<sup>8</sup> James N. Benedict et al., *The Aftermath of the Mutual Fund Crisis*, 38 Rev. Sec. & Comm. Reg. 261 (Dec. 7, 2005).

<sup>9</sup> See JAMES N. BENEDICT ET AL., *RECENT DEVELOPMENTS IN LITIGATION UNDER THE INVESTMENT COMPANY ACT OF 1940* (July 2006).

testimony and other evidence of the competitiveness of the fund industry, of its effect on fees, and of comparable fees, primarily on the ground that competition is not a significant constraint on fees set by advisors to mutual funds.<sup>10</sup>

### A. Industry Critics: Stuck in the Sixties

From where does the belief that the mutual fund industry is immune from the “laws of economics” derive? 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, fewer than 200 mutual funds existed, and most charged “load” fees to new investors (unlike the dominant type of fund today, the no-load fund, which charges no up-front fee). In 1958, in response to complaints about the fund industry, the SEC contracted 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 0.5% of assets for most mutual funds.<sup>11</sup> The report also concluded that investment advisor fees were lower for non-mutual fund clients, where advisors were supposedly easily fired, in contrast to mutual funds, where they were (and are) not.<sup>12</sup> The Wharton Report concluded that competition had “not been substantially operative in fixing the advisory fee rates paid by mutual funds”<sup>13</sup> because lower costs from economies of scale had not led to lower fees and because advisors did not compete for retail mutual fund contracts.

While the Wharton Report represented a significant research contribution, compiling difficult to obtain information and analyzing it well given the state of statistical science at the time, the report’s analysis and conclusions would not survive close scrutiny today. The Wharton Report 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. The report did not describe the nature of the non-mutual fund clients, nor did the study adjust for differences in asset size, size of accounts, number of accounts, or other factors that distinguished mutual fund and non-mutual fund clients even at the time. Finally, the report offered no economic basis whatsoever for the claim that price competition among mutual funds depended on advisors competing for mutual fund contracts – a claim that, as this Article will show, had no support then and has no support now.

In 1966, the SEC issued its own report, accepting without question the Wharton Report’s conclusions, including the conclusion 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. The SEC also adopted the bottom-line

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<sup>10</sup> E.g., *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 precedent). 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”).

<sup>11</sup> Wharton School of Finance and Commerce, *A Study of Mutual Funds*, Report of the Committee on Interstate and Foreign Commerce, 87th Congress (1962), at 28 [hereinafter, “Wharton Report”].

<sup>12</sup> *Id.*, at 29.

<sup>13</sup> *Id.* at 493-94.

conclusion that competition among funds on fees was absent.<sup>14</sup> The SEC concluded that then-current law – the Investment Company Act of 1940 (“ICA”) and related SEC regulations – did not protect investors from excessive fees.<sup>15</sup> In 1969, the Senate issued yet another report, largely tracking the SEC and Wharton reports.<sup>16</sup> These reports helped pave the way for Congress to amend the ICA in 1970 (aspects of which are described in Sections II.C and VI.A). As we discuss in Section VI.F, in the early 1980s, the federal courts, charged with interpreting the ICA began quoting from the 1966 SEC Report, including the finding that competition did not constrain advisory fees.<sup>17</sup> Subsequent courts have adopted the conclusion that competition does not constrain advisory fees, as if this factual claim were a legally binding holding.<sup>18</sup>

Of course, the size and number of competitors in the mutual fund industry have changed drastically since the SEC and Wharton reports were written. 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% of mutual fund assets were accounted for by load funds.<sup>19</sup> In 2006, there were over 8,000 mutual funds with assets of \$10,400 billion, and no-load funds accounted for the majority of fund assets.<sup>20</sup> Particularly since the early 1980s, there has been significant new entry and existing firm expansion.<sup>21</sup> 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, individual retirement accounts (“IRAs”), and defined contribution pension plans all came into existence since the 1960s.

In addition, the 1970 ICA amendments that were prompted by the Wharton and SEC reports added significant protections for shareholders of funds, and additional legal protections for fund shareholders have been added since then.<sup>22</sup> Thus, even if the Wharton and SEC reports represented a sophisticated and well-informed view of the fund industry of the 1950s, they would not provide any secure basis for understanding the fund industry today. Nevertheless, the Wharton and SEC reports continue to be cited favorably by critics of the fund industry.<sup>23</sup>

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<sup>14</sup> 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), at 12.

<sup>15</sup> *Id.* at viii.

<sup>16</sup> S. Rep. No. 184, 91st Cong., 1st Sess. 5-6 (1969), reprinted in 1970 U.S. Code Cong. & Ad. News at 4901-02.

<sup>17</sup> *Irving Gartenberg v. Merrill Lynch Asset Management, Inc. et al.*, 694 F.2d 923, 932 (2nd Cir. 1982).

<sup>18</sup> E.g., *Fox v. Reich & Tang, Inc. et al.*, 692 F.2d 250, 257 (2d Cir. 1982); *Kalish et al. v. Franklin Advisors, Inc. et al.*, 742 F. Supp. 1222, 1238 (1990). Sections III through V of this Article show that these factual beliefs are mistaken; Section VI makes clear that these beliefs are, in any event, *not* legally binding holdings and should be revisited by courts in deciding new 36(b) cases.

<sup>19</sup> SEC *supra* note 16, at 44 and 52.

<sup>20</sup> Investment Company Institute, Trends in Mutual Investing (December 2006), available at [http://www.ici.org/stats/latest/trends\\_12\\_06.html#TopOfPage](http://www.ici.org/stats/latest/trends_12_06.html#TopOfPage) (last visited 2/3/07) (assets); INVESTMENT COMPANY INSTITUTE, 2006 INVESTMENT COMPANY FACT BOOK (2006) at 8 (number of funds); INVESTMENT COMPANY INSTITUTE, 2004 MUTUAL FUND FACT BOOK (2004) at 70 (share held by no-load funds). The SEC found that load funds’ share of assets in all mutual funds fell from 74% in 1992 to 49% in 1999. U.S. SECURITIES AND EXCHANGE COMMISSION, REPORT ON MUTUAL FUND FEES AND EXPENSES (DECEMBER 2000) at 20-21.

<sup>21</sup> INVESTMENT COMPANY INSTITUTE (2006), *supra* note 22 at 7-8 (showing growth in number of funds and assets held in funds).

<sup>22</sup> See TAN [216-218] *infra*.

<sup>23</sup> E.g., Freeman and Brown, *supra* note 4, at n. 87.

This view was also represented as “fact” in 1998 Congressional hearings.<sup>24</sup> Thus, conclusory findings of a relatively primitive study of the fund industry as it existed in the 1950s continues to misinform the courts and the public more generally about the role of competition in the mutual fund marketplace.<sup>25</sup>

In short, industry critics and courts continue to be stuck in the 1960s, and have failed to bring any degree of critical skepticism to the belief that competition does not constrain advisory fees, despite the enormous changes to the industry, both economic and legal, and despite widely available data inconsistent with that belief. Before we present some of that data, however, we first describe in more detail the core of the theoretical case underlying the 1960s view.

## B. The Critics’ Views: Conflicts and Beholden Boards

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. Typically, a 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).<sup>26</sup> This, then, is the core conflict of interest: an advisor has – at least in the first instance – an incentive to maximize its profits by charging the highest possible fees for its services, and – again, at first pass – the fund’s shareholders prefer the lowest possible fees so as to maximize the fund’s returns. According to fund industry critics, this conflict is stacked against the shareholders because fund advisors allegedly control the fee approval process because advisors are generally not vulnerable to being fired by the mutual funds’ boards of directors. In short, advisors are alleged to be dealing in effect with themselves when seeking approval of advisory fees.

Put differently, the conflict of interest perceived by fund industry critics has two aspects. One is the conflict between those wishing to sell at the highest

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<sup>24</sup> Improving Price Competition for Mutual Funds and Bonds, Hearing before the Subcommittee on Finance and Hazardous Materials, Committee on Commerce, House of Representatives, 105th Cong., 2d. Sess. (Sept. 29, 1998); SEC Report, *supra* note 22, at 5; see also sources cited in note 4 *supra*.

<sup>25</sup> Some studies, such as the GAO Report, acknowledge equity mutual funds compete for assets, but conclude they do not compete on the basis of price. E.g., GAO Report, *supra* note 4, at 62 (“Mutual fund industry generally does not attempt to compete on the basis of price.”). The GAO concludes that equity mutual funds compete primarily on non-price factors by differentiating products through service quality and scope, reputation of fund managers, breadth of fund complex, and, most importantly, performance returns to shareholders. The GAO acknowledges that while funds compete primarily on performance, funds with lower fees tend to have better performance (at 28). Many studies show a positive association between returns and the demand for funds. E.g., Brad M. Barber, Terrance Odean, and Lu Zheng, *Out of Sight, Out of Mind: The Effects of Expenses on Mutual Fund Flows*, 78 *J. Bus.* 2095 (2005); 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*, 53 *J. Fin.* 1589 (1998); and WILLIAM J. BAUMOL, STEPHEN M. GOLDFELD, LILLI A. GORDON, AND MICHAEL F. KOEHN, *THE ECONOMICS OF MUTUAL FUND MARKETS: COMPETITION VERSUS REGULATION* (1990). Because returns are enhanced by lower fees (returns equal share appreciation less expenses) and funds compete on returns, they necessarily compete on price (i.e., fees). Thus, it is impossible to compete on returns and not compete on fees. Nevertheless, the GAO (and others) have concluded that 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 Report, *supra* note 4, at 62-63.

<sup>26</sup> 15 U.S.C. §80a-15.

price and those wishing to buy at the lowest price. This conflict is, of course, inherent in all transactions. This type of “conflict” is normally addressed in a market economy by ensuring that competition prevails. Under competition, basic economic theory tells us that sellers and buyers will 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. Under competition, the initial desire of a seller to increase prices as high as possible is constrained by the presence of other sellers, who will undercut excessive prices. Under competition, the initial desire of buyers, too, to decrease prices to as low as possible will be constrained by the fact that sellers must earn enough to cover their costs, including a fair rate of return on their capital, and if they do not, will exit the market.

It is thus a second aspect of the perceived conflict – one unique to the fund industry – that is crucial to the critics’ belief that advisory fees are unconstrained by competition. This second aspect is based on the empirical fact that mutual fund boards of directors rarely “fire” advisors and do not put advisory contracts up for bid among advisors<sup>27</sup> – which we do not dispute.<sup>28</sup> This fact leads critics to the belief – which we do dispute – that advisors propose and fund boards commonly approve excessive, noncompetitive fees. After all, goes the logic, if advisors know that boards do not shop around, then why would advisors worry about competition? And the fact that fund boards do not shop around leads critics to a second belief – which we also dispute – that fund boards are beholden to advisors, and thus simply do not try to obtain competitive fees for fund shareholders.

To see why the fact of rare advisor “firings” by fund boards does not support these core beliefs of fund industry critics, a second fact – again, unique to the mutual fund industry – must also be appreciated. In brief, it is that investors in mutual funds have contractual rights giving them the ability to “fire” advisors on their own by redeeming their shares and investing their assets elsewhere, whether in alternative mutual funds or non-mutual fund investments. (We explain this contractual point in more detail in Section II.C below.) Since an adviser is generally compensated as a percentage of total assets in a fund, advisers have clear incentives to seek to increase fund assets by retaining existing investors and by generating high returns, which directly increase assets by increasing their value, and indirectly increase assets by attracting new investments seeking high returns. As a result, advisers do compete for individual investors’ assets by striving for superior returns – net of fees – in order to increase money inflows. (We demonstrate this empirical claim more rigorously in Sections III and IV below.) Because of this competition, any attempt by an adviser to charge excessive fees relative to the services offered will fail in the long run as investors move to lower-cost or higher-service or -return investments. As long as investors can switch at relatively low cost, excessive fees cannot persist for more than a short period of time, despite the perceived conflict of interest between advisers and fund shareholders.

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<sup>27</sup> Peter Tufano and Matthew Sevick, Board Structure and Fee Setting in the U.S. Mutual Fund Industry, 46 J. Fin. Econ. 325 (1997).

<sup>28</sup> Although advisory firms are not commonly fired, fund directors retain negotiating leverage and influence with advisory firms, as we discuss in Section VI. For example, directors can threaten to resign, harming a fund’s reputation and ability to attract new investors. In addition, subadvisors are not uncommonly fired by advisors. On issues of performance, directors can pressure the advisor to replace poorly performing individual portfolio managers, who are not infrequently 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, 12 J. Fin. Econ. 403 (1996).



Proponents of the 1960s view try to buttress their conflict-of-interest theory with a variety of arguments and indirect factual claims. First, say the critics, investment advisors charge lower fees to institutional clients than to retail mutual fund clients, suggesting that fee competition is strong in the institutional market but not in the mutual fund industry because institutions do fire advisors on short notice, whereas mutual funds do not.<sup>29</sup> Second, say the critics, fund fee levels have remained high or even increased over the past 40 years, even as funds have grown in size, suggesting that economies of scale are not being passed along to investors, which in turn suggests that competition is not working to constrain fees.<sup>30</sup> Third, say the critics, dispersion in advisory fees for similar funds demonstrates that competition is not an effective constraint on advisors.<sup>31</sup> Fourth, say the critics, switching costs for fund investors are high, because of fees, transactions costs, and taxes.<sup>32</sup> Thus, even though investors have the theoretical ability to switch funds and constrain advisors, they do not do so in practice. Fifth, say the critics, fund investors are simply ignorant or irrational, afflicted by cognitive biases that prevent them from effectively disciplining advisors.<sup>33</sup> Each of these arguments and claims, on inspection, turns out not to support the critics' views, and we rebut each in Section V below.

Thus, 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.

### C. Current Legal Framework Regulating Mutual Fund Fees

Law and regulation offer important structural underpinnings for competition in the mutual fund industry. In particular, restrictions under the ICA and SEC regulations have helped funds successfully compete with other sectors of the financial services industry by reinforcing basic laws against theft and fraud. 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. For example, mutual funds are subject to a near-complete ban on conflict-of-interest transactions between an advisor and a fund involving portfolio investments, loans, purchases of fund assets.<sup>34</sup> Unlike traditional business corporations, funds are thus subject to detailed federal laws and regulations that channel the myriad ways that managers can extract value from funds into a single, readily monitored path – advisory fees.<sup>35</sup>

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<sup>29</sup> E.g., Wharton Report, *supra* note 13, at 489; Spitzer, *supra* note 6; SEC, *supra* note 7, at 114-21; and Freeman and Brown, *supra* note 4 at 627-40.

<sup>30</sup> E.g., Wharton Report, *supra* note 13; Freeman and Brown, *supra* note 4, at 619-28.

<sup>31</sup> E.g., Freeman and Brown, *supra* note 4; Edwin J. Elton, Martin J. Gruber and Jeffrey A. Busse, Are Investors Rational? Choices Among Index Funds, 49 J. Fin. 261 (Feb. 2004).

<sup>32</sup> E.g., OEA Memo, *supra* note 8.

<sup>33</sup> E.g., Barber et al., *supra* note 28.

<sup>34</sup> 15 U.S.C. §80a-17. Funds must also comply with strict rules on custody of securities and other fund assets. *Id.*

<sup>35</sup> 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, 147 U. Penn. L. Rev. 1251 (1999) (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, and Florencio Lopez-de-Silanes and Andrei Shleifer, Tunneling, 90 Am. Econ. Rev., Papers and Proceedings 22 (May 2000) (arguing civil law countries permit more

Fees, in turn, are subject to heightened procedural requirements. All fees must be clearly and straightforwardly disclosed to public investors in fund filings with the SEC and in fund documents sent to investors,<sup>36</sup> and independent third-party service providers (such as Morningstar) now provide free and easily obtained comparative fee data on the internet.<sup>37</sup> All fee increases must be approved by fund shareholders.<sup>38</sup> Independent fund directors must approve all advisory contracts, including advisory fees, at least annually, and directors are subject to fiduciary duties under both the ICA and state corporation or equivalent business trust law.<sup>39</sup> Finally, and also unique to the fund industry, firms who provide advisory services to funds are required in Section 36(b) of the ICA – added in the 1970 Amendments prompted by the Wharton Report – to act as fiduciaries in regard to their compensation from funds and fund shareholders.<sup>40</sup>

These rules are enforced by both public and private actors. The SEC maintains a ~170-person division largely dedicated to inspecting and regulating the fund industry,<sup>41</sup> and its separate enforcement division can impose a wide array of sanctions on individuals or firms who break the SEC's rules.<sup>42</sup> Supplementing the SEC's oversight, and occasionally prompting the SEC to more vigorous action, are state attorneys general and securities commissioners. As with other corporations, private lawsuits can be initiated by shareholders or attorneys acting on their behalf, under both federal securities law and state corporate or trust law. In addition, however, funds are subject to a unique, federal private right of action under Section 36(b) of the ICA, which grants shareholders the right to sue advisors for "excessive fees," even if they have been fully disclosed, and approved by shareholders and fund directors. It is on Section 36(b), and the lawsuits under that provision, that both litigants and many fund critics have focused their attention in recent years, hoping to persuade courts to take a more aggressive position towards funds in deciding whether a given advisory fee is in fact "excessive." We return to Section 36(b) and the cases interpreting it in Section VI below.

A final legal restraint is embedded in the contracts between funds and fund shareholders: *redeemable shares*.<sup>43</sup> Investors' ability to demand nearly immediate

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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).

<sup>36</sup> SEC Form N1-A, Item 14.

<sup>37</sup> E.g., <http://www.morningstar.com/> (last visited 1/21/07).

<sup>38</sup> 15 U.S.C. §80a-15.

<sup>39</sup> *Boss v. La Salle Bank, N.A.*, 84 F. Supp. 2d 947 (N.D. Ill. 1999). Fund shareholders may initiate suits on behalf of funds against directors. See generally ROBERT C. CLARK, *CORPORATE LAW* (1986). As we discuss in Section VI, courts have developed procedures to minimize frivolous suits to enforce these duties, and (as with similar suits involving business corporations) such suits are usually settled rather than tried on the merits. See William P. Rogers and James N. Benedict, *Money Market Fund Management Fees: How Much is Too Much?*, 57 N.Y.U. L. Rev. 1098 (1982) (frequent settlement of fiduciary cases against fund advisors); Roberta Romano, *The Shareholder Suit: Litigation Without Foundation*, 7 J. L. Econ. & Org. 84 (1991) (frequent settlement of fiduciary cases against business corporations). Nevertheless, they remain important guidelines for director behavior, and form the basis of legal advice and education fund directors typically receive about their duties in negotiating fees with fund advisors.

<sup>40</sup> Investment Company Act Amendments of 1970, Public Law, No. 91-547, 84 Stat. 1413 (1970), adding Section 36(b) of the ICA, codified in 15 U.S.C. §80a-36(b).

<sup>41</sup> See SEC Annual Report 2003, at 44.

<sup>42</sup> SEC, About the Division of Enforcement, [www.sec.gov/divisions/enforce/about.htm](http://www.sec.gov/divisions/enforce/about.htm) (last visited 2/7/07).

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

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).<sup>44</sup> 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.<sup>45</sup> 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 critics<sup>46</sup> – 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.<sup>47</sup> From an economic perspective, the protection of redeemable shares is arguably more important in supporting competition than any other aspect of the current legal framework.

In sum, the mutual fund industry is already among the most tightly regulated industries in the United States. In terms of strict, unyielding structural restrictions, it may be the most heavily regulated sector of the financial services industry. Supervision and enforcement are robust.<sup>48</sup> Recent scandals in the fund industry do not change the fact that it has long been regulated and supervised, and has been a remarkable success not only from the perspective of growth, but also in remaining relatively untroubled by serious financial lapses.<sup>49</sup> 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.<sup>50</sup>

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the funds’ prospectuses and advisory contracts. See Daniel N. Deli, *Mutual Fund Advisory Contracts: An Empirical Investigation*, 57 J. Fin. 122 (Feb. 2002) (analyzing such contracts).

<sup>44</sup> See Victoria E. Schonfeld and Thomas M.J. Kerwin, *Organization of a Mutual Fund*, 49 Bus. Law. 107 (1993).

<sup>45</sup> See SEC, *REPORT ON INVESTMENT TRUST AND INVESTMENT COMPANIES, PART I* (1939), at 29-30, 101, and SEC, *REPORT ON INVESTMENT TRUSTS AND INVESTMENT COMPANIES, PART II* (1939), at 34-39, 56, 112-13.

<sup>46</sup> For example, Freeman and Brown, *supra* note 4, note the fact of redeemable shares, but fail to consider how redeemable shares put competitive pressure on advisors to set fees competitively.

<sup>47</sup> SEC, *Report, Part II*, *supra* note 51 at 38-39, 112-13; see also INVESTMENT COMPANY INSTITUTE (2006), *supra* note 22 at 32-36 (describing closed-end funds).

<sup>48</sup> In 2006, the SEC inspected funds holding roughly 40% of the industry’s AUM. SEC Annual Report 2006, at 12. Enforcement cases against mutual funds and investment advisers represented roughly 15% of the SEC’s enforcement docket in 2006. SEC Annual Report 2006, at 11.

<sup>49</sup> JAMES R. BARTH, *THE GREAT SAVINGS AND LOAN DEBACLE* (1991) (reviewing S&L crisis of 1980s); CONGRESSIONAL BUDGET OFFICE, *ECONOMIC EFFECTS OF THE SAVINGS AND LOAN CRISIS: A CBO STUDY* (1992) (same); FEDERAL DEPOSIT INSURANCE CORPORATION, *HISTORY OF THE EIGHTIES: LESSONS FOR THE FUTURE* (1998) (reviewing bank crises of early 1990s); and Ruth Simon, *With Wall Street on Defensive, Claims Against Brokers Surge*, *Wall St. J.* (Apr. 27, 2003), at A1 (reporting expected number of arbitration claims against brokers).

<sup>50</sup> SEC 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](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.

### III. THE STRUCTURE AND PERFORMANCE OF THE MUTUAL FUND INDUSTRY

In addition to the regulatory and contractual underpinnings of competition in the mutual fund industry (sketched in Section II above), the mutual fund industry's market structure is consistent with competition providing strong constraints on advisory fees. 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 this section, we first 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. Specifically, we show that (a) the number of funds and fund complexes is large and growing over time, and the concentration of assets in funds and complexes is low and falling over time, even within subsectors of the fund industry, (b) barriers to entry are low, and (c) funds are distributed through multiple channels that are themselves in robust competition. We then turn to aspects of the performance of the mutual fund industry over the past decades, and show that (d) funds have frequently reduced fees, (e) 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, and (f) funds and fund complexes experience large and frequent changes in market shares.

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

An important element of economic models of competition is the number of firms competing in a market. Under certain conditions two firms suffice to assure competitive prices; under more general conditions, the larger the number of rivals, the more choices available to consumers and the greater the likelihood of competitive pricing.<sup>51</sup> 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.<sup>52</sup> Empirical studies of auction markets and various industries, 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.<sup>53</sup>

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Canary Capital Partners LLC, available at [http://www.oag.state.ny.us/press/2003/sep/canary\\_complaint.pdf](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). For evidence on the reaction of investors to these scandals, see Stephen J. Choi and Marcel Kahan, *The Market Penalty for Mutual Fund Scandals* (January 2006), NYU Law and Economics Research Paper No. 06-07, available at <http://ssrn.com/abstract=877896> (last visited 1/31/07).

<sup>51</sup> R. GLENN HUBBARD AND ANTHONY PATRICK O'BRIEN, *ECONOMICS* (2006), and DENNIS W. CARLTON AND JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* (4<sup>TH</sup> ED. 2005), at 56-87 and 159-99.

<sup>52</sup> HUBBARD AND O'BRIEN, *supra* note 55; RICHARD A. POSNER, *ANTITRUST LAW* (2nd ed. 2001), at 62-64, 66-71, and GEORGE J. STIGLER, *A THEORY OF OLIGOPOLY*, IN *THE ORGANIZATION OF INDUSTRY* (1968), at 39-63.

<sup>53</sup> Lance Brannman, J. Douglass Klein, and Leonard Weiss, *The Price Effects of Increased Competition*, in *AUCTION MARKETS, CONCENTRATION AND PRICE* (ed. Leonard Weiss 1989), at 67-84;

The mutual fund industry offers many choices for investors, and with choice comes competition. Mutual funds number in the thousands, divided among equity, bond, balanced (stocks and bonds), and money market funds.<sup>54</sup> Using data on equity funds from Strategic Insight, **Table 1** shows the number of U.S. equity funds and complexes increased dramatically from 1985 through 2004. Funds are offered by hundreds of complexes (i.e., funds with a common advisor) and single-fund 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%, exist as single funds or in relatively small complexes, with 10 or fewer funds. Larger fund complexes, with 11 to over 100 funds, have increased their share of total funds since 1985. If anything, Table 1 and Figure 1 understate the extent of choice in the fund industry, as they only include true mutual funds, and do not include close substitutes, such as exchange traded funds (“ETFs”).<sup>55</sup>

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James M. MacDonald, Competition and Rail Rates for the Shipment of Corn, Soybeans, and Wheat, 17 *RAND J. Econ.* 151 (1987); Steven N. Wiggins, and Robert Maness, Price Competition in Pharmaceuticals: The Case of Anti-Infectives, 42 *Econ. Inquiry* (April 2004), at 247-63; Thomas Gale Moore, U.S. Airline Deregulation: Its Effects on Passengers, Capital, and Labor, 29 *J. L. & Econ.* 1 (April 1986); Ian Domowitz, R. Glenn Hubbard and Bruce C. Petersen, Business Cycles and the Relationship Between Concentration and Price-Cost Margins, 17 *RAND J. Econ.* 1 (Spring 1987); and Ian Domowitz, R. Glenn Hubbard and Bruce C. Petersen, Oligopoly Supergames: Some Empirical Evidence on Prices and Margins, 36 *J. Ind. Econ.* 379 (June 1987).

<sup>54</sup> The ICI reports 8,454 U.S. mutual funds in 2005, including 4,586 equity funds. INVESTMENT COMPANY INSTITUTE (2006), *supra* note 22, at 8, 75 (numbers of funds).

<sup>55</sup> 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, which sell 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, to date have provided equivalent liquidity, and thus generally compete directly with indexed mutual funds. See INVESTMENT COMPANY INSTITUTE (2006), *supra* note 22, at 26-30 (discussing ETFs). ETFs have grown rapidly in recent years, from ~\$1 billion in 1995 to almost \$200 billion in 2005. *Id.* at 27.

**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:

$$HHI = \sum_{i=1}^n (\text{Market Share})^2$$

**Source:**

Strategic Insight (Simfund)

**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 % 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.<sup>56</sup> 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 has increased, concentration has declined.

<sup>56</sup> U.S. DEPARTMENT OF JUSTICE AND FEDERAL TRADE COMMISSION, HORIZONTAL MERGER GUIDELINES (1992).

**Table 2.**  
Fund Concentration by Morningstar Category for Equity Mutual Funds  
1985-2004

Year	Large Growth	Large Value	Mid Cap Growth	Small Cap Growth	International
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:

$$HHI = \sum_{i=1}^n (\text{Market Share})^2$$

**Source:**

Strategic Insight (Simfund)

**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, HHIs remain today well below what would be considered high levels of concentration – that is, sales dominated by a few funds or complexes.

**Table 3.**  
Complex Concentration by Morningstar Category for Equity Mutual Funds  
1985-2004

Year	Large Growth	Large Value	Mid Cap Growth	Small Cap Growth	International
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:

$$HHI = \sum_{i=1}^n (\text{Market Share})^2$$

**Source:**

Strategic Insight (Simfund)

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, “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.

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.<sup>57</sup> 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.<sup>58</sup> 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.<sup>59</sup>

## B. Absence of Barriers to Entry and Expansion of Funds

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.<sup>60</sup> **Table 4** shows the 20 largest equity mutual fund complexes in 2004 that did not exist in 1994.<sup>61</sup> The top fund new entrants are larger than 95% of existing funds while the top complex entrants are

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<sup>57</sup> E.g., GAO Report, *supra* note 4 at 89.

<sup>58</sup> See F. William McNabb, III, Statement, Hearing before the Subcommittee on Finance and Hazardous Materials of the Committee on Commerce, House of Representatives, 105th Cong., 2d Sess. (Sep. 29, 1998), at 69-75. The former head of Vanguard also attributed Vanguard’s success to price competition. See Bogle, *supra* note 4.

<sup>59</sup> Fidelity Makes Fee Cuts Permanent, Wall St. J., Mar. 2, 2005, at C15, Fidelity Cuts Fees for Big Investors, Wall St. J., Oct. 18, 2005, at C15, and Dow Jones Newswire, Oct. 17, 2005.

<sup>60</sup> A study of a different sample and time period found that the number of fund complexes grew from 167 in 1979 to 525 in 1998. Khorana and Servaes, *supra* note 27 at 45.

<sup>61</sup> In a prior working paper, we presented similar findings for equity mutual funds, as opposed to complexes. See John C. Coates IV and R. Glenn Hubbard, Competition and Shareholder Fees in the Mutual Fund Industry: Evidence and Implications for Policy, AEI Working Paper #127 (June 2006), at Table 4, available at [http://www.aei.org/publications/pubID.24577/pub\\_detail.asp](http://www.aei.org/publications/pubID.24577/pub_detail.asp) (last visited 1/31/07).



generally larger than approximately 70% of existing complexes. Funds and complexes entering in the last 15 years have secured billions in new investments.

Table 4.  
The Twenty Largest Equity Mutual Fund Complexes in 2004 that Did Not Exist in 1994

<u>Fund</u>	<u>Fund Inception Year</u>	<u>Total Assets End of Year (\$ in millions)</u>	<u>Size Percentile</u>
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.

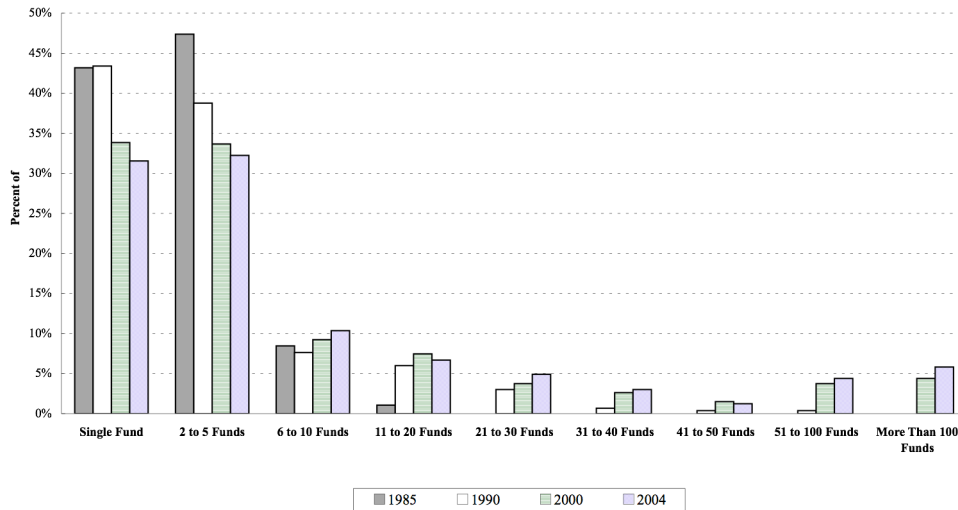
*Source:*

Strategic Insight (Simfund)

Existing firms have also expanded through new investment flows and asset appreciation.<sup>62</sup> 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.

<sup>62</sup> 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 St. J. (Nov. 11, 2004) at A1.

**Figure 1.**  
**Distribution of Number of Funds in Complexes for**  
**Equity Mutual Funds At Different Points in Time**



Source: Strategic Insight (Simfund)

This evidence regarding new entry and expansion is reinforced by common sense. To create or expand a mutual fund, large new investments in capital or property, plant and equipment are not required. A new fund – even one advised by a new adviser – can be set up quickly and operated out of one relatively small office by less than five employees. Presidio Fund, for example, is a single-fund start-up created in 2005 by a single portfolio manager who contributed all of the \$100,000 start-up capital, and who is also the sole owner of the fund's newly created adviser, KCO Investments, Inc., which has one office, less than five employees, and received a total of \$236,000 in fees for the first year of the fund's operations, in return for absorbing all of the fund's start-up expenses.<sup>63</sup> While the cost of marketing new shares and attracting new investors is not trivial, such costs are common to most industries, and there is no reason to think that marketing is more costly for mutual funds than in other industries (except, perhaps, because of how competitive the industry already is). If there are atypically high start-up costs for new mutual funds, they are likely to be the costs of regulation and compliance, which are almost certainly higher per dollar of invested capital than for other start-

<sup>63</sup> See [www.presidio.funds.com](http://www.presidio.funds.com) (last visited 2/17/07) (including information about the adviser, the statement of additional information, and the fund's annual report, linked to the fund's page, which includes information about the formation of the fund, the adviser, the fund's first year of expenses, and the fact that the adviser is absorbing all expenses for the fund), and [www.adviserinfo.sec.gov](http://www.adviserinfo.sec.gov) (search for KCO Investments, the adviser for Presidio Funds, which will return the adviser's investment adviser filings, which include information about number of employees, ownership and number of offices) (last visited 2/17/07). See also Schonfeld and Kerwin at 107 supra note 50. Tamar Frankel, The Regulation of Money Managers §21.04[A] (only \$100,000 in capital required by SEC regulations to start a fund); Laurin Blumenthal Kleiman and Carla G. Teodoro, Forming, Organizing and Operating a Mutual Fund: legal and Practical Considerations, in *The ABCs of Mutual Funds* 11, 57–58 (a fund can be created within three months); Matthew P. Fink President, Investment Company Institute, Statement, "Improving Price Competition for Mutual Funds and Bonds" Before the Subcommittee on Finance and Hazardous Materials, Committee on Commerce, United States House of Representatives, (Sep. 29, 1998), available at [www.ici.org/statements/tmny/98\\_house\\_fees\\_tmny.html](http://www.ici.org/statements/tmny/98_house_fees_tmny.html) (last visited 2/14/07).

up businesses. (Of course, increasing the stringency or extent of mutual fund regulation or enforcement, as fund critics would like, would only exacerbate this difference.) Even still, the absolute level of start-up costs for a mutual fund, including legal and compliance, are not particularly large, generally falling “in the range of \$ 250,000 to \$ 400,000 or more.”<sup>64</sup> For existing funds seeking to expand, regulatory and compliance costs fall as a proportion of assets as assets grow.

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, investment advisors will not earn monopoly rates of return without significant barriers to entry and expansion. Instead, returns to investment advisors will be distributed over a range, with superior firms earning above-average returns and funds with persistently low returns experiencing flat or even negative investment flows, and possibly exiting or being merged into better-performing mutual funds. At the margin, firms that remain will over time earn a risk-adjusted, competitive rate of return. Nothing renders any of these basic economic principles inapplicable to the mutual fund industry.

### **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 for mutual funds is consistent with price competition. Current channels include: (1) direct sales,<sup>65</sup> (2) retirement plans,<sup>66</sup> (3) full-service financial firms,<sup>67</sup> (4) fund supermarkets and discount brokers,<sup>68</sup> and (5) direct sales to institutional investors.<sup>69</sup> Investments in mutual

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<sup>64</sup> See Schonfeld and Kerwin, *supra* note 50 at 107; see also note 68 and accompanying text *supra*.

<sup>65</sup> Investors can purchase shares directly from individual funds by mail, telephone, or the Internet. A few funds charge purchase fees, but most do not.

<sup>66</sup> A large share of investors own mutual funds through retirement plans, such as 401(k) plans and IRAs. According to one survey, more than 60% 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. INVESTMENT COMPANY INSTITUTE (2005), *supra* note 22, at 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.

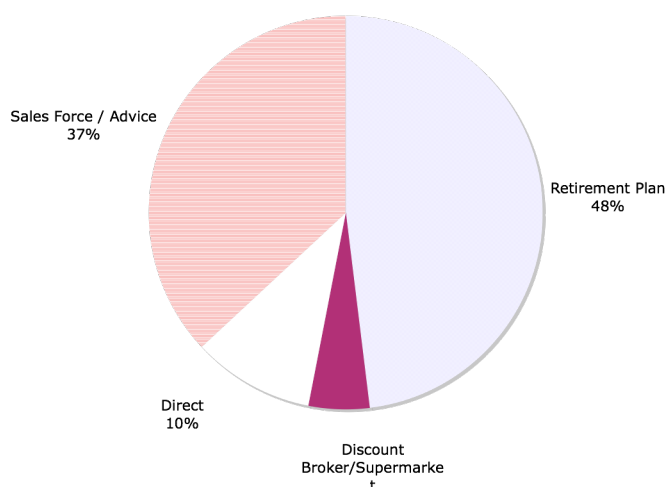
<sup>67</sup> Investors seeking more guidance in setting investment goals and matching mutual funds to those goals can gain information and make purchases through securities brokers, registered sales representatives at banks and savings and loans, and independent financial advisors. Investors can seek advice on asset allocations and which funds to purchase. ETFs and other fund substitutes can also be purchased from full-service and discount brokers.

<sup>68</sup> 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'

funds also take place through insurance brokers when purchasing annuities, which are also offered through banks and savings institutions and independent financial advisors.

In 2001, mutual fund purchases by major distribution channel segment were approximately as shown in **Figure 2**.<sup>70</sup> Retirement plans, such as 401(k) plans, 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.

**Figure 2.**  
**Primary Mutual Fund Purchase Channel Used by Households, 2001**



Source: Mutual Fund Distribution Channels and Distribution Costs, 9 Perspective (July 2003), [www.ici.org/pdf/per09-03.pdf](http://www.ici.org/pdf/per09-03.pdf)

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

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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 a fund complex or across complexes. With multiple funds available from a single 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 & Co., Annual Reports, 1999 and 2004.

<sup>69</sup> 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 commingled funds. Funds also sell directly to institutional investors, having separate products specifically for institutional buyers.

<sup>70</sup> INVESTMENT COMPANY INSTITUTE, 2004 MUTUAL FUND FACT BOOK (2004) at 47.

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.<sup>71</sup> 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.<sup>72</sup> Part of the decline came from a shift by consumers from load to no-load equity funds, with no-load funds increasing from 34% of total equity sales in 1980 to 58% in 2001.<sup>73</sup> 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% in 1980 to 4.9% in 2001.<sup>74</sup> This decline was partially offset by a rise in average 12b-1 fees from 15 basis points in 1985 to 43 in 2001.<sup>75</sup> 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. Price Reductions as Evidence of Competition

Among one important type of mutual funds, money market funds, evidence of price competition is clear. Differences in money market fund net returns are determined almost entirely by differences in expenses borne by shareholders, with the lowest-fee money market fund having the highest net return.<sup>76</sup> Susan Christoffersen found that close to 80% of institutional money market fund managers waived almost half of their contractual advisory fees and 55% of retail money market fund managers waived almost two-thirds of their contracted-for fees.<sup>77</sup> 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.

Price reductions also are common outside of the money market mutual fund subsector. **Table 5** shows the number of equity share classes with fee

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<sup>71</sup> John K. Reid and John D. Rea, Mutual Fund Distribution Channels and Distribution Costs, 9 *Perspective* 1 (July 2003), available at [www.ici.org/perspective/per09-03.pdf](http://www.ici.org/perspective/per09-03.pdf) (last visited 2/11/07). 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.

<sup>72</sup> *Id.* at 15.

<sup>73</sup> *Id.* at 16. Over a longer time period, Barber et al., *supra* note 27, found that the proportion of assets in diversified United States equity funds invested in front-end load funds dropped from 91% in 1962 to 35% in 1999.

<sup>74</sup> Reid and Rea, *supra* note 78 at 17.

<sup>75</sup> A survey of 95 mutual fund complexes in 1999 found that 63% of 12b-1 fees were used to compensate broker-dealers and related expenses, with 32% going for administrative services, and 5% for advertising and promotion. *Id.* at 19. See also INVESTMENT COMPANY INSTITUTE, *supra* note 22, at 44 (2% of 12b-1 fees used for promotion and advertising).

<sup>76</sup> Bogle *supra* note 4.

<sup>77</sup> Susan E.K. Christoffersen, Why do Money Fund Managers Voluntarily Waive their Fees?, 56 *J. Fin.* 1117 (June 2001).

increases, decreases, and no change in price. Fee decreases are common, and occurred more frequently than fee increases in some years. Fee waivers (temporary reductions that are not directly reflected in advisory contract amendments) are even more common. **Table 5** shows the number of equity mutual fund classes annually with fee waivers in the Simfund dataset. Over 40% of share classes waived fees annually since 1998, with close to 50% in recent years. Price reductions through waivers have risen substantially since 2001, when funds were facing net outflows. Christoffersen also found that fee waivers changed frequently throughout a calendar year, reflecting price responses to competitive pressures.

**Table 5.**  
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)

If the 1960s view that conflicts of interest determine advisor fees were true, advisors would have no reason to reduce fees, and fees would steadily grow in the absence of price competition. The evidence is to the contrary; fee declines are relatively common. Widespread common fee reductions and waivers by advisors can only be explained by price competition in both money market and equity mutual funds.

### **E. Trends in Fees and Expenses Are Consistent with Price Competition**

Proponents of the 1960s view contend that average shareholder expense ratios for equity mutual funds have risen since the 1950s.<sup>78</sup> Based on this supposed fact, they reason that there is no price competition among mutual funds.

<sup>78</sup> E.g., Freeman and Brown, *supra* note 4, at 609-74 and Bogle *supra* note 4.

Their logic is 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, and the large increase in fund assets since the 1970s.<sup>79</sup> On both facts and logic, fund critics are wrong; we address the facts about fee trends here, and we address the logic in Section V below.

Overall, as shown in **Table 6**, studies of trends in average expense ratios do not consistently report increasing fees. Instead, they 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.

**Table 6.**  
**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)	1. Sales weighted expense ratio with amortized loads 2. Asset weighted expense ratio 3. Sales weighted operating expense ratio 4. Sales weighted average load charges	Equity funds, various years, 1980-2002	1. Ratio declined from 2.26 in 1980 to 1.25 in 2002 2. Ratio rose from 0.68 in 1980 to 1.00 in 1990 and 2002 3. Ratio rose from 0.68 in 1980 to 0.86 in 1990, falling to 0.78 in 2002 4. 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.

Studies of trends in expense ratios tend not to follow a fixed group of funds over an extended period of time, instead focusing on all funds and comparing results across years. But the composition of funds has changed

<sup>79</sup> 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 at 29-31.

substantially over the past 25 years, and that change has affected average expense ratios.<sup>80</sup> Over time, the mutual fund industry has been increasingly diverse, and has included an increasing number of international, small-cap, and newer funds. Yet higher expense ratios predominate in precisely those types of funds.<sup>81</sup> In addition, many studies examine only a subset of the fees and expenses borne by shareholders, and do not consider the possibility that while fees or expenses of a given type may have increased or remained unchanged, overall fees and expenses may have declined.

Thus, studies reporting apparent evidence of increasing expense ratios over various subperiods since the 1970s, as shown in **Table 6**, including those by the SEC, John C. Bogle, Brad M. Barber, *et al.*, and the Investment Company Institute, should be treated cautiously.<sup>82</sup> 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% in 1995 to 0.32% in 2000.<sup>83</sup> 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% in 1979 to 0.80% in 1992, but declined to 0.66% in 1998, followed by a rise to 0.69% in 1999.<sup>84</sup> Overall, the SEC actually found a decline in expense ratios.

Where studies have controlled for the mix of funds over time, a number have found expense ratios declining over time. For example, 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% in 1990 to 0.65% in 1998, with a rise to 0.70% in 2001.<sup>85</sup> 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.

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.<sup>86</sup> The expense ratio of no-load funds available outside supermarket channels declined from an average of 0.74% to 0.54%, while the ratios of funds sold through supermarkets fell from 1.06 to 0.89%.<sup>87</sup> Expense ratios for funds sold through supermarkets were 0.17 to

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<sup>80</sup> 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.

<sup>81</sup> SEC, *supra* note 11 at 24-27.

<sup>82</sup> SEC, *supra* note 11; Bogle, *supra* note 4; Barber *et al.*, *supra* note 27; and INVESTMENT COMPANY INSTITUTE, THE COST OF BUYING AND OWNING MUTUAL FUNDS (Feb. 2004), available at [www.ici.org/stats/res/fm-v13n1.pdf](http://www.ici.org/stats/res/fm-v13n1.pdf) (last visited 2/12/07).

<sup>83</sup> 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, 119 Q.J. Econ. 412 (May 2004).

<sup>84</sup> SEC, *supra* note 11 at 42.

<sup>85</sup> GAO Report, *supra* note 4 at 50; GAO (Mar. 2003), *supra* note 4 at 6.

<sup>86</sup> Michele LaPlante, Influences and Trends in Mutual Fund Expense Ratios, 24 J. Fin. Res. 45 (Spring 2001).

<sup>87</sup> *Id.* at 54.



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 6** shows, studies examining total fees and expenses, 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% and fell in load funds from approximately 2.25 to 1.9%. Overall, total fees fell from 2.2 to 1.5%.<sup>88</sup> In a second study of 690 mutual funds from 1971 to 1990, the same authors found that average expense ratios increased over the period from 0.96% to 1.44%, but total fees fell over the same period from 1.66% to 1.37%.<sup>89</sup> Studies by the SEC and Investment Company Institute looking at load fees alone found significant declines from 1980 to 1999 (SEC)<sup>90</sup> and from 1980 to 2002 (Investment Company Institute).<sup>91</sup> Calculating expense ratios by fund complex and amortizing loads, Khorana and Servaes found average expense ratios declined from 1.40 to 1.19% over the period 1979 to 1998.<sup>92</sup> Amortizing loads over a five-year period, the SEC found average expense ratios fell from 2.28% in 1979 to 1.88% in 1999.<sup>93</sup> 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%, in bond funds from 1.53 to 0.88%, and in money market funds from 0.55 to 0.34%.<sup>94</sup>

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 funds, 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 and less expensive access to more investment choices in funds and transfers between funds, but added to higher expense ratios.

To summarize, the 1960s view 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. The overall results are consistent with price competition. Drawing a conclusion that price competition is absent in mutual funds because expense ratios are rising is unwarranted by this evidence.<sup>95</sup>

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<sup>88</sup> Erik R. Sirri and Peter Tufano, *Competition and Change in Mutual Fund Industry*, in *FINANCIAL SERVICES, PERSPECTIVES AND CHALLENGES* (ed. Samuel L. Hayes, III 1993) at 200.

<sup>89</sup> Sirri and Tufano, *supra* note 27 at 1593.

<sup>90</sup> SEC, *supra* note 11, at 22.

<sup>91</sup> ICI, *supra* note 99.

<sup>92</sup> Khorana and Servaes, *supra* note 27 at 45.

<sup>93</sup> SEC, *supra* note 11 at 22.

<sup>94</sup> ICI, *supra* note 99.

<sup>95</sup> Such a conclusion is also unwarranted when looking at bond and money market funds. Such 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.*; GAO Report *supra* note 4.

## F. 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 7** 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's market share falling from 3.7% in 1985 to 1.1% in 2004 and Dreyfus' share declining from 3.2% to 0.9% over the same period. Other funds experienced significant growth in share, including American Funds, Fidelity, and Vanguard. In a prior working paper, we found similar market share shifts within different Morningstar investment style categories (large growth, large value, mid-cap growth, small-cap growth, and international).<sup>96</sup>

**Table 7.**  
**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>	<i>0.76%</i>
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%
Souder	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)

<sup>96</sup> John C. Coates IV and R. Glenn Hubbard, Competition and Shareholder Fees in the Mutual Fund Industry: Evidence and Implications for Policy, AEI Working Paper #127 (June 2006), at Table 9a through 9e, available at [http://www.aei.org/publications/pubID.24577/pub\\_detail.asp](http://www.aei.org/publications/pubID.24577/pub_detail.asp) (last visited 1/31/07).

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 7** for the period 2000 to 2004 include American Funds' share increasing from 8.5% to 14.1% and Dodge and Cox's share rising from 0.3 to 1.6%.<sup>97</sup> Substantial share changes from 1990 to 2000 include Janus' share rising from 0.6 to 4.5% and Putnam Funds' share rising from 2.8 to 5.4%. American Funds outperformed the S&P 500 in recent years. As a consequence, American Funds grew faster than many of its rivals over the last three years and its share grew accordingly. American Funds' strong performance is attributable to astute stock selection as well as low shareholder fees, in some cases 50% lower than similar funds according to Morningstar, enhancing American Funds' performance.<sup>98</sup> Successful funds' low fees reflect price competition and are reflected in returns to stockholders.

### G. Summary

In sum, the market structure and performance of the mutual fund industry is consistent with strong competition among funds. New entry is common, and for decades has been a constant feature of the industry. Barriers to entry are evidently low, and funds are distributed through multiple distribution channels that themselves reflect a second layer of competition for investor assets. While our survey of evidence of the industry's market structure is necessarily general, and thus it is possible that there are subsectors of the mutual fund industry where the market is more concentrated, barriers to entry are high, or distribution channels are few, the general survey suggests that the burden of proof should be to establish that such potentially uncompetitive subsectors exist, rather than for critics to presume, as they have since the 1960s, that competition is generally weak among mutual funds. This general conclusion is only reinforced by a review of evidence of the performance of the fund industry. Fee reductions are common, fees have shown no dominant long-term trend, and market shares are unstable. All of this evidence – admittedly indirect – suggests that competition among funds and fund complexes is robust and, if anything, has been growing in intensity over the past decades.

## IV. INVESTOR MOBILITY ACROSS FUNDS PROVIDES IMPORTANT EVIDENCE OF PRICE COMPETITION

In this section, we look for direct evidence that competition among funds and fund complexes constrains advisory fees. 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. Logically, fund critics argue (and we agree) that funds with lower expenses, holding other factors constant,

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<sup>97</sup> Shares for AIM, Janus, and Putnam fell during this period, but were affected by the 2003 market timing scandals. A recent study shows that fund investors rapidly shift assets out of mutual funds implicated in market timing and other scandals, consistent with investors being able to “fire” advisors by redeeming shares. See Choi and Kahan, *supra* note 56.

<sup>98</sup> In Risky Times, Investors Embrace Cautious Dynasty, *Wall St. J.*, (Nov. 15, 2004), at A1.

perform better – that is, have higher net returns.<sup>99</sup> Empirically, we find that funds with lower fees grow in asset size, and that this relationship is relatively strong. That is, we find that, holding other factors constant, investors shift substantial amounts of assets out of high-fee funds and into low-fee funds. These shifts in funds assets provide direct evidence of the effect of price competition on funds.

### A. Prior Research on the Direct Effect of Fees

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 the expenses, the greater the returns, leading to greater fund flows and market share relative to rivals. Although some studies claim to find only a weak or even absent relationship between advisory fees and fund flows,<sup>100</sup> 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.

The paper closest in design and findings to the model and results we present below is Ajay Khorana and Henri Servaes examined the relationship between total fund expenses (including advisory fees, front-end loads and 12b-1 fees) and fund complex market shares over the period 1979 to 1998 for the universe of open-ended fund complexes.<sup>101</sup> They found a strong inverse relationship between expenses and market share; the lower the expenses, the higher the complex's market share. They found the same inverse relationship between fees and market share within different fund objective classifications (e.g., small cap growth, large cap value, etc.). They concluded: "Price competition is an effective way of obtaining market share."<sup>102</sup> The results held after they adjusted for the fact that larger funds may charge lower fees due to economies of scale.<sup>103</sup>

Their findings are qualitatively similar to those found in a number of studies focusing on fund flows (rather than assets). 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.<sup>104</sup> 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

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<sup>99</sup> For evidence on the relationship between expenses and net returns and market shares, see sources listed in note 27 *supra*.

<sup>100</sup> E.g., Barber, et al., *supra* note 27 at 2107 ("there is, at best, no relation between operating expenses and flows and, at worst, a perverse positive relation between expenses and flows for large funds").

<sup>101</sup> Khorana and Servaes, *supra* note 27.

<sup>102</sup> *Id.* at 23.

<sup>103</sup> Consistent with these findings, Barber et al., *supra* note 27, found the lowest decile of operating expenses in their sample represented 36% of total net assets while the highest operating expense decile represented only one percent of assets.

<sup>104</sup> Vikram Nanda, Z. Jay Wang and Lu Zheng, Family Values and the Star Phenomenon: Strategies of Mutual Fund Complexes, 17 *Rev. Fin. Stud.* 667 (2004).

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% decline in expenses increases new fund flow by 2.5%, confirming the sensitivity of investors to fees. Similarly, in a sample of 690 funds from 1971 through 1990, Erik Sirri and Peter Tufano found that total fees and changes in fees were inversely related to growth in fund flows.<sup>105</sup> 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.<sup>106</sup> Funds charging 10% more than the average level (approximately 15 basis points) experienced 1.2 percentage points lower growth than funds charging the average fee.<sup>107</sup>

Prior studies established a link between fees and returns. Mark Carhart examined diversified mutual funds from 1962 to 1993, finding a negative relationship between both expense ratios and load fees, on the one hand, and abnormal returns on the other hand.<sup>108</sup> Many studies have found that fund flows, in turn, are positively related to various measures of returns over the period,<sup>109</sup> and fund ratings, and ratings are based in large part on past returns.<sup>110</sup> Sirri and Tufano found a positive relationship between returns and fund flows, and the relationship was especially strong for firms in the top quintile of returns.<sup>111</sup>

These studies – providing indirect, and in some cases, direct evidence of 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. Do the relationships between advisory fees and market share *etc.* carry over from funds to complexes? Second, some observers concede that competition does exist in the fund industry, but doubts remain about its strength.<sup>112</sup> Some of the foregoing studies, which provide evidence of price competition, have reinforced these doubts, in part because they have focused on the relationship

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<sup>105</sup> Sirri and Tufano, *supra* note 27 at 1589-622.

<sup>106</sup> Sirri and Tufano, *supra* note 61 at 195-96.

<sup>107</sup> *Id.* See also Daniel Bergstresser, John M.R. Chalmers, and Peter Tufano, *Assessing the Costs and Benefits of Brokers in the Mutual Fund Industry*, Working Paper (Jan. 2006) (fund flows inversely related to expense ratios); Lori Walsh, *The Costs and Benefits to Fund Shareholders of 12b-1 Plans: An Examination of Fund Flows, Expenses and Returns*, SEC Working Paper (Apr. 2004) (same); Xinge Zhao, *The Role of Brokers and Financial Advisors Behind Investments into Load Funds*, College of William and Mary, Working Paper (Oct. 2004) (same).

<sup>108</sup> Mark M. Carhart, *On the Persistence in Mutual Fund Performance*, 52 *J. Fin.* 57 (Mar. 1997).

<sup>109</sup> This finding has been confirmed repeatedly, in different samples from different periods, using different performance measures, many studies have found past performance strongly determines flows to mutual funds. J. Chevalier and G. Ellison, *Risk Taking by Mutual Funds as a Response to Incentives*, 105 *J. Pol. Econ.* 1167 (1997); R. Edelen, *Investor Flows and the Assessed Performance of Open-End Mutual Funds*, 53 *J. Fin. Econ.* 439 (1999); M. Gruber, *Another Puzzle: The Growth in Actively Managed Mutual Funds*, 51 *J. Fin.* 783 (1996); I. Guedj and J. Papstaikoudi, *Can Mutual Fund Families Affect the Performance of their Funds?*, Working Paper, Sloan School of Management, MIT (2005); R. Ippolito, *Consumer Reaction to Measures of Poor Quality*, 35 *J. L. & Econ.* 45 (1992); Nanda et al., *supra* note 117; J. Patel, R. Zeckhauser and D. Hendricks, *Investment Flows and Performance: Evidence from Mutual Funds, Cross-Border Investments and New Issues, in Japan, Europe and the International Financial Markets: Analytical and Empirical Perspectives* (R. Satlk, R. Levitch, and R. Ramachandran, eds., 1994); Sirri and Tufano, *supra* note 27.

<sup>110</sup> 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).

<sup>111</sup> Sirri and Tufano, *supra* note 27, pp. 1589-1622.

<sup>112</sup> E.g., OEA Memo, *supra* note 8, at 7-10.

between fund flows and advisory fees. But as Michael Koehn, Stanley Ornstein, Jimmy Royer, and Marc VanAudenrode point out, the empirical specifications used by existing studies on fund flows (such as Nanda *et al.*<sup>113</sup>) underestimate the sensitivity of investors to fees.<sup>114</sup> How *strong* is the relationship between advisory fees and fund or complex assets – that is, how powerful is the force of price competition in the mutual fund industry?

### **B. Our Findings on the Strength of the Relationship Between Fees and Assets of Funds and Complexes**

Using the Simfund data over the period from 1998 through 2004, we find that the total assets of both an overall fund complex and of an individual fund are very responsive to fees. (We present our findings in more detail in the appendix to this paper.) In our econometric tests, we estimate the effect of fees on a fund's (or complex's) total net assets in each year from 1998 through 2004. Since market shares in the fund industry are typically measured by assets, our results can also be viewed as showing the relationship between fees and market share.

We study the relationship between fees and assets, rather than between fees and flows (i.e., changes in assets), for two reasons. First, most of the variation in fees is cross-sectional (over funds), not time-series (across months and years). Second, new money growth in a fund is both noisy and volatile, relative to end-of-period total net assets. As a result, as noted above,<sup>115</sup> use of fund flows underestimate investor sensitivity to fees. The principal reason is that flow models assume that over long (but plausible) time frames, even a small sensitivity will produce a large (tending to infinite) elasticity of demand for fund assets; thus, flow models by assumption bias the plausible sensitivity of investors to advisory towards zero.<sup>116</sup>

In our regressions, we hold constant other factors that may affect investors' allocations of assets among funds. 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. Several of these factors have been found in prior research to correlate with fund flows or assets,<sup>117</sup> and all have the potential to affect our results. None of the controls are essential to our qualitative findings.

**Table A1** in the Appendix contains summary descriptive statistics for our sample, and **Tables A2** through **A4** contain our regression results. Our focus – the relationships between fees and assets – is on the second row of each table (labeled “Log of fund-class fees” in Tables A2 and A3, and “Log of asset weighted fees” in Table A4). Depending on the year, 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% increase in fund fees,

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<sup>113</sup> BAUMOL, ET AL., *supra* note 27; Barber, et al., *supra* note 27; Khorana and Servaes, *supra* note 27; Nanda et al., *supra* note 117; and Sirri and Tufano, *supra* note 27.

<sup>114</sup> Michael Koehn, Stanley I. Ornstein, Jimmy Royer, and Marc VanAudenrode, *Do Mutual Fund Investors Care About Fees?*, Working Paper, Analysis Group, Inc. (July 2006).

<sup>115</sup> *Id.*

<sup>116</sup> See *id.* for theoretical and empirical support for this proposition.

<sup>117</sup> E.g., Nanda et al., *supra* note 117 at 679 (Morningstar ratings and fund complex size affect new money flows to fund); and Barber et al., *supra* note 27 at 2106 (fund age affects new money flows to fund).

all else equal, decreases a fund's total net assets by 23 to 28% and a complex's assets by 15 to 19%.

While consistent with implied elasticities of demand for fund assets estimated by William Baumol, *et al.* using data for money market funds from the 1980s,<sup>118</sup> our estimated sensitivities of investors to fees are larger than those implied in most recent studies of fund flows.<sup>119</sup> In addition, we find that investors select fund complexes based on advisory fees, and not just individual funds, in allocating assets. Taken together, our results are consistent with the claim that competition by funds and complexes for assets strongly constrains advisory fees.<sup>120</sup>

## V. THE COMPETITIVE MARKET FOR MUTUAL FUNDS IS CONSISTENT WITH "ANOMALIES" NOTED BY CRITICS

Fund critics stuck in the 1960s try to buttress their conflict-of-interest theory with a variety of arguments and indirect factual claims. *First*, say the critics, investment advisors charge lower fees to institutional clients than to retail mutual fund clients, suggesting that fee competition is strong in the institutional market but not in the mutual fund industry because institutions do fire advisors on short notice, whereas mutual funds do not. *Second*, say the critics, fund fee levels have remained high or even increased over the past 40 years, even as funds have grown in size, suggesting that economies of scale are not being passed along to investors, which in turn suggests that competition is not working to constrain fees. *Third*, say the critics, price dispersion among even funds with identical investment strategies (e.g., S&P 500 index funds) demonstrates that the fund industry is not competitive. *Fourth*, say the critics, switching costs for fund investors are high, because of fees, transactions costs, and taxes. Thus, even though investors have the theoretical ability to switch funds and constrain advisors, they do not do so in practice. *Fifth*, say the critics, fund investors are simply ignorant or irrational, afflicted by cognitive biases that prevent them from effectively disciplining advisors.

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

Fund critics assert 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 funds.<sup>121</sup> Starting with the 1962 Wharton Report, various studies have reported that public pension plans, due to

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<sup>118</sup> BAUMOL, ET AL., *supra* note 27.

<sup>119</sup> Nanda et al., *supra* note 177.

<sup>120</sup> 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% of small-cap funds were closed to new investors. Prominent funds with other investment style have also been closed to new investors, including Fidelity Magellan (\$63 billion), Dodge and Cox Stock (\$43 billion), Vanguard PRIMECAP (\$23 billion), Dodge and Cox Balanced (\$21 billion), T. Rowe Price Mid-cap (\$13 billion), Janus Twenty (\$10 billion), and Longleaf Partners (\$9 billion).

<sup>121</sup> Institutional accounts vary widely, including trusts, foundations, life insurance companies, pension plans, and various levels of high-net-worth individuals. Those comparing institutional to retail fees focus on public pension plans. Yet many investment advisors to retail funds also offer and sell shares of "institutional" mutual funds to large institutional investors, sometimes offering sister funds of the same name to retail customers.

price competition, pay lower advisory fees than retail mutual funds.<sup>122</sup> Some attribute the lower prices to the absence of a conflict of interest between investment advisors and institutional clients.<sup>123</sup> 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.

Little thought is required to reject these claims on their face. 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 – which fund critics do not do – there is no basis for a price comparison. If – as is in fact the case – retail and institutional customers consume different services or differ in the underlying cost of generating services, simple price comparisons are invalid.

Significant product and cost differences separate the advising of retail mutual funds and the advising of public pension plans. Retail mutual funds provide investors liquidity, which generate costs for cash management and possibly lower returns to meet claims and the costs of processing redemptions. Public pension funds do not depend on their advisors for liquidity. Retail customers engage in constant purchases and sales of mutual fund shares, and so need to constantly communicate with funds. As a result, fund advisors provide 24-hour telephone access, Internet websites, checking and direct deposit services, tax information, transfers between mutual funds, and retirement plan advice. All of these services are costly. Pension funds do not purchase these costly services from their advisors, for the most part. Retail mutual funds must comply with extensive SEC disclosure requirements, including the preparation and distribution of prospectuses, reports to the SEC, and independent boards of directors, and advisors bear the costs of that compliance. Pension fund advisors do not necessarily have such costs. Retail mutual funds generally engage in continual distribution and marketing of fund shares to replace redeemed assets (and so provide liquidity) and to grow the fund. Managing a portfolio for a public pension fund does not entail the same kinds or amounts of distribution and marketing expenses. In sum, 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.<sup>124</sup>

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% higher to mutual funds in 39 cases, and reached 500% higher in nine cases.<sup>125</sup> The SEC's 1966 study examined advisory fees at six banks for pension and profit-sharing plans. The fee was 0.06% on a portfolio of \$100 million at five of the banks and 0.07% at the remaining bank.<sup>126</sup> The SEC compared these fees to the 0.50% fee that the Wharton Report found the majority of investment advisors at

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<sup>122</sup> Wharton Report, *supra* note 13 at 489; SEC, *supra*, note 7 at 114-21; and Freeman and Brown, *supra* note 2 at 627-40.

<sup>123</sup> Freeman and Brown, *supra* note 2 at 628 n. 88, and 629 n. 93. Mutual funds marketed to institutional clients have the same alleged conflict of interest, a point fund critics do not engage.

<sup>124</sup> 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. (Mar. 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).

<sup>125</sup> Wharton Report, *supra* note 13 at 489.

<sup>126</sup> SEC, *supra* note 7, at 115.



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 at least part of the 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.<sup>127</sup> 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, one would need to compare like services between retail mutual funds and public pension plans, such as the pure costs of stock selection and portfolio management. If such services are identical for each client base, pure portfolio management fees should be identical if price competition prevails in both market areas. Further, one would need to compare like investment styles in portfolios. As we noted earlier, expenses are generally higher for international, small-cap, and specialized funds as compared to large-cap income or growth funds.<sup>128</sup> Valid comparisons of fees must consider similar style funds, such as large-cap income funds, mid-cap growth funds, small-cap growth funds, *etc.* 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 continue to be of doubtful value.<sup>129</sup>

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.<sup>130</sup> 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.<sup>131</sup> 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 that investment advisors provide to pension funds (along with reporting, checking for compliance, and communicating and meeting with pension

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<sup>127</sup> The Wharton Report, *supra* note 13, and the SEC study, *supra* note 7, do not state whether they controlled for differences in asset size, number of accounts, and other differences between their mutual fund and institutional samples.

<sup>128</sup> SEC, *supra* note 11 at 24 and 27.

<sup>129</sup> 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.

<sup>130</sup> Freeman and Brown, *supra* note 2 at 630. Whether the sample is representative is unclear. For example, pension plans paying higher fees may have been reluctant to respond.

<sup>131</sup> *Id.* at 631-635.

fund clients).<sup>132</sup> Mutual funds report different costs in the same categories of expenses. Management fees sometimes include administrative and costs other than pure portfolio management.<sup>133</sup> Any decomposition of pure portfolio management costs would entail arbitrary cost allocations.

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.<sup>134</sup> 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.<sup>135</sup> 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.<sup>136</sup> There was little difference in portfolio management fees, indicating, based on this methodology, 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.<sup>137</sup> 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.<sup>138</sup> 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

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<sup>132</sup> *Id.* at 631, n. 100. Freeman and 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%. *Id.*, p. 640. In fact, Vanguard charged investors with a minimum \$3,000 investment 17.7 basis points in early 2005. Investors 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, at 3-4, and Vanguard Institutional Index Fund Prospectus, Nov. 15, 2005, at 1-3.

<sup>133</sup> SEC, *supra*, note 11, at 29, n. 103.

<sup>134</sup> Sean Collins, *The Expenses of Defined Benefit Pension Plans and Mutual Funds*, 9 *Perspective 1* (Dec. 2003), available at [www.ici.org/perspective/per09-06.pdf](http://www.ici.org/perspective/per09-06.pdf) (last visited 2/12/07).

<sup>135</sup> *Id.* at 8.

<sup>136</sup> *Id.*

<sup>137</sup> Freeman and Brown, *supra* note 2 at 638.

<sup>138</sup> *Id.* at 631.

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.

## **B. Economies of Scale and Scope in Funds and Complexes**

A second argument critics direct at mutual funds points is that because (they assert) economies of scale exist in mutual fund management – that is, because a fund advisor should face declining costs per dollar of AUM as AUM increases – and because funds have increased in size, advisory fees should have fallen. Critics point to periods in which AUM has increased, but fees have not,<sup>139</sup> as evidence that competition is not strong in the fund industry.

Again, the criticism dates to the 1960s. The Wharton Report found that investment advisors tended to charge an approximately 0.5% fee in the 1950s and early 1960s, and the fee did not change much during the rapid growth in AUM in the 1950s.<sup>140</sup> In ~80% of the funds they studied, the fee remained at 0.5% despite growth in AUM. The Wharton Report concluded that 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, and therefore mutual fund investment advisors did not compete on the basis of fees. The SEC accepted this analysis as did, ultimately, Congress as a partial basis for adopting the 1970 Amendments to the ICA. Since the 1960s, observers have continued to simply assume both that there are economies of scale in mutual fund operation due to fixed set-up costs,<sup>141</sup> and that these economies will produce lower costs (and thus fees) as AUM in the fund industry – the standard measure of “scale” used by critics – has grown over time.<sup>142</sup>

Again, this argument makes little economic sense, for two reasons. First, underlying input or factor costs for mutual funds can increase over time while economies of scale exist at any point in time, or grow over 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. The single largest input cost for mutual fund advisors – wages to highly educated portfolio managers and other finance professionals – has risen dramatically over the past decades. “Between 1989 and 1999, average hourly earnings in the finance, insurance, and real estate industry grew ... 53.4 percent. This was the biggest increase in hourly earnings among the major industry divisions, both in terms of

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<sup>139</sup> As shown in Section III, the evidence does not support the claim that fees have risen over time. See TAN \_\_ supra.

<sup>140</sup> Wharton Report, supra note 13 at 96-100.

<sup>141</sup> Economies of scale can arise from a variety of sources – including greater specialization in the use of capital and labor, learning-by-doing, and spreading fixed set-up and operating costs over greater output. Critics 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.

<sup>142</sup> SEC, supra note 7 at 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 at 29-31.

level and percent increase.”<sup>143</sup> Even if funds have grown over time, and even if larger funds obtain economies of scale relative to smaller funds at any given point in time, advisory input costs have also grown, so it is difficult to draw any conclusions about the net change over time in advisory costs.

Second, in mutual funds, economies of scale have not produced an overall trend towards large fund size. In other words, competition has persisted between small and large funds and complexes, suggesting that economies of scale may be outweighed for some fund advisory firms by diseconomies of scale or cost-advantages of small size. We can show this by examining the survival of firms 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 exit the industry.<sup>144</sup> Our 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 8 and 9** present the distribution of surviving funds and complexes through 2004, respectively, by size decile, with 1 representing the bottom 10%. As shown in **Table 8**, 44.6% of funds in the smallest decile in 1985 survived through 2004 and 46.7% of the smallest funds survived starting from 1995. 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, cells to the right of the highlighted cells show the percentage that moved into larger deciles over time and cells to the left show funds that moved into smaller deciles. If the 1960s view were correct that economies of scale were large and ubiquitous, small funds would suffer a cost disadvantage and would not survive, or if they survived, they would need to grow. The fund survivor table shows this was not the case. Of the surviving funds in the smallest decile starting in 1985, 34% remained in the bottom half of the size distribution. For funds starting in 1995 that survived through 2004, 66% remained in the bottom half of the size distribution. The analysis also shows that some funds decline in size over time, yet survive, contrary to the 1960s view that economies of scale are large and pervasive.

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<sup>143</sup> Bureau of Labor Statistics (2001), available at [www.bls.gov/opub/ted/2001/feb/wk2/art03.htm](http://www.bls.gov/opub/ted/2001/feb/wk2/art03.htm) (visited 2/1/06). See also Julie Hatch and Angela Clinton, Job growth in the 1990s: a retrospect, 123 *Monthly Labor Rev.* 3, 14 (Dec. 2000) (in constant dollars, finance was the only sector to show an increase in average hourly earnings of more than 10% from 1990 to 1999, growing 15% compared to overall private sector growth in wages of 3%).

<sup>144</sup> George Stigler, *The Economies of Scale*, 1 *J. L. & Econ.* 54 (October 1958).

Table 8.  
Survival Rate of U.S. Equity Mutual Funds, 1985-2004 and 1995-2004

Initial Year	Initial Complex Size Decile	% of Decile That Did Not Survive to 2004	% of Decile That Did Survive 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%	10.3%	17.2%	10.3%	20.7%
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)

Similar data for complexes are shown in **Table 9**. To be sure, for both funds and complexes, the survival rate does increase with size, which is not unexpected because larger funds can survive a given percentage redemption rate better than smaller funds. Nevertheless, it bears emphasizing that nearly half of the smallest funds from the mid-'80s have survived for 20 years, and nearly a third of those survived while staying small.

Table 9.  
Survival Rate of U.S. Equity Mutual Fund Complexes, 1985-2004 and 1995-2004

Initial Year	Initial Complex Size Decile	% of Decile That Did Not Survive to 2004	% of Decile That Did Survive 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	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%
	<b>Average</b>	<b>26.6%</b>	<b>73.4%</b>										
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%
	<b>Average</b>	<b>29.0%</b>	<b>71.0%</b>										

*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 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)

Supporting this analysis, we note that in 2004, roughly a third of micro-cap funds and 10% of small cap funds had been “closed” by their advisors to new investors. A number of large growth and other funds have also been closed, including Fidelity Magellan (\$63.3 billion in AUM), Dodge & Cox Stock (\$43.3 billion) and Vanguard PRIMECAP (\$23 billion). If economies of scale were constant and increasing in fund size, we would not expect advisors to limit new growth, especially if critics are right that such economies are not being passed along to fund investors.

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. 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 do

probably exist, they are also probably relatively modest on average, because small funds and complexes compete with larger funds and complexes.

Why are economies of scale not more important than our data suggest they are? Advisory costs extend well beyond portfolio management, where economies of scale are most intuitive. 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.<sup>145</sup> Some courts have found that service costs do not decline with increases in the number of a fund's investors.

Our findings may initially appear to be in tension with some prior, prominent studies that 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.<sup>146</sup> The consensus view from regression analysis is that economies of scale exist, and we agree. 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. As a result, nothing about trends in fees over time follows from the observation that economies of scale exist in the fund industry.

Finally, some studies have estimated economies of scope (lower costs to produce two or more products jointly than to produce them independently) 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, again implying that such economies are exhausted in the earlier stages of product

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<sup>145</sup> 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 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).

<sup>146</sup> 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, 16 Rev. Quant. Fin. & Acct'g 205 (May 2001); D. Latzko, Economies of Scale in Mutual Fund Administration, 22 J. Fin. Res. 331 (Fall 1999); C. Bonanni, J. Dermine, and L. Roller, Some Evidence as to Customer Lock-in in the French Mutual Funds Industry, 5 Applied Economics Letters 275 (May 1998); Sean Collins and Phillip Mack, The Optimal Amount of Assets under Management in the Mutual Fund Industry, 53 Fin. Anal. J. 70 (1997); and BAUMOL, ET AL., supra note 27 at 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.

extensions.<sup>147</sup> 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.<sup>148</sup>

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. Economies of scale have not limited competition to a few fund complexes, as they have in many other industries. Nor have economies of scale eliminated all but the largest funds. Instead, hundreds of complexes of varying size compete by offering thousands of funds of varying sizes, and differently sized funds endure over time. Thus, even if it were true that expense ratios had risen over time (which, as we showed in Section III above, is not the case), that fact would not provide any support for the critics' claim that mutual fund economies of scale show that the fund industry is not competitive.

### C. Price Dispersion Among Funds

Fund critics also point to price dispersion in shareholder fees as reflecting an absence of price competition.<sup>149</sup> Such critics reason that price competition would compress prices – *i.e.*, advisory fees – among funds. Fund critics get particularly worked up about price dispersion among passive funds, such as S&P 500 index funds, which invest in essentially identical portfolios, and thus (according to the critics) should generate essentially identical costs and prices.

**Table 10** 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 high price dispersion relative to the average level of expenses.

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<sup>147</sup> Michael K. Berkowitz and Yehuda Yotowitz, *Managerial Quality and the Structure of Management Expenses in the U.S. Mutual Fund Industry*, 315 *Int'l Rev. of Econ. and Fin.* 315 (2002); Tufano and Sevick, *supra* note 31 at 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*, 2 *J. Fin. Intermed.* 83 (Mar. 1992); and BAUMOL, ET AL., *supra* note 27 at 190-92.

<sup>148</sup> 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. Deli, *supra* note 49.

<sup>149</sup> Freeman and Brown, *supra* note 2 at 639-40; Elton et al., *supra* note 35.



**Table 10.**  
**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
S&P 500 Index								
<sup>1</sup> Objective Funds	58	0.15%	0.23%	0.37%	0.57%	0.86%	2.51	5.88
<b>Over All Equity</b>	<b>8,613</b>	<b>0.85%</b>	<b>1.15%</b>	<b>1.51%</b>	<b>2.03%</b>	<b>2.35%</b>	<b>1.77</b>	<b>2.77</b>

Note:

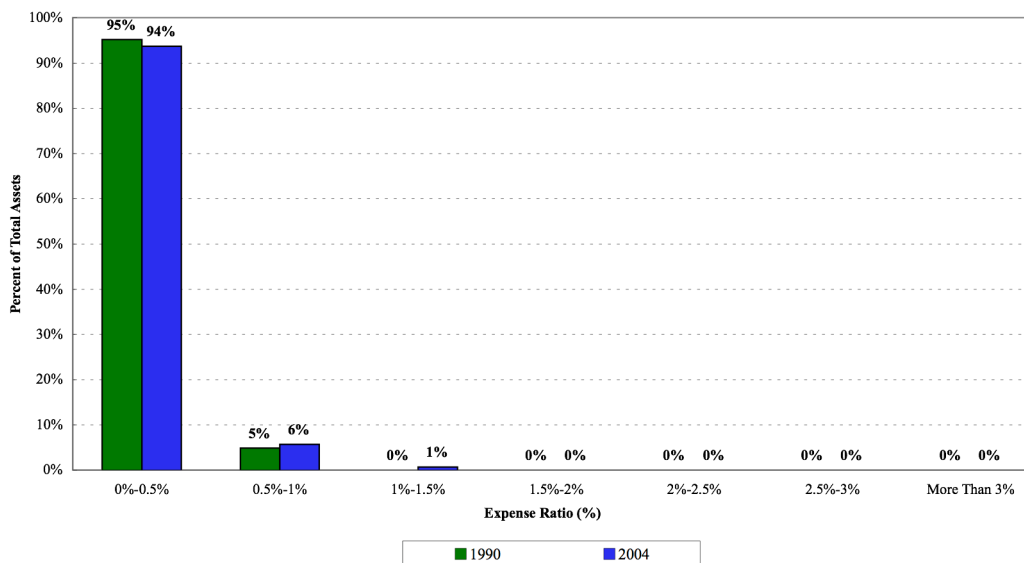
<sup>1</sup> The S&P 500 Index Objective is taken from Lipper. There is no S&P 500 Index Objective in the Morningstar categories.

Source:

Strategic Insight (Simfund)  
Lipper (LANA)

More than 90% of investments in the S&P 500 index sector are concentrated in funds with the lowest expense ratios, below 0.5% (see **Figure 3**). In a low-price sector, investors are concentrating their investments in the lowest-priced funds, indicating investors' responsiveness to the level of fees. But why are a non-trivial number of investors keeping their money in higher-priced index funds?

Figure 3.  
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)

Common experience and economic research, however, shows that price dispersion for specific products is widespread in competitive markets and is perfectly compatible with price competition. Shoppers are generally 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.<sup>150</sup> Economic theory shows that price dispersion in homogeneous good markets is a function in part of search costs.<sup>151</sup> Given that consumers lack perfect information, they search up to the point where expected search costs just exceed the expected lower price. Thus, search costs, 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.<sup>152</sup> Those differences typically

<sup>150</sup> John W. Pratt, David A. Wise, and Richard Zeckhauser, Price Differences in Almost Competitive Markets, 93 Q. J. Econ. 189 (May 1979); Saul Lach, Existence and Persistence of Price Dispersion: An Empirical Analysis, 84 Rev. Econ. & Stat. 433 (August 2002); and Alan T. Sorenson, An Empirical Model of Heterogeneous Consumer Search for Retail Prescription Drugs, Working Paper, University of California, San Diego (Sep. 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.

<sup>151</sup> Hubbard and O'Brien, supra note 19, and Carlton and Perloff, supra note 19 at 440-70.

<sup>152</sup> 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

entail different costs, and thus different prices. Thus, not even for physically homogeneous goods are homogeneous prices to be expected.<sup>153</sup>

Search costs and seller differentiation can explain price dispersion among mutual funds and, more specifically, to S&P 500 index funds. With over 8,000 mutual funds, choosing among funds can obviously generate search costs. Various specialized research firms, such as Morningstar, Lipper, and Yahoo Financial, serve the demand for information on mutual funds to reduce buyer search costs, and charge fees (not included in fund advisory fees) for more detailed information about funds. In addition, thousands of financial advisors and pension plan administrators help economize on search costs by selling information and advice to investors, and those advisors and administrators also charge fees, some of which are and some of which are not passed along to fund advisors. While (by design) gross returns and portfolio selection vary little across S&P 500 index funds, the funds are nevertheless differentiated in terms of marketing and investor access to serve different clienteles. At one end of the spectrum is a fund like the Vanguard 500, which promotes low prices. Investors seeking a low-price fund with basic service can select that fund, if they meet Vanguard's minimum investment requirements. At the other end of the spectrum are funds providing more access to fund personnel and financial advice, with higher costs of both providing and marketing those services.<sup>154</sup> 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. That is, expense ratios will vary depending on the type of services provided and selected by investors. In addition, otherwise identical index funds will charge different prices because of cost differences across funds due, for example, to average balance size or the amount of turnover among fund investors.

Ali Hortacsu and Chad Syverson studied price dispersion and the role of search costs and seller differentiation in S&P 500 index funds.<sup>155</sup> They found

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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 & 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, 52 *J. Ind. Econ.* 463 (Dec. 2004); Jeffrey R. Brown and Austan Goolsbee, Does the Internet Make Markets More Competitive? Evidence from the Life Insurance Industry, 110 *J. Pol. Econ.* 481 (2002); Karen Clay, Ramayya Krishnan, and Eric Wolff, Prices and Price Dispersion on the Web: Evidence from the Online Book Industry, 49 *J. Ind. Econ.* 521 (Dec. 2001); and Michael D. Smith and Erik Brynjolfsson, Consumer Decision-Making at an Internet Shopbot: Brand Still Matters, 49 *J. Ind. Econ.* 541 (2001). 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, 40 *Eur. Econ. Rev.* 909 (1996).

<sup>153</sup> 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.

<sup>154</sup> Vanguard 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 St. J.* (May 6, 2005), at R1.

<sup>155</sup> Hortacsu and Syverson, *supra* note 98. Cf. Elton et al., *supra* note 35 (finding price dispersion in index funds, failing to consider seriously service and cost differentials as explanation, counterfactually attributing 12b-1 fees solely to marketing and not acknowledging that search costs are real costs for investors, instead concluding that dispersion shows investors are “irrational” and

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. If entry and more firms increase competition, they ask, why did price dispersion remain wide and persistent? Their answer is consistent with the above analysis. Hortacsu and Syverson found 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. From 1995 to 2000, more higher-price S&P 500 index funds were formed, and market shares shifted to higher-price funds. Simultaneously, large numbers of new investors with little knowledge of mutual funds entered the market. 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 in need of basic financial advice, new investors sought and paid for that financial advice. It is not surprising that price dispersion persisted with new entry during this time period. None of this is inconsistent with competition among funds based on price.

In thinking about price dispersion, focusing on individual funds may also be misleading. The median number of funds owned by an investor is four.<sup>156</sup> If investors prefer the convenience of multiple funds in one complex, investors will be interested in the bundled price of all their funds, including investing in the complex's index fund. The price of the fund as a stand-alone product is not as relevant as the bundled price across all the funds in a complex and the services received. Index funds serve the divergent interests of all index fund investors, from investors who want only one thing – an index fund with the lowest possible fees – to investors willing to pay higher fees in return for access to a broad fund complex, the ability to cheaply alter asset allocations by shifting money from fund to fund, value-added reporting and information about their investments, and other services provided by fund complexes. The range in fees among individual index funds reflects these divergent interests, not the absence of price competition.

To summarize, while fund critics contend 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, as well as different levels of service, particularly at the complex level, and different liquidity and trading costs. Buyer choice is a hallmark of competitive markets. The price dispersion in S&P 500 index funds reflects the fact that competitive markets provide substantial choice to investors.

#### **D. Switching Costs**

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, investors are more susceptible to fees being raised to reflect the switching costs. In theory, switching costs could arise from a number of sources: (1) explicit fees that are charged by funds or third-parties in the event of reinvestment, such as large back-end loads or fees designed

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that the law of one price does not hold in the fund industry, because of the absence of arbitrage opportunities); on the actual role of 12b-1 fees, see sources cited in note 82 *supra*.

<sup>156</sup> INVESTMENT COMPANY INSTITUTE (2006), *supra* note 22 at 48.

to reduce frequent trading (sometimes called “market timing”); (2) the transaction costs of reinvesting (including opportunity costs of time and effort by investors); and (3) the tax treatment of unrealized capital gains, because federal income tax law requires the payment of taxes on those gains when a fund shareholder redeems mutual funds shares, even if the investor immediately reinvests the proceeds in another mutual fund.<sup>157</sup>

Theory also tells us, however, that to the extent that investors know about switching costs before they invest and value the liquidity that switching costs can impair, funds and other market participants will have incentives to reduce switching costs. For example, no-load funds offer investors a way to reduce switching costs, and investors have increasingly been choosing no-load funds over time. The Simfund equity fund dataset indicates that 58% of assets were in no-load funds in 2003 and 59% in 2004.<sup>158</sup> Other examples of market-driven efforts to reduce switching costs include 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, and have invested in Internet-based and other technologies that have dramatically reduced the transaction costs associated with switching funds within a given complex. Large fund complexes now generally offer scores of funds, facilitating asset allocation and diversification.

Thus, markets have evolved to minimize two of the theoretical types of switching costs. The final theoretical type of switching costs – taxes – is also not likely to significantly undermine competition among mutual funds, for two reasons. First, the *tax-exempt* portion of the mutual fund industry has risen dramatically over the recent past, and continues to increase. In 2005, more than half of all mutual fund assets were held in tax-deferred accounts or tax-exempt funds,<sup>159</sup> more than 60% of all fund shareholders invest through tax-deferred accounts, and nearly 60% view tax-deferred retirement plans as their primary source for purchasing funds.<sup>160</sup> More than half of all US households have at least one tax-deferred individual retirement account (IRA), 70% of those invest in mutual funds, and roughly two-thirds of all fund investors now own a portion of their assets through tax-exempt vehicles (401(k)s, IRAs, etc.).<sup>161</sup> Second, to the extent that funds distribute gains and dividends to fund shareholders, they reduce the taxes that will be triggered by shareholder redemptions. One study of funds from 1976 to 1992 found that 38% of capital gains were realized by mutual funds and passed those gains through to fund shareholders.<sup>162</sup> As a result, unrealized capital gains for stock funds represented less than 5% of funds' net asset values; for other types of mutual funds, unrealized capital gains represented an even smaller

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<sup>157</sup> See, e.g., C. Spatt and R. Dammon, Optimal Trading and Pricing of Securities with Asymmetric Capital Gains Taxes and Transaction Costs, 9 Rev. Fin. Stud. 921 (1996); OEA Memo, supra note 8, at 10; M. Barclay, N. Pearson and M. Weisbach, Open-end Mutual Funds and Capital Gains Taxes, 49 J. Fin. Econ. 3 (1998).

<sup>158</sup> Strategic Insight, SimFund (data on file with authors).

<sup>159</sup> ICI Mutual Fund Fact Book 2006, at 15.

<sup>160</sup> Id. at 50.

<sup>161</sup> Id. at 62-63. These numbers do not include tax-exempt institutional investors in mutual funds, and so understate the degree to which taxes have ceased to impose significant switching costs on fund investors.

<sup>162</sup> Barclay et al., supra note 172 at 4.

share of net asset value.<sup>163</sup> Embedded taxes also deter new investment (since investors will anticipate buying into a greater amount of future capital gains taxes for the same cost, i.e., net asset value), so fund managers have a clear incentive to not permit embedded taxes to grow beyond a fairly low level.<sup>164</sup>

Economic theory also tells us that competition will constrain prices even if *some* fund investors face significant switching costs. Not all or even most buyers have to switch from high- to low-cost products to affect price competition. Absent an ability by funds to effectively discriminate between taxable and tax-free accounts (which fund critics have neither claimed nor shown), fund advisors receive the same fee for each dollar of AUM, regardless of whether that dollar comes from a tax-free or taxable investor, or from a price-sensitive or price-insensitive investor. Given a sufficient number of buyers engaging in price search for a given quality of product and service, willing and able to switch to competitors, fund advisors must price competitively for their funds to retain price-sensitive customers.<sup>165</sup> Competitive prices benefit all funds investors, price-searching and non-price-searching, tax-constrained or tax-free alike. This process applies as much to mutual funds as it does to everyday goods, such as foods, clothing, and household products.

What does the direct evidence on switching show? In fact, significant amounts of switching occurs annually by fund investors. During the last market down-turn, investors redeemed over \$13 trillion of mutual fund shares,<sup>166</sup> including roughly a \$1 trillion of redemptions from long-term equity funds,<sup>167</sup> producing \$27 billion of *net* outflow of cash from equity funds.<sup>168</sup> As a percentage of average fund assets, shareholder redemptions ranged from 25% (2004), to 39% (2002), to 57% (1987) for all funds, and from 23% (2005), to 41% (2002), to 73% (1987) for equity funds.<sup>169</sup> These are *annual* rates, so that total redemptions over a multi-year period would be higher, and that these are *average* rates, so that particular funds experienced higher redemption rates even within a single year. Many funds, in fact, experience net outflows: Barclay et al. found that 25% of a sample of fund-years from 1976 to 1992 experienced net outflows of at least -14%.<sup>170</sup> At the complex level, too, many mutual fund competitors experience net outflows in any given year. In 1999 and 2000, nearly half of all mutual fund complexes saw net cash outflows from their long-term funds.<sup>171</sup> Consistent with our analysis and findings in Section IV, fund investors appear to be responding directly or indirectly

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<sup>163</sup> Id. at 9.

<sup>164</sup> See id. at 23 (finding negative relationship between unrealized capital gains and new stock fund inflows).

<sup>165</sup> E.g., Alberto Cavaliere, Price Competition And Consumer Externalities In A Vertically Differentiated Duopoly With Information Disparities, 86 J. Econ. 29 (2005) (competitive price can prevail in market where both product quality and consumers' willingness to pay for a given level of quality varies even if less than all consumers are informed); Alan Schwartz and Louis Wilde, Imperfect Information in Markets for Contract Terms: The Examples of Warranties and Security Interests, 69 Va. L. Rev. 1387, 1405-06 (1983) ("A market can be in competitive equilibrium even though the ratio of comparison shoppers to all consumers is much less than one.").

<sup>166</sup> ICI Mutual Fund Fact Book 2005 at 60 (Table 2). This figure excludes "exchange redemptions," i.e., redemptions followed by an immediate reinvestment in a fund within the same fund complex.

<sup>167</sup> Id. at 83 (Table 25).

<sup>168</sup> ICI Mutual Fund Fact Book 2006 at 89 (Table 19).

<sup>169</sup> ICI Mutual Fund Fact Book 2006 at 97 (Table 27).

<sup>170</sup> Barclay et al, *supra* note 172, at 5.

<sup>171</sup> Brian Reid, Chief Economist, ICI, Competition in the Mutual Fund Business (January 2006), at 2 (Figure 1).

to advisory fees, so that equity funds with below-median operating expense ratios increasing their collective market share from 83% in 1995 to 88% in 2004.<sup>172</sup>

Finally, it should be noted that the overall market dynamics of the mutual fund industry have also meant that – even if switching costs were significant for existing investments – the effect of those costs has not been to significantly reduce competition within the fund industry. That is because investors can avoid switching costs on old investments by making new *investments* elsewhere. From 1994 to 2004, investors have added \$372 billion to funds each year, on average. That amount is roughly double the total amount of all AUM in 1980. To get a rough sense of the importance of these facts, make the following assumptions: (1) investors in 1980 decided advisory fees were too high at the funds in which they had invested, (2) those investors did not want to redeem their shares and reinvest elsewhere because of switching costs, (3) those investors invested all of their new fund investments from 1994 through 2004 in new funds, and (4) nothing else changed between 1980 and 2004. Based on those assumptions, the market share of the 1980 funds would have shrunk from 100% to less than 5% of the overall fund industry. However crude this analysis, it suggests that even if switching costs were very high, competition will continue to be an important constraint on advisory fees in any period that the fund industry experiences large in-flows, as has been the case over the past 30 years.

### E. Investor Ignorance and Cognitive Biases

A final set of claims by fund critics is that investors are ignorant, or behave irrationally in choosing funds, due to cognitive biases. Even when these claims are not linked expressly to the 1960s' view that competition is not a powerful constraint on advisory fees, they provide a kind of background music for the 1960s' view, and render observers skeptical that the fund market is effective in any respect. And these claims are facially plausible: mutual funds are, after all, popular in part because they allow those with relatively little wealth, education or information to invest in securities. Fund critics point to survey evidence to the effect that fund investors are not, at any given point in time, aware of their funds' advisory fees.<sup>173</sup> Fund critics also point to the burgeoning field of behavioral economics, which finds (among other things) that under certain conditions investors focus on (or overweight) salient or high profile aspects of a product or service.<sup>174</sup> Fund critics specifically argue that fund investors overemphasize load fees in choosing funds, because loads are paid by investors, up-front, at the time of investment, and that fund investors underemphasize advisory fees, because fees are not paid by investors, but by funds, and only indirectly reduce investor returns, over time.<sup>175</sup>

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<sup>172</sup> Id. at 4 (Figure 6).

<sup>173</sup> Gordon Alexander, Jonathan D. Jones, and Peter J. Nigro, Mutual Fund Shareholders: Characteristics, Investor Knowledge, And Sources Of Information, 7 Fin. Serv. Rev. 301 (1998) (only 20% of surveyed investors could estimate advisory fees for their largest mutual fund holding).

<sup>174</sup> cite to Thaler et al.

<sup>175</sup> E.g., Ronald T. Wilcox, Bargain Hunting Or Star Gazing? How Consumers Choose Mutual Funds, 76 J. Bus. 645 (October 2003) (45 of 50 study participants overemphasized load fees relative to advisory fees); Barber et al., supra note 172 (finding that load fees and advisory fees correlate differently with fund flows). Cf. Todd Houge and Jay Wellman, The Use and Abuse of Mutual Fund Expenses, 70 J. Bus. Ethics 23 (Spring 2006) (concluding shareholder expenses represent "abuse" on ground that load funds have higher expenses than no-load funds, on assumption

Many investors, of course, are aware of fees.<sup>176</sup> Institutional investors hold more than 12% of fund shares,<sup>177</sup> and fund advisors pay for advertising and otherwise use information about advisory fees in marketing fund shares.<sup>178</sup> One does not need survey evidence to recognize that many other investors rationally gather information about fees when it's useful to have that information, i.e., when assessing and changing asset allocations or investment choices, and see little point in carrying this information around in their heads, and so would count as "unaware" of fees in survey data. Others make an equally rational choice to depend on the recommendations of third-parties about which funds to choose, either because of the opportunity costs of the investors' time or because they recognize in themselves a more general lack of knowledge or ability to trade-off price (fees) for quality (expected returns). Other investors derive information about fees from information about returns – which, as fund critics themselves argue, are correlated. While the relationship is noisy, funds with high returns tend to have low fees, and investors who take into account past performance when choosing funds are thereby taking into account some information about fees.<sup>179</sup> All of these investors will respond to advisory fees in selecting funds.

Thus, notwithstanding survey data suggesting that many investors are unaware of advisory fees, or theoretical arguments that investors fail to take them into account in a rational way, many investors are aware of and act upon fees, either directly or indirectly. More generally, as discussed in Section V.D, only a subset of fund investors need to be price-aware and price-sensitive for funds and fund advisors to have an incentive to set fees at the competitive level. There is thus a logical gap between the fund critics' plausible claims about fund investors and their stronger claims about fund competition. There is also a gap between the claim that investors overweight salient fees, like loads, and the stronger claim that they fail to respond to advisory fees. Even if investors do overestimate the effect of load fees on returns, it does not follow that they underestimate the effect of advisory fees. On the latter, the evidence reviewed and presented in Section IV suggests investors are highly sensitive to advisory fees. Even as no-load funds have increasingly dominated load funds over time,<sup>180</sup> equity funds with below-median operating expense ratios increased their market share from 83% in 1995 to

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that investors in load funds are less likely than investors in no-load funds to be aware of or be sensitive to fees and bald assertion that service or cost differentials cannot explain their findings); Elton et al., *supra* note 35 (suggesting fund investors are irrational because of price dispersion among index funds).

<sup>176</sup> See Woodrow T. Johnson, *Who Monitors the Mutual Fund Manager? New Or Old Investors?*, Working paper (Oct. 16, 2006) (concluding, based on empirical evidence showing that fund shareholders buy more shares following better performance, but do not sell more often in response to poor performance, that "households, as a group, are not as passive as previously suggested").

<sup>177</sup> ICI Fact Book 2006 at 54.

<sup>178</sup> For example, a search for "mutual funds" on Yahoo produces sponsored links from T. Rowe Price and from Charles Schwab advertising "No load . . . low cost" funds and "No loads. No transactions fees." [search.yahoo.com/search;\\_ylt=A0oGkl\\_rkNNFhZgAoSVXNyoA?p=mual+funds&ei=UTF-8&fr=yfp-t-501&x=wrt](http://search.yahoo.com/search;_ylt=A0oGkl_rkNNFhZgAoSVXNyoA?p=mual+funds&ei=UTF-8&fr=yfp-t-501&x=wrt) (last visited 2/14/07). Vanguard, of course, has long marketed itself based on low fees. A recent visit to the Vanguard homepage finds it prominently announcing: "Welcome to Vanguard. Let us help you invest, keep your costs low, and focus on what matter most to your long-term success." See [flagship.vanguard.com/VGApp/hnw/HomepageOverview](http://flagship.vanguard.com/VGApp/hnw/HomepageOverview) (last visited 2/16/07). Fidelity and Vanguard waged a price war in recent years. See sources cited in note 65 *supra*.

<sup>179</sup> See sources cited in note 125 *supra*.

<sup>180</sup> See sources cited in note 22 *supra*.



88% in 2004.<sup>181</sup> Whatever the merits of behavioral economics as applied to other areas of finance, it provides little support for the fund critics' general conclusion that competition fails to constrain advisory fees.

## VI. IMPLICATIONS OF COMPETITION IN THE FUND INDUSTRY FOR LAW AND POLICY

Having presented economic theory and evidence that – contrary to the views of fund critics stuck in the 1960s – the mutual fund industry is highly competitive and that competition constrains advisory fees, we now turn back to law and policy. In this Section, we first address the one provision of existing law that directly addresses advisor fees – ICA Section 36(b) – and the lead cases interpreting that provision. We sketch Section 36(b)'s background and the lead case under that section – *Gartenberg* – and describe the economic effects of those aspects of current law. We then argue that both legal and economic analysis support two principles limiting the domain for plausible proposals for the regulation of mutual fund fees: (a) advisory fees are not set by the government, and (b) mutual funds are not required to put advisory contracts up for bid. Based on the facts and analysis presented in Section III through V, we argue that the holdings of the Second Circuit in *Gartenberg* were correct, but specific statements in the opinions adopting the 1960s view of competition in the fund industry were and are unfounded from an economic perspective, and not required as a matter of law. Given 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 end with modest suggestions for modifying the *Gartenberg* approach to allow an appropriate consideration of price competition in cases brought under Section 36(b).

### A. ICA § 36(b) and *Gartenberg*

To understand what Section 36(b) was intended to do when it was adopted in 1970, an understanding of pre-existing law is essential. As is true today, fund directors owed duties of care and loyalty to their funds, under state corporation or trust law, and those duties were enforceable in court at the initiation of a fund shareholder. As is also true today, the standard for evaluating directors' acts depended on the nature of the acts, the process for approving those acts, and the identity and characteristics of those who approved those acts. If directors approved a transaction in which they had no special financial interest, and did so after deliberating for a reasonable time and with reasonable information, courts generally applied the "business judgment rule," which establishes a presumption the transaction was not improper. Similarly, if disinterested shareholders approved a transaction after disclosure of material facts, courts rarely if ever intervened.

For conventional corporations, these basic rules still make sense. Judges are not generally experienced or capable business people, 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 business people, and who have in

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<sup>181</sup> Id. at 4 (Figure 6).

any event been elected by shareholders to oversee their corporation. If shareholders 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 discussed in Section II – 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.”<sup>182</sup> 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.<sup>183</sup> 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.<sup>184</sup> 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.”<sup>185</sup>

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<sup>182</sup> SEC, *supra* note 7 at 129.

<sup>183</sup> 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.* at 132-43.

<sup>184</sup> S. 3724, 90th Cong., 2d Sess. (1998) and *Gartenberg v. Merrill Lynch Asset Management, Inc.*, 528 F. Supp. 1038, 1045 n.7 (S.D.N.Y. 1998).

<sup>185</sup> 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, (Sep. 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:

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*.<sup>186</sup> [emphasis added]

The effect of this language was 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 standard be in fee cases? Absent a clear statute, courts 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 disinterested director and shareholder approval had provided meaningful review of the fees.

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, the burden of proof in determining fairness was imposed on the fiduciary, rather than on the plaintiff, 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. Section 36(b) made clear that the burden of proof in cases under the ICA would be on the plaintiffs in all cases. Thus, even if a court decides under Section 36(b) that approval of directors or shareholders was meaningless, on the

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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 Rep. at 6-7, U.S. Code & Cong. & Admin. News 1970, at 4902.

<sup>186</sup> 15 U.S.C. §80a-36(b).

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.

In sum, 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 or should 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.

### **B. Economic Effects of ICA § 36(b)**

The net effect of these changes was to impose a real but uncertain upper bound on the 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 pre-existing constraints of disclosure and redeemable shares would prevent advisors from extracting rents more than once, of course; but it remains possible (absent 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 approved by fund directors and shareholders. However, if 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 one-time 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) greatly reduces the possibility of such inter-temporal game-playing by advisors.

Third, Section 36(b) helps promote competition among fund advisors. Although (as we show in Sections III through V) competition for fund investors already disciplines fund advisors, any attempt to raise fees above the competitive level is further constrained by Section 36(b). Much of our evidence on competition is general – we present evidence on market structure and investor sensitivity to fees for the overall fund industry, and for general investment styles, but we do not attempt to present the multiple, extensive, detailed analyses that would be needed to investigate every subsector and competitively distinct niche within the mutual fund industry. 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. Legal and Economic Analysis Suggests Limiting Principles for Law and Regulation

Based on the foregoing economic and legal analysis, two limiting principles emerge for an appropriate interpretation of ICA §36(b). 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.<sup>187</sup>

*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.<sup>188</sup> 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.<sup>189</sup> 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.”<sup>190</sup>

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<sup>187</sup> Samuel S. King, *Mutual Funds: Solving the Shortcomings of the Independent Director Response to Advisory Self-dealing Through Use of the Undue Influence Standard*, 98 Colum. L. Rev. 506 (1998) (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 Freeman and Brown, *supra* note 4, 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 TAN      *infra*, although for different reasons – and (b) for the SEC to mandate additional disclosure from advisors on their costs and profits.

<sup>188</sup> We do not 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.

<sup>189</sup> 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).

<sup>190</sup> Sen. Rep. No. 184, 91<sup>st</sup> 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*, in *ENCYCLOPEDIA OF THE AMERICAN JUDICIAL SYSTEM*, VOL. 2 (ed. R. Janosik 1987) at 753 (describing adversarial fact-finding). 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, 104<sup>th</sup> Cong., 1st Sess., 141 Cong. Rec. H13699 (Nov. 28, 1995) (detailing problems with

*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.

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

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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, 51 Bus. Law. 335 (1996); Romano, *supra* note 40 at 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, 4 Am. L. & Econ. Rev. 407 (2002) (“...wealth effects of derivative lawsuits are negligible”); Jonathan R. Macey and Geoffrey P. Miller, The Plaintiffs’ Attorney’s Role in Class Action and Derivative Litigation: Economic Analysis and Recommendations for Reform, 58 Chi. L. Rev. 3 (1991) (critiquing representative litigation); Robert B. Thompson and Randall S. Thomas, The New Look Of Shareholder Litigation: Acquisition-Oriented Class Actions, 57 Vand. L. Rev. 57 (2004) (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, 57 Vand. L. Rev. 1797 (2004) (critiquing representative shareholder actions).

competing to manage funds; instead, they will continue to compete for investors in the funds they advise.

#### D. The *Gartenberg* Framework

With those limiting principles in mind, we turn to *Gartenberg*, the lead case interpreting Section 36(b). 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.<sup>191</sup>

The lead cases interpreting Section 36(b) are two related Second Circuit decisions from the 1980s in *Gartenberg v. Merrill Lynch Asset Management, Inc.*<sup>192</sup> In those decisions, the 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."<sup>193</sup>

This interpretation of Section 36(b) comports with our analysis, 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 acknowledges 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 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 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 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

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<sup>191</sup> 15 U.S.C. §80a-36(b). The plain language of Section 36(b) is consistent with both limiting principles sketched above: Nothing in it suggests that fees should be subject to government regulation; 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.

<sup>192</sup> 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).

<sup>193</sup> 694 F.2d at 927-28.

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 fees charged to other funds be the "principal factor" to be considered, that comparable fees 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.<sup>194</sup> 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.<sup>195</sup> 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."<sup>196</sup> 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).<sup>197</sup> 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 from the extreme skepticism about disinterested directors in the SEC's 1966 report and by contemporary fund critics, and is more consistent with a complete analysis of the bargaining power of disinterested directors. It is no doubt true that it would rarely be a good outcome for a fund to "fire" its advisor even if the advisor were to

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<sup>194</sup> 694 F.2d at 929.

<sup>195</sup> *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.").

<sup>196</sup> 694 F.2d at 929.

<sup>197</sup> *Id.*



insist on fees that were modestly above a competitive, arm's-length level, because of the costs of searching for a new advisor, and because the fund would face a serious risk that, even if an advisor could be cheaply and quickly found, it would be willing at a lower fee to provide equal or better portfolio management services.

But it is also true that in nearly all instances, it would rarely be a good outcome for an *advisor* to be fired by fund directors on the ground that it was attempting to charge fees well in excess of the competitive level. Insisting on high fees at the risk of being fired is not in an advisor's interest. Not only would the advisor lose fees from managing that fund (including a competitive rate of return on its invested capital), but the advisor would face 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 the advisor served a multi-fund complex, as 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 immediate bargaining dynamic is one of bilateral negotiations in which both sides in the bargaining are 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. 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.

### **E. The *Gartenberg* Dicta**

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.'<sup>198</sup>

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.'<sup>199</sup>

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.<sup>200</sup>

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.

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<sup>198</sup> 694 F.2d at 929.

<sup>199</sup> Id.

<sup>200</sup> Id. at 929 n.2.

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.

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 shown in Section IV 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* have been the SEC's Plain English Initiative,<sup>201</sup> 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.<sup>202</sup> 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

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<sup>201</sup> SEC Release No. 33-7494 (Oct. 1, 1998).

<sup>202</sup> 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).

competition altogether as either nonexistent or irrelevant to advisory fees is outdated.

#### F. Refinements to *Gartenberg*

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.

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 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 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.

## VII. CONCLUSION

In this Article, we have attempted to restore some balance to the debate over mutual fund fees, a debate in which the loudest voices have been those of fund industry critics, and the voice of the industry itself (prominently from the Investment Company Institute) is often viewed skeptically as self-interested. Basic economic theory and empirical evidence is enough, we believe, to rebut widespread beliefs dating from the 1960s that the mutual fund industry is not competitive, due to the conflicts of interest faced by mutual fund advisors and directors. Fund critics correctly note that few fund boards put advisory contracts out for bid, but fail to acknowledge the defining legal feature of the mutual fund: that, by contract, fund investors can, and do, rapidly discipline funds and fund advisors by redeeming fund shares at net asset value and investing the proceeds elsewhere. In addition, basic facts about the fund industry establish a *prima facie* case that it is competitive: Market structure of the industry is conducive to competition; barriers to entry are low; actual entry and expansion of funds has been common and continuous over the past several decades; fees have, if anything, tended to trend down over time; and market shares of funds and fund complexes have shifted significantly over time.

One important factor causing some funds to gain market share (and others to lose market share) over time is lower advisory fees. We provide direct evidence that mutual fund investors are sensitive to fees, as well as evidence of the role of competition in constraining mutual fund advisors from charging excessive fees. Our estimates of the impact of fees on fund and complex market share are large, larger than found in most recent studies, in part because other recent studies have focus on fund flows, which bias empirical findings downward, and not (as we do) on fund assets. Our findings are robust to a variety of controls, and apply to both funds and fund complexes.

We also have presented a variety of theoretical and empirical arguments to rebut other, specific charges that fund critics have used to buttress their case against the industry. Economies of scale, to the extent they exist, do not imply ever-diminishing advisory costs or fees over time. To be useful, comparisons of mutual fund expenses to pension fund expenses must control for differences in services provided, and to date, no such study has been done. Similarly, most studies purporting to show price dispersion have failed to control for differences in services, and in any event, price dispersion among identical funds is consistent with competition. Switching costs are not likely to be a significant constraint on competition among funds, as far more new investments have flowed into the

industry each of the last twenty years than have been invested in the past, and even for past investments, switching costs are likely to be negligible, as market innovations such as fund supermarkets, multi-fund complexes and the general trend towards no-load funds, coupled with the large increase in tax-deferred fund accounts. While some investors are no doubt uninformed or even irrational in their fund choices, a competitive market does not require that every investor be informed and rational, and the best evidence suggests that enough investors are both informed and rational that fund advisors generally price their services at a competitive level.

Based on our economic, empirical and legal analysis, we reject strong claims from fund critics for the SEC to subject funds to heightened additional regulation, or for courts to dramatically increase their scrutiny of advisory fees under the ICA. Existing case law – prominently the *Gartenberg* test – is a sensible interpretation of what was intended when Congress added Section 36(b) to the ICA in 1970. Critics’ mistaken factual beliefs about lack of competition in the fund industry – which ultimately stem from the 1962 Wharton Report – should not (as either a legal or factual matter) be viewed as somehow binding on the courts, despite dicta in *Gartenberg* and subsequent lower court holdings that suggest that it should. Rather, courts using the *Gartenberg* framework should be more open to evidence about competition or comparable fees of similarly situated fund advisors, and should remain open to evidence about the role of independent directors in negotiating for competitive advisory fees. Put simply, we recommend that fund critics and lawmakers leave the law on fees where it is, but update their beliefs about how effective the law and the market already are in preventing advisors from charging funds excessive fees.

## 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:

$$\ln(TNA_{f,t}) = \alpha + \beta \ln(Fees_{f,t-1}) + \Gamma X_{f,t-1},$$

(A1)

where the log of total assets in fund (complex)  $f$  during month  $t$ ,  $\ln(TNA_{f,t})$ , is explained by the value of fees charged by the fund (complex) ( $Fees_{f,t-1}$ ) and a set of control variables ( $X_{f,t}$ ). 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, a dummy variable for investment capitalization and style category (small-cap, mid-cap, blend, and value categories), performance measured by the Morningstar rating of 2, 3, 4, or 5, and a dummy variable for distribution channel (number of funds in each distribution channel of bank proprietary, institutional, insurance, non-proprietary, and proprietary at the complex level). 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 and style categories, and distribution channel.

This specification differs from recent work by Barber, *et al.* and Vikram Nanda, *et al.*, which consider as the dependent variable a fund's new money growth rather than total net assets.<sup>203</sup> We chose this specification for two reasons. First, most of the variation in fees is cross-sectional (over funds), not time-series (across months and years). Second, new money growth in a fund is both noisy and volatile relative to end-of-period total net assets.

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 bias and inconsistency in fee elasticity results.<sup>204</sup> Using 2SLS we use instrumental variables for

$$\ln(TNA_{f,t}) = \alpha + \beta \ln(Fees_{f,t}) + \Gamma X_{f,t} + \varepsilon_{f,t}$$

(A2)

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<sup>203</sup> BAUMOL, ET AL., supra note 27; Barber, et al., supra note 27; Khorana and Servaes, supra note 27; Vikram Nanda et al., supra note 117; and Sirri and Tufano, supra note 27.

<sup>204</sup> Khorana and 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 27.

$$\ln(Fees_{f,t}) = \gamma + \lambda \ln(TNA_{f,t}) + \Lambda Z_{f,t} + e_{f,t}$$

(A3)

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

The instruments used (i.e., variables excluded from vector  $X_{i,t}$ ) are :

At the fund-level:

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

No suitable instruments were available at the complex-level, so OLS results are reported for complexes.

We apply the model to actively managed funds over the period 1998 through 2004. Descriptive statistics are presented in **Table A1**. These statistics are best used for a given year rather than to deduce trends over time. Because the sample size changes so drastically over time, examining trends in mean asset size and mean fees (expense ratios) is misleading.

		<b>Table A1</b>						
		<b>Descriptive Statistics for Sample</b>						
		1998	1999	2000	2001	2002	2003	2004
Fund-Class Net Assets	Mean	1483.98	1703.11	1238.36	835.53	505.62	605.26	600.05
	Stand. Dev.	4992.74	5756.88	4520.54	3396.01	2322.20	2816.60	2906.92
	Min	0.367	0.389	0.001	0.001	0.001	0.001	0.001
	Max	83552.06	105938.50	93066.88	79515.17	56750.75	67995.05	64879.65
Fund-Class Fees	Mean	0.0135	0.0133	0.0136	0.0144	0.0153	0.0155	0.0153
	Stand. Dev.	0.0069	0.0048	0.0049	0.0058	0.0074	0.0058	0.0056
	Min	0.0012	0.0007	0.0014	0.0012	0.0012	0.0009	0.0008
	Max	0.1455	0.0291	0.0312	0.1082	0.2417	0.0519	0.0454
Number of Funds	Mean	32	40	46	51	58	63	73
	Stand. Dev.	25	32	36	39	43	47	58
	Min	2	2	2	2	2	2	2
	Max	105	119	134	151	152	169	220
Fund-Class Age	Mean	11.67	11.35	10.24	9.60	9.27	9.49	9.47
	Stand. Dev.	13.22	12.68	11.47	10.51	9.94	9.51	9.10
	Min	1.42	1.08	0.84	1.84	1.08	0.84	0.33
	Max	76.05	77.05	78.05	79.05	80.05	81.05	82.05
N		985	1121	1537	2052	2628	3009	3540

The OLS and 2SLS regression results at the fund level are presented in **Tables A2** and **A3**, respectively. The Hausman test indicates an endogeneity problem with fees in 2002 and 2004 at the 10% level, but not for 1998 through 2001 and 2003, so both OLS and 2SLS results are



presented.<sup>205</sup> As seen, price elasticities are higher in the 2SLS results. As noted, at the complex level, good instruments for 2SLS were not available so OLS results are presented in **Table A4**. However, given the lack of empirical support for substantial economies of scale and scope at the complex level, as discussed above, OLS likely does not suffer from bias and inconsistency.

At the fund level, using 2SLS, price elasticities vary between -2.3 and -2.8, and, using OLS, from -1.3 to -1.9. At the complex level price elasticity varies across years from -1.5 to -2.2, but is generally in the -1.7 to -1.8 range. The results indicate that investors pay attention to 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 assets, holding other factors constant. Although estimated elasticities vary across years and between funds and complexes, the results show that demand is consistently price elastic, indicating that attempts at raising price will reduce assets 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. 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 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 but are generally positively related to Morningstar ratings. In addition, complex assets are generally inversely related to the bank and institutional channels relative to the left out direct channel.

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<sup>205</sup> Jerry Hausman, Specification Tests in Econometrics, *Econometrica*, 46 (1978), pp. 1251-71.

**Table A2**  
**OLS Regressions – Fund Level**  
**Dependent Variable: Fund-Class Assets**

	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 fees	-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 A3**  
**2SLS Regressions – Fund-Level**  
**2S Dependent Variable: Fund-Class Assets**

	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 fees	-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 A4**  
**OLS Regressions – Fund Complex Level**  
**Dependent Variable: Fund Complex Assets**

	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 asset-weighted fees	-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 asset 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.