MYTHS ABOUT MUTUAL FUND FEES:
ECONOMIC INSIGHTS ON *JONES v. HARRIS*

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Abstract

Mutual funds stand ready at all times to sell and redeem common stock to the investing public for the net value of their assets under management. In the language of transaction cost economics, they are open-access common pools subject to virtually free investor entry and exit. The Investment Company Act (1940) normally requires mutual funds to be managed by an outside advisory firm pursuant to a written contract, which normally pays the adviser a small share of net asset value, say, one-half of one percent per year. Following 1970 amendments to the Investment Company Act imposing a fiduciary duty on advisers with respect to their receipt of compensation, a large number of private civil suits attempting to recover excessive fees have been filed against advisory firms. By failing to account for the transaction costs inherent in mutual fund organization, Congress, securities regulators, financial scholars, and even courts have misidentified a conflict of interest with respect to fund advisory fees, encouraging these frivolous suits. With virtually free investor entry and exit and rational expectations, fund flows endogenize investor returns. Regardless of the level of the advisory fee, any expected abnormal return to a manager's superior stock-picking skill will be competed away by investors chasing the prospect of capturing the associated rents. With shareholders having a common claim to fund assets, all expected rents will be either transferred to the manager in the form of higher total fee payments on a larger asset base or dissipated by added administrative costs. As a first approximation, the level of advisory fees is therefore irrelevant to fund shareholders. The best they can expect from placing their money in a managed fund is a normal competitive return after adjusting for risk and other factors. With the U.S. Supreme Court having recently granted *certiorari* in an excessive fee case appealing an arguably maverick opinion by Judge Frank Easterbrook of the Court of Appeals for the Seventh Circuit, it is essential that various myths about mutual fund fees be exposed to careful economic analysis.

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TABLE OF CONTENTS

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*"If mutual fund customers were charged the lower rate for advisory fees paid by
institutional investors, they would save more than $10 billion a year."*

— Eliot Spitzer[1]

I. Introduction

In 1962 the Wharton School of Finance and Commerce at the University of
Pennsylvania published the influential *Wharton Report*,[2] a study of the mutual fund
advisory industry requested by the U.S. Securities & Exchange Commission (SEC).
Among other things, the *Wharton Report* found that while assets under management and
fund size in the industry had grown dramatically, fund advisers had done little to reduce
fees in spite of what it asserted were obvious economies of scale in fund management.[3]
The *Wharton Report* concluded that fee competition in the industry was weak or
altogether absent. The SEC followed in 1966 with a report to Congress drawing the same
conclusion and recommending various statutory amendments to protect fund investors
from excessive fees.[4] In 1970, Congress amended the Investment Company Act of 1940
(ICA) by adding Section 36(b), imposing on fund advisers a "fiduciary duty with respect
to the receipt of compensation for services" and allowing private suits by fund
shareholders for excessive fees.[5]

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[1] *Spitzer is Looking to Force Mutual Funds to Lower Fees: High Charges are Linked to Industry's
Scandals, He Tells Senate Panel*, The Baltimore Sun, January 28, 2004, at 1D.
[2] Wharton Sch. of Fin. & Commerce, A Study of Mutual Funds, H.R. Rep. No. 87-2274 (1962). Irwin
Friend was the lead investigator.
[3] John C. Coates IV and R. Glenn Hubbard, *Competition in the Mutual Fund Industry Evidence and
Implications for Policy*, 33 Iowa J. Corp. L. 151, 156 (2007).
[4] SEC, Report on the Public Policy Implications of Investment Company Growth, H.R. Rep. No. 89-2337
(1966)   [hereinafter   SEC,   1966   Report],   available   at
http://www.sechistorical.org/collection/papers/1960/1966Invest CoGrowth/.
[5] New Section 36(b) of the Investment Company Act states in relevant part that "the investment adviser of
a registered investment company 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 . . . . An action may be brought under this subsection by the Commission, or by a security holder

One of the first private suits under Section 36(b) was the 1981 case of *Gartenberg v. Merrill Lynch Asset Management*.[6]   Most of the 80-plus private suits that have since been filed in federal court[7] have relied on the Second Circuit's *Gartenberg* approach, according to which a defendant's liability depends on a multi-factor test aimed at "whether the fee schedule represents a charge within the range of what would have been negotiated at arm's-length in the light of all of the surrounding circumstances."[8]   Several of these cases have generated protracted and economically complex trials, but none have resulted in verdicts for plaintiffs.

Seventh Circuit Judge Frank Easterbrook recently rejected the *Gartenberg* approach in *Jones v. Harris Associates L.P*, citing with approval a Third Circuit decision finding that "adherence to the statutory procedures, rather than the level of price, is the right way to understand the 'fiduciary' obligation created by *§ 36(b)*."[9]   Relying on the common law of trusts, Easterbrook observed that "a fiduciary duty differs from rate regulation.   A fiduciary must make full disclosure and play no tricks but is not subject to a cap on compensation."[10]   Adherence to fiduciary procedures such as "candor in negotiation, and honesty in performance" is what the statute requires.[11]   In a competitive industry, which is surely an accurate characterization of the mutual fund industry by any structural standard, informed investors are free to take their money and invest it elsewhere if performance, net of fees, falls short of expectations.   Although the competitive process is imperfect at weeding out investor errors, Easterbrook reasoned, it is "superior to a 'just price' system administered by the judiciary."[12]

Following the Seventh Circuit's denial of the plaintiff's petition for rehearing *en banc*, Judge Richard Posner, Easterbrook's Seventh Circuit colleague, University of

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of such registered investment company on behalf of such company, against such investment adviser . . . for breach of fiduciary duty in respect of such compensation or payments paid by such registered investment company . . . to such investment adviser or person. . . . (3) No award of damages shall be recoverable for any period prior to one year before the action was instituted.   Any award of damages against such recipient shall be limited to the actual damages resulting from the breach of fiduciary duty and shall in no event exceed the amount of compensation or payment received from such investment company . . . by such recipient." 15 U.S.C. § 80a–35.

[6] Gartenburg v. Merrill Lynch Asset Management, Inc., 528 F. Supp. 1038 (S.D.N.Y 1981) (Gartenberg I).
[7] List of cases on file with the author.
[8] Gartenberg v. Merrill Lynch Asset Management, Inc., 694 F.2d 923, 928 (2d Cir. 1982).
[9] 527 F.3d 627, 632 (2008).
[10] 527 F.3d 627, 632 (2008).
[11] 527 F.3d 627, 632 (2008).
[12] 527 F.3d 627, 632 (2008).

Chicago Law School colleague, and fellow law and economics pioneer,[13] wrote a pointed dissent, chiding Easterbrook for creating a circuit split where none had existed before without first giving advance notice to the entire court.[14] In Posner's view, there is substantial evidence that competition over advisory fees is insufficient to offset the structural conflict inherent in the board of director system for setting compensation. Although Easterbrook and Posner have lined up on the opposite sides of significant financial issues in the past,[15] their disagreement in *Jones v. Harris* is both notable as a point of economic and legal interest and important to the commercial health of the $9.6 trillion mutual fund industry.[16] On March 9, 2009, the U.S. Supreme Court announced that it had granted *certiorari* in *Jones v. Harris*, with oral argument set for its October 2009 term.[17]

The dramatic growth and innovative management of mutual funds over the past four decades is good reason to be skeptical of those who criticize fund fees as excessive and fund organization as mired in conflicts of interest. Indeed, in *Gartenberg* and other high-profile excessive fee cases the defendant advisory firms created, promoted, and managed funds that were tremendously popular and attracted investor dollars by the billions as a result. This essay argues that most critics have failed to fully understand the economics of mutual fund organization, and that this has led them mistakenly to rely on various myths about fund management that encourage frivolous private suits for excessive fees. Once these myths are fully revealed, Easterbrook's procedural rule is the only economically sensible way to approach Section 36(b)'s fiduciary duty without risking frivolous and protracted private suits.

Each myth consists of an incorrect positive statement of economic theory and any number of normative policy implications thought to follow from it. Myth 1, most essentially, is that fund shareholders own the fund's investment returns. The normative implication is that they should capture any returns accruing to their manager's superior stock picking skill. In the language of economic theory, however, a mutual fund is an

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[13] Cite Cohen & Wright
[14] Jones v. Harris, 537 F.3d 728 (7th Cir. 2008).
[15] See Jordan v. Duff and Phelps, Inc., 815 F.2d 429 (7th Cir. 1987) (Posner, J. dissenting)..
[16] Investment Company Institute, 2009 Investment Company Factbook, Section 2: Recent Mutual Fund Trends, (available at http://www.icifactbook.org/fb_sec2.html#us) (last visited September 19, 2009).
[17] Jones v. Harris, 2009 U.S. Lexis 1837; 77 U.S.L.W. 3505 (2009) (No. 08-586).

open access common pool subject to virtually free investor entry and exit.[18] For the universe of potential fund investors, the returns accruing to a fund manager's superior skill are a nonexclusive rent for which they must compete by buying shares at current net asset value and periodically paying the associated management fee and other expenses thereafter. Entry (or "crowding") by rational shareholders will continue until all expected rents are either transferred to the manager in the form of fee payments or dissipated by added administrative expenses, transaction costs, and forgone investment opportunities. What fund shareholders own is a pro rata share of existing net assets at any moment, and going forward they can expect a normal competitive return on those assets, but owing to fund flows they have no exclusive claim to prospective investment returns resulting from superior manager skill.

Myth 2 is that a reduction in advisory fees will increase investor returns dollar for dollar. Regardless of the level of the advisory fee, in an open-access commons any abnormal returns to a manager's superior stock-picking skill will be competed away by investors chasing the prospect of capturing the associated rents. Based on their collective assessment of manager performance and share purchases or sales, rational investors determine fund returns net of fees; that is, fund flows endogenize investor returns. Holding manager stock picking skill constant between two funds, the fund with the lower advisory fee will simply have larger total assets than the high-fee fund. No public investor can expect to capture a share of any fee reduction in the form of higher investment returns. As a first approximation, the level of advisory fees is irrelevant to fund investors. Eliot Spitzer and others who have suggested that lower advisory fees will increase investor returns dollar-for-dollar are simply mistaken.

Myth 3 is that fund management is subject to declining average cost, or scale economies, owing to fixed costs that do not vary with total portfolio assets. The *Wharton Report* asserted this conclusion without careful analysis.   The normative policy implication embraced by the SEC and Congress and embedded in Section 36(b) is that

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[18] Clearly some current fund shareholders are locked in to their current funds because they must pay back-end loads to exit or they have accrued tax liability that must be paid on exit. Of these investors, many have the ability to transfer between funds within their family at very low cost. What is more, it is equally clear that many fund shareholders do not face load or tax impediments to switching.   Finally, much of the investment dollars invested in funds in any given year is new to the industry. The weight of the empirical evidence discussed *infra* demonstrates that the flow of investment dollars is highly elastic with respect to expected fund performance.

scale economies should be passed on to fund shareholders in the form of lower advisory fees as total fund assets increase. That pre-1970 fees remained steady in the face of substantial industry growth in assets suggested to many that the competitive process had failed.

Scale economies exist when the average cost of producing an economic good consumers demand declines as *output* of that good rises. But assets-under-management is not an output investors demand, nor is it an accurate characterization of what fund advisors produce. Simply because the average cost of management declines as total fund assets rise is no reason to conclude asset-based advisory fees should decline as fund assets rise. To draw such a conclusion requires an economic theory of contract choice defining the good being transacted, identifying the various parties' incentives, and explaining how alternative adviser compensation affects the cost of transacting and the joint gains from trade. Such a theory has been largely, though not completely, absent from the financial economics literature[19] and completely absent from SEC regulations and judicial opinions.

Myth 4 is that the much lower fees private money managers earn for managing institutional portfolios ─ those held by pension plans, insurance companies, and trust funds ─ are a proper metric for the fees fund advisers would charge if fee negotiations occurred at arm's length.[20] The normative policy implication is that the prospect of suits for fees in excess of what private institutions pay will benefit investors by driving fees down. But if fees are irrelevant to rational shareholders as a first approximation, the primary effect of excessive fee suits that do not require a demonstrable fiduciary breach is simply to tax advisory firms.

Implicit in much of the discussion critical of mutual fund fees is that fund management is a "commodity."[21] Any number of commentators have rejected this conclusion because, with fund returns subject to noise, investors are unable to assess the quality of fund management at the moment they invest. Either they suffer cognitive

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[19] See Edwin J. Elton, Martin J. Gruber and Christopher R. Blake, *Incentive Fees and Mutual Funds*, 58 J. Fin. 779 (2003).

[20] John P. Freeman & Stewart L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 *J. Corp. L.* 609, 634 (2001).

[21] Freeman & Brown (2001).

biases that render them irrational and incapable of protecting themselves even in the face of intense competition between advisers,[22] or, more plausibly, they face substantial information costs searching between the universe of funds and monitoring their manager's performance once they invest.[23] As in other settings where information is costly, mutual fund investors choose some measure of rational ignorance.

The economics literature recognizes any number of models that show how market forces overcome the quality assurance problem where information is costly. More than one describe how producers use premium prices to assure consumers they will provide high quality. Application of these models to advisory fees is straightforward and compelling. It is part of a theory of contract choice that explains how advisers and imperfectly informed investors maximize the gains from trade rather than how advisers expropriate shareholder wealth. Those who suggest the lower fees private money managers charge to institutional clients are a valid metric for assessing mutual fund advisory fees fail to recognize that pension sponsors and insurance companies face far lower costs assessing manager quality than do dispersed public mutual fund investors. For institutional clients, quality assurance is unnecessary and lower fees are exactly what we should expect.

Reliance on these four myths has generated no end of muddled thinking in the scholarly literature, in the excessive fee case law, and in regulatory pronouncements from the SEC. This essay relies on standard economic theory ─ especially transaction cost economics of the kind familiar to antitrust scholars and courts ─ to dispel these myths and to provide key insights on *Jones v. Harris* that support Judge Easterbrook's opinion. Section II provides background by illustrating how mutual funds work, describing how they are regulated, reviewing the scholarly literature relevant to fund advisory fees, and summarizing the excessive fee case law, including the opinions by Easterbrook and Posner in *Jones v. Harris*. Section III provides a careful economic analysis of mutual fund organization and traces the implications for excessive fee claims and fund regulation

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[22] BRIEF OF ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS *AMICI CURIAE* SUPPORTING PETITIONERS (June 17, 2008), case No. 08-586.

[23] Richard A. Ippolito, *Consumer Reaction to Measures of Poor Quality, Evidence from the Mutual Fund Industry*, 35 J. LAW & ECON. 45 (1992).

more generally. I provide testable implications where appropriate. Section IV provides concluding remarks, policy implications, and suggestions for future research.

II. Mutual Fund Organization, Regulation, Scholarship, and Case Law

A. Fund Organization and Regulation

Open-end mutual funds are investment pools organized as corporations or trusts under state law. They have their antecedents in the Massachusetts investment trust, a savings vehicle developed during the 1920s that offered investors diversification, active portfolio management, and tremendous liquidity. To raise capital the fund issues shares to the investing public, with the proceeds placed in a more or less diversified portfolio of risky assets (primarily corporate stocks and bonds, government debt, etc.) and cash to which shareholders have a pro rata claim. The unique feature of open-end funds, or simply mutual funds, is that they offer to issue and redeem shares publicly at the net asset value of the portfolio next calculated, normally at the close of trading on the exchange where the portfolio securities are most actively traded. Net asset value (NAV) is equal to the reported prices of the underlying portfolio securities less any transaction costs, advisory fees, and administrative expenses charged to the fund since the last calculation.[24] Mutual fund shares are continuously bought from and sold back to the fund that issues them; there is no secondary public market in which they are actively traded, In contrast, once issued, shares in closed-end funds [foundation?] must be bought and sold through intermediaries in secondary public markets.

Mutual fund shares are marketed to the public by broker-dealers. Early on, an underwriter affiliate of the fund adviser performed this distribution function through its retail broker-dealer network. In exchange for marketing shares to the investing public, broker-dealers received an up-front sales load,[25] normally about five percent of the purchase price of the shares. Over time the use of loads to compensate broker-dealers has

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[24] See Amendments to Rules Governing Pricing of Mutual Fund Shares, Investment Company Act Release No. 26,288, 68 Fed. Reg. 70,388, at 70,388 n.3 (Dec. 17, 2003).

[25] "'Sales load' means the difference between the price of a security to the public and that portion of the proceeds from its sale which is received and invested or held for investment by the issuer." 15 U.S.C. § 80a-2(a)(35) (2006).

gradually declined with the ascent of so-called "no-load" funds, which began to flourish even before the SEC's 1980 passage of Rule 12b-1 allowing advisers to use fund assets to pay broker–dealer sales charges for marketing shares, provided they comply with specific governance conditions.[26] Rather than paying a one-time up-front load, fund shareholders normally pay recurring 12b-1 fees out of the common assets of the fund. Rule 12b-1 has had two important effects on the market for mutual funds. First, it has dramatically reduced investor switching costs. Second, it has allowed fund advisers to market shares through multiple unaffiliated broker-dealers by way of so-called "fund supermarkets." With broker-dealers offering shares in a large number of funds sponsored and managed by many different advisers, the conflicts of interests thought to plague the marketing of shares exclusively through affiliated underwriters is avoided.

Most mutual funds are managed by "external" advisory firms pursuant to a contract approved by the fund's outside directors. In exchange for advisory and other services, the contract normally pays the adviser a periodic percentage fee based on total assets under management, anywhere from one to 200 basis points or more per year.[27] Many funds are managed by a central adviser within a complex, or "family," of funds, in which case the hands-on manager of each fund is an individual or team employed by the advisory firm or an external sub-adviser hired under contract.

Mutual funds can be either actively or passively managed. A unit investment trust is the most passive type of mutual fund. It places its investors' money in a fixed portfolio of securities and other assets whose composition remains unchanged for the life of the fund. Shareholder redemptions are met by a pro rata liquidation of assets. So-called "index funds," which place their assets in a portfolio of securities that mimics a published index such as the value-weighted S&P 500,[28] are also considered passively managed. Their portfolio composition changes only when the composition of the index changes, such as when General Motors recently dropped out of the list of the 500 most highly

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[26] Bearing of Distribution Expenses by Mutual Funds, Investment Company Act Release No. 11,414, 45 Fed. Reg. 73,898, at 73,898 (Nov. 7, 1980) (to be codified at 17 C.F.R. pts. 239, 270, 274).

[27] Daniel N. Deli, Mutual Fund Advisory Contract: An Empirical Investigation, 57 J. FIN. 109, 115 (2002) (Based on SEC filings in 1997 and 1998, 93 percent of fund advisers were compensated exclusively with an asset-based fee).

[28] The S&P 500 index is a hypothetical portfolio whose securities consist of the common stock issued by the 500 largest U.S. corporations by total capitalization. The weight of each stock in the index is equal to the corporation's equity capitalization relative to the total of all 500 firms.

capitalized corporations based on the reduced value of its outstanding shares. As with unit investment trusts, shareholder redemptions in index funds are met by a pro rata liquidation of assets.

Fund advisory services include record keeping, custody of shares, and other ministerial functions, but in an actively-managed mutual fund they consist most importantly of portfolio management. As an agent for the fund, an active manager's primary charge is to hold well-diversified portfolio,[29] to use his best efforts to perform or acquire research to identify mispriced securities, and to buy or sell those securities to make a profit for the fund before the market fully corrects the pricing error. Active fund managers are free to vary the composition of their portfolios as long as they meet certain statutory diversification and regulatory disclosure requirements based on their reported "style" (large cap, small cap, growth, income, etc.). Shareholder redemptions therefore need not be met by a pro rata liquidation of portfolio assets. To facilitate shareholder monitoring of the manager's compliance with his stated style, the fund is required to report its portfolio holdings to the SEC quarterly with a sixty-day lag.[30]

Owing to alleged abuses by closed-end fund advisers and their affiliates surrounding the stock market crash of 1929, in 1940 Congress passed the Investment Company Act (ICA)[31] and Investment Advisers Act (IAA),[32] collectively known as the `40 Act. Given the collective action problem dispersed mutual fund shareholders face in gathering information to monitor their advisers, it is unsurprising that Congress expressed concern that fund advisers might jeopardize Americans' savings by operating managed funds in their own interest rather than in the interest of fund shareholders.[33] Unlike the

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[29] There are many ways to diversify, but investor want efficient diversification, that is, the highest expected return for given risk or the lowest risk for given expected return based on the state-of-the-art in portfolio management.

[30] SEC, Final Rule, Shareholder Reports and Quarterly Portfolio Disclosure of Registered Management Investment Companies, 69 Fed. Reg. 11244 (Mar. 9, 2004).

[31] 15 U.S.C. §§ 80a-1 to 80a-64.

[32] 15 U.S.C §§ 80b-1 to 80b-21.

[33] Section 1 of the Investment Company Act, titled "Findings and Declaration of Policy," states in part that "investment companies are affected with a national public interest in that, . . . such companies are media for the investment in the national economy of a substantial part of the national savings and may have a vital effect upon the flow of such savings into the capital markets . . . . [I]t is hereby declared that the national public interest and the interest of investors are adversely affected . . . when investment companies are organized, operated, managed, or their portfolio securities are selected, in the interest of directors, officers, investment advisers, depositors, or other affiliated persons thereof, in the interest of underwriters, brokers, or dealers, in the interest of special classes of their security holders, or in the interest of other

Securities Act (1933) (SA) and the Securities Exchange Act (1934) (SEA), the '40 Act goes well beyond merely requiring full disclosure of all material information as a modest prophylactic to prevent managerial misconduct. The '40 Act heavily regulates the substance of the adviser-fund relationship. Most importantly, it virtually mandates vertical separation of the advisory firm from its managed funds by requiring the fund to formally contract with the advisory firm for the provision of advisory serves.[34] Even though the adviser normally creates and promotes the fund from its inception, the ICA requires periodic renewal of the advisory contract by the outside members of the board, or by shareholders, and requires the contract to be terminable at will by outside board members or shareholders on 60-days written notice.[35] Section 15(a) of the ICA requires that all advisory contracts provide for termination on assignment, although Section 15(f) of the ICA allows advisory firm owners to profit from a sale of control in the advisory firm that results in an indirect assignment if certain conditions are met.[36] As already noted, Section 36(b) of the ICA imposes on fund advisers a fiduciary duty with respect to the receipt of compensation for services.

Given that the adviser normally creates the fund and makes long-term relationship-specific investments in promoting it, it is unsurprising that in reality advisory contracts are almost invariably renewed. It is rare for the board to shop the contract around, and this in part accounts for widespread criticism that outside board members suffer from a structural conflict of interest. The *de facto* relationship between the adviser and the firm lies somewhere in an economic netherworld between vertical integration (an extended firm) and long-term contract (market exchange), with the standard principal-agent and trusteeship relationships lying somewhere between.[37] Mandated vertical disintegration also applies to the function of marketing mutual fund shares, which must

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investment companies or persons engaged in other lines of business, rather than in the interest of all classes of such companies' security holders." 15 USCS § 80a-1.

[34] See ICA Section 15(a). There is a narrow opportunity for vertical integration where the managed fund or funds collectively own all the stock in the advisory firm. The Vanguard Group is one of the few prominent examples of "internally-managed" mutual funds, although it appears external vendors provide most of the associated services by contract.

[35] *Id.* § 80a-15(a).

[36] *Id.* § 80a-15(f).

[37] *See generally* R.H. Coase, *The Nature of the Firm, supra* note 6.

be managed by an underwriter that is legally separate from the adviser, though in most cases affiliated with it.[38]

The mutual fund industry is highly competitive by any structural standard. There are literally thousands of mutual funds in the U.S. economy. Industrial concentration is low and declining over time, and both innovation and entry are prolific.[39] The concentration of fund families is substantially higher than for mutual funds alone, but fund family concentration is nonetheless low and declining, and no single fund or fund complex enjoys a dominant market share.[40] The question at issue is whether shareholder information costs are so high that they weaken or entirely negate the structural effect on competition of large numbers and low market shares.

B. The Scholarly Literature

An issue that has been debated in the scholarly literature for decades is whether active fund management generates benefits for shareholders compared to an investment in a well-diversified portfolio representing "the market." If corporate stock itself is efficiently priced, how can fund managers possibly hope to pick stocks that outperform the S&P 500 Market Index after charging brokerage commissions and other transaction costs, the advisory fee, and various administrative expenses to the fund? Are the billions of dollars the industry spends on research to identify mispriced securities a colossal waste of social resources?

In 1968 Michael Jensen published a seminal empirical study of active fund manager performance.[41] One of Jensen's fundamental assumptions was that investors are able to, and do, choose between funds based solely on the information they have at hand about the funds' expected risk and return. A question that concerned him was how to measure fund performance relative to the market of all equity securities. Any well-

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[38] 15 U.S.C. § 80a-12(b) ("It shall be unlawful for any registered open-end company . . . to act as a distributor of securities of which it is the issuer, except through an underwriter . . . .").

[39] *See* John C. Coates & R. Glenn Hubbard, *Competition in the Mutual Fund Industry: Evidence and Implications for Policy*, 33 IOWA J. CORP. L. 151, 163-181 (2007).

[40] *See* John C. Coates & R. Glenn Hubbard, *Competition in the Mutual Fund Industry: Evidence and Implications for Policy*, 33 IOWA J. CORP. L. 151, 163-181 (2007).

[41] Michael C. Jensen, *The Performance of Mutual Funds in the Period 1945-1964*, 23 J. FIN. 389 (1968).

diversified portfolio will more or less track the market index driven by its nondiversifiable, or *market*, risk. Using a database of annual NAV returns to 115 equity mutual funds from 1945 to 1964,[42] he ran the following linear regression for each fund based on the Capital Asset Pricing Model (CAPM) recently developed by Sharpe (1964)[43] and others:

$$R_j - R_f = \alpha + \beta(R_m - R_f) + u$$

The variables R_j and R_m are the observed returns to fund j and to the S&P 500 Market Index after accounting for dividend distributions, and R_f is the risk-free rate of return on U.S. government bonds, with each variable being observed over each year in the sample. The differences $R_j - R_f$ and $R_m - R_f$ reflect the returns rational investors must earn to compensate them for investing in risky assets rather than the risk-free asset, so called "risk premia." The model recognizes that rational investors will sell (buy) assets whose expected returns are too low (high) until prices ─ NAV in this setting ─ fall (rise) to provide them with a normal expected return.

No doubt the risk premium on any portfolio of stocks is affected by a number of factors, but the one factor Jensen thought most important was the risk premium on the market portfolio. As shown in Figure 1, the regression equation above amounts to fitting a straight line to a scatter diagram of points indicating various concurrent observations of $R_j - R_f$ and $R_m - R_f$, with α being the intercept of the line (that is, the value of $R_j - R_f$ when $R_m - R_f$ is zero) and β being its slope. The scatter diagram itself will rarely form a straight line, and u reflects the deviations of each observation from the fitted line under the condition that the fit of the line is constructed to minimize the sum of the squared deviations.

The portfolio's β indicates how the risk premium earned by the fund's portfolio changes, on average, when the risk premium earned by the market portfolio changes. It is the standard measure of undiversifiable market risk. Having adjusted for market risk,

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[42] Annual net asset value returns are simply the percentage change in the funds' net asset value over the year in question.

[43] William F. Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk*, 19 J. FIN. 425 (1964).

alpha reveals the fund manager's ability to pick stocks that outperform the market. If alpha is positive, fund investors have enjoyed positive abnormal risk-adjusted NAV returns, perhaps owing to manager skill; if alpha is negative, they have suffered negative abnormal NAV returns, perhaps owing to manager incompetence or indolence. Jensen found that the average alpha across funds in his sample was a statistically significant negative 1.1 percent per year, suggesting that the returns to active management after netting out brokerage commissions and other transaction costs, advisory fees, and administrative expenses were less than the returns on the market portfolio. And although he found several funds whose alphas were persistently positive (though only slightly so) he was unable to rule out the possibility that these observations were due entirely to luck.

The question of how active management can possibly add value in an efficient market was answered theoretically by Grossman & Stiglitz (1980). They made the important point that it is impossible for markets to be informationally efficient in the traditional sense. If markets are strong-form efficient and instantly impound all private information into prices, for example, market participants seeking to discover such information will be unable to cover their costs and will refuse to engage in arbitrage. The traditional notions of market efficiency ─ weak form, semi-strong form, and strong form[44] ─ are simply empirically testable statements of a more fundamental version of market efficiency. According to this version, any given security can be mispriced at any given moment. It may pay market participants to do research to discover mispriced securities and to trade those securities to make money, but this process is costly. If markets are efficient in the Grossman-Stiglitz sense, these arbitragers can expect to earn only a normal competitive return on their investments in price discovery. It is therefore quite possible that active fund managers are able to identify mispriced securities from time to time, and perhaps even persistently, and to make an honest wage for their time and effort.

Further empirical work began to cast doubt on Jensen's findings that active managers are unable to identify mispriced securities. Relying on the Grossman-Stiglitz notion of market efficiency, Ippolito (1989) hypothesized that active fund managers

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[44] Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970).

should earn gross returns in excess of the market index sufficient to compensate for their higher brokerage commissions, other transaction costs, advisory fees, and administrative expenses. Like Jensen, Ippolito relied on the CAPM to assess portfolio returns relative to the market, but rather than using the returns on a hypothetical market index he used the returns generated by actual market index funds, which must incur at least minimal brokerage and other transaction costs, advisory fees, and administrative expenses. He also assessed the effect on fund performance of portfolio turnover, advisory fees, and other expenses. Examining the returns earned by a randomly selected group of 143 active mutual funds from 1965-1984, he found that estimated alphas for the active fund industry were significantly positive, indicating that these fund managers were able to add value. What is more, consistent with a Grossman-Stiglitz market equilibrium, he found that funds with higher turnover, advisory fees, and administrative expenses earned sufficiently high returns to offset these costs. He also found that gross returns to funds that charged investors an up-front load exceeded those of no-load funds by enough to offset their loads.

In the same year, Grinblatt & Titman (1989)[45] published a novel study of mutual fund performance based not on NAV, but rather on returns to the actual portfolio securities held by a limited sample of mutual funds. This measure of performance allowed the authors to deconstruct portfolio holdings and changes in portfolio holdings to identify the gross returns accruing to the manager's stock picks, with NAV returns being what shareholders earned after various costs were netted out. The authors found clear indication that the managers of growth, aggressive-growth, and small NAV funds generated substantial abnormal stock picking performance after adjusting for risk, but that these excess returns were just sufficient to cover their added costs, again consistent with a Grossman-Stiglitz market equilibrium.

Subsequent empirical work by Malkiel (1995)[46] and Carhart (1997)[47] using NAV returns and a regression model expanded to include four factors, rather than merely the one-factor CAPM, supported Jensen's findings that active management adds no value and

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[45] Mark Grinblatt and Sheridan Titman, *Mutual Fund Performance: An Analysis of Quarterly Portfolio Holdings*, 62 J. BUS. 393 (1989).
[46] Burton G. Malkiel, *Returns from Investing in Equity Mutual Fund 1971 to 1991*, 50 J. FIN. 549 (1995) [check this].
[47] Mark M. Carhart, *On Persistence in Mutual Fund Performance*, 52 J. FIN. 57 (1997).

also found a striking negative relationship between fund fees and net-of-fee fund performance. According to Carhart, funds that persistently charged higher fees also persistently tended to under-perform their low-fee counterparts. This and other findings have led to steady calls for investors to abandon high-fee actively-managed funds in favor of low-fee funds and actively-managed funds in favor of passively-managed index funds whose fees are dramatically lower.[48] They have also led to proposals for heightened fee disclosure. In 2004, the SEC ruled that mutual funds must include disclosure of fund expenses in shareholder reports, rather that exclusively in SEC filings. In support of this ruling, it found that "[s]ignificant concerns have been raised regarding the degree to which investors understand the nature and effect of . . . ongoing fees. These . . . fees can have a dramatic effect on an investor's return. A 1% annual fee, for example, will reduce an ending account balance by 18% on an investment held for 20 years."[49] The conclusion embraced by many scholars, commentators, and regulators has been that fund advisory fees are a direct drag on fund performance. If only these fees could be reduced, shareholder returns would rise by the same dollar amount.

In 2000, Russ Wermers assembled a novel and exhaustive database to assess active fund managers' stock picking skill, transaction costs, and expenses. The database included fund security holdings, NAV returns, portfolio style, annual turnover, and expense ratio for all U.S. equity funds from 1975 through 1994. Like Grinblatt & Titman, this allowed him to differentiate between manager stock picking returns based on changes in portfolio holdings and returns enjoyed by shareholders based on NAV performance, with the difference consisting of various transaction costs, fees, and administrative expenses. He later likened the ability to assess manager stock-picking returns based on portfolio holdings, rather than NAV returns, as akin to advances in DNA profiling over fingerprint methods in criminal proceedings.[50] He found that active funds outperformed the market by 1.3 percent per year but that their NAV returns (the returns shareholders enjoyed) fell short of the market by one percent. He accounted for 0.7

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[48] See, e.g., John C. Bogle, BOGLE ON MUTUAL FUNDS: NEW PERSPECTIVES FOR THE INTELLIGENT INVESTOR (Irwin, New York: 1994).
[49] SEC, Final Rule, Shareholder Reports and Quarterly Portfolio Disclosure of Registered Management Investment Companies, 69 Fed. Reg. 11244, 11245 (Mar. 9, 2004).
[50] Russ Wermers, *Performance Evaluation with Portfolio Holdings Information*, 17 N. AM. J. FIN. & ECON. 207 (2006).

percent of the 2.3 percent difference as the result of underperforming non-stock holdings. To meet redemptions, mutual funds must hold a nontrivial portion of their portfolios in cash. The return on cash falls far short of the return on risky securities and acts as a drag on the NAV returns shareholders earn.

The remaining 1.6 percent difference consisted of expenses, including advisory fees, and transaction costs. One of the problems a skillful manager faces is that to make a profit he must incur transaction costs to trade the securities he believes are mispriced. Transaction costs, which accrue to the fund, consist of brokerage commissions and any adverse price impact on trades between the moment the manager orders the trade and the moment the broker fully executes it. Price impact results from the mere presence of the manager in the trading environment. If the trade is large and the manager is known for being informed, this information leaks out and the price of the security can move against him before he can complete it.[51] Price impact can be a substantial drag on portfolio performance.[52] The observation that some managers' trades consistently experience large price impact suggests they represent "smart money" in the securities trading environment. Wermers found that funds with higher expenses driven by higher turnover and transaction costs had greater stock-picking returns sufficient to offset these costs and sometimes to more than offset them, thus casting doubt on Carhart's findings based on NAV returns that expenses and performance are negatively related.

A second important issue raised in the scholarly literature, and one separate from whether active fund managers can produce abnormal returns through skillful stock picking, is what effect fund performance has on the flow of investor dollars into or out of the fund, even if performance is driven purely by good or bad luck. Ippolito (1992)[53] addressed this issue empirically, at the same time recognizing that fund management is plagued by problems of quality assurance. In his words, "[t]here is much noise in performance data across mutual funds and over time, requiring many periods to judge the ability of an investment manager with statistical confidence. . . . It would be easy to

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[51] Stephen M. Horan and D. Bruce Johnsen, *Can Third-party Payments Benefit the Principal? The Case of Soft Dollar Brokerage*, 28 INT'L REV. OF LAW & ECON. 56 (2008).

[52] Donald B. Keim and Ananth Madhavan, *Transaction Costs and Investment Style: An Inter-exchange Analysis of Institutional Equity Trades*, 46 J. FIN. ECON. 265 (1997).

[53] Richad A. Ippolito, *Consumer Reaction to Measures of Poor Quality: Evidence from the Mutual Fund Industry*, 35 J. Law & Econ. 45 (1992).

think that, in such an environment, low-quality funds could proliferate."[54] If the cost to investors of assessing fund quality and shifting their money accordingly are sufficiently large, low-quality funds could drive high-quality funds out of the market entirely, resulting in a so-called "lemons" market.[55] Given the transaction costs investors face in assessing quality and switching funds, his hypothesis was that a rule according to which investors allocate their money to the latest best performing funds is capable of maintaining an industry equilibrium in which high-quality funds prosper. Vigilance by at least some mutual fund investors plays an important role in maintaining this equilibrium.

To test the hypothesis, Ippolito used the database from his 1989 study to assess the relationship between fund performance and the growth of fund assets over a twenty-year period. He defined high quality funds as those whose NAV returns after adjusting for market risk exceeded returns on the S&P 500 Index, that is, positive-alpha funds. He found that the superior performance of "positive-alpha" funds tends to persist over time. He also found a large and statistically significant positive relationship between fund growth and fund quality as measured by superior returns. For funds exhibiting a positive alpha of two percent during the preceding three-year period, for example, the current growth rate exceeded zero-alpha funds by 1.4 percent. The evidence allowed him to confidently reject the hypothesis that fund growth and recent fund performance were independent. Over sufficiently long time periods, investors appeared able to monitor and punish low quality funds by directing the flow of new money toward high-quality funds.

Ippolito also found actively managed funds ─ as proxied by annual portfolio turnover and expenses ─ experienced greater investor reaction to abnormally good performance. Citing an important article on quality assurance by Klein & Leffler (1981),[56] he noted that high-quality producers will seek some mechanism to assure high quality such as posting a performance bond on which they would later earn a quality-assuring rent. Owing to data limitations he found no evidence of either.

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[54] Richad A. Ippolito, *Consumer Reaction to Measures of Poor Quality: Evidence from the Mutual Fund Industry*, 35 J. Law & Econ. 45, 46 (1992).

[55] George Akerlof, *The Market For Lemons: Quality Uncertainty and the Market Mechanism*, 84 Q. J. Econ. 488 (1970).

[56] Benjamin Klein and Keith B. Leffler, *The Role of Market Forces in Assuring Contractual Performance*, 89 J. POL. ECON. 615 (1981).

Subsequent research focusing on the "performance-flow" relationship supports Ippolito's findings. Gruber (1996)[57] found that if investors were to follow a rule of directing their money to funds experiencing net inflows and to divest from funds experiencing net outflows, they would earn risk-adjusted returns that beat a market index fund, after adjusting for fees. Sirri and Tuffano (1998)[58] found that investors indeed base their fund buying decisions on prior performance information, but that fund inflows resulting from past good performance were more sensitive than fund outflows resulting from past poor performance. This asymmetry was no doubt the result of transaction costs, more specifically investor search costs. Much of the inflow of investment dollars to mutual funds is new to the industry. In this setting, investors have already committed to incurring the costs of searching and sorting between funds to identify the ones that match their preferences. Once the investment is in place, however, dissatisfied fund shareholders face marginal search costs redeeming their shares and finding a new home for their money. Thus, new money is more mobile than old money, but all else being equal inflows of new money dry up in response to expected underperformance and old money invariably leaves the fund, in part through natural attrition and in part through shareholder dissatisfaction.[59]

Sirri & Tuffano also found evidence that funds associated with larger fund families, funds that spent more on advertising, and funds that experienced greater media attention exhibited greater inflows than their counterparts. A fund that increased total fees one standard deviation from the mean would have experienced a substantial reduction in fund inflows. What is more, fund families that had higher advisory fees experienced fund inflows that were double those experienced by their low-fee counterparts, a finding consistent with the theory that large fund families effectively advertise the performance of successful funds. In general, Sirri & Tuffano concluded that investor search costs play an important role in explaining fund flow. Investors "do not

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[57] Martin J. Gruber, *Another Fund Puzzle: The Growth in Actively Managed Mutual Funds*, 51 J. FIN. 783 (1996).
[58] Erik R. Sirri and Peter Tuffano, *Costly Search and Mutual Fund Flows*, 53 J. FIN. 1589 (1998).
[59] Industry experts place the natural attrition rate as high as 18% [personal conversation with Matt Fink, former president of the Investment Company Institute].

simply view their mutual fund purchase decisions as a choice among identical commodity products in which price (advisory fees) is the primary consideration."[60]

In an unpublished working paper, Horan & Johnsen (1999)[61] first proposed that mutual funds are akin to an open-access common pool owing to the share issuance and redemption options they provide. No investor has an exclusive claim to fund returns because they are shared in common, and competition between investors to capture returns ensures investment dollars will flow in or out to equalize risk-adjusted NAV returns across funds. In a seminal article, Berk & Green (2004)[62] formalized this hypothesis several years later. Assuming standard investor rationality, by accounting for the effect of investor expectations and competition on fund flows they showed that much of the puzzling empirical evidence about returns to active fund management, such as the failure of superior performance to persist or the failure of NAV returns to beat a passive benchmark, was easily explained. In their words,

> in the face of this evidence many researchers have concluded that a consistent explanation of these regularities is impossible without appealing to behavioral arguments that depend on irrationality or to elaborate theories based on asymmetric information or moral hazard. One thing that has been missing from this debate is a clear delineation of what a rational model, with no moral hazard or asymmetric information, implies about flows and performance. Before appealing to these additional effects, we believe that it makes sense to first establish which behaviors in the data are qualitatively and quantitatively consistent with more direct explanations.[63]

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[60] Erik R. Sirri and Peter Tuffano, *Costly Search and Mutual Fund Flows*, 53 J. FIN. 1589, 1597 (1998).

[61] Steven M. Horan and D. Bruce Johnsen, *Portfolio Management, Private Information, and Soft Dollar Brokerage: Agency Theory and Evidence* (unpublished working paper, GMU School of Law), available at SSRN?.

[62] Jonathan B. Berk and Richard C. Green, *Mutual Fund Flows and Performance in Rational Markets*, 112 J. POL. ECON. 1269 (2004).

[63] Jonathan B. Berk and Richard C. Green, *Mutual Fund Flows and Performance in Rational Markets*, 112 J. POL. ECON. 1269, 1270 (2004).

In their model, fund size and total manager compensation increase in response to perceived manager skill until returns are equalized across funds going forward. Managers' failure to outperform a passive benchmark based on NAV returns does not mean they lack skill. "It merely implies that the provision of capital by investors to the mutual fund industry is competitive. . . . [Owing to fund flows] investors cannot expect to make positive excess returns, so superior positive performance cannot be predictable."[64] This finding is consistent with a Grossman-Stiglitz efficient market equilibrium.

In a series of papers following on his original study, Wermers added dramatically to our understanding of the relationship between fund performance, fund flows, and fund transaction costs and expenses. Relying on the same exhaustive database he assembled for his 2000 study, in 2003 he showed that returns based on manager stock-picking skill among the top decile of funds persist for multi-year periods; last years' winning funds tended to repeat and last years' losing funds also tend to repeat. What is more, a sizeable minority of managers exhibited stock picking skill sufficient to cover their costs, and active management skills are associated with lower fund costs. Investors appeared to use past performance to infer future performance; newly invested funds clearly flowed toward recent winners, suggesting that on average fund investors had smart money.[65] In 2006, Wermers and co-authors applied an emergent statistical method known as a "bootstrap" analysis to his data.[66] Among other things, this method allowed them to determine whether managers who generated positive alphas did so through superior skill in picking stocks or purely as a result of luck. If superior performance was based on luck, alone, they expected nine funds in their database to generate alphas (net of costs) exceeding ten percent per year for at least a five period. They found 29 funds that did so. Contrary to Carhart (1997), this allowed them overwhelming to reject the hypothesis that active managers lack persistent stock picking skill. Consistent with a Berk-Green

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[64] Jonathan B. Berk and Richard C. Green, *Mutual Fund Flows and Performance in Rational Markets*, 112 J. P. E. 1269, 1271 (2004).

[65] Russ Wermers, Is Money Really "Smart"? New Evidence on the Relation Between Mutual Fund Flows, Manager Behavior, and Performance Persistence (2003 working paper, Robert H. Smith School of Business, University of Maryland).

[66] Robert Kosowski, Allan Timmerman, Russ Wermers, and Hal White, *Can Mutual Fund "Stars" Really Pick Stocks? New Evidence from a Bootstrap Analysis*, 61 J. FIN. 2551 (2006).

equilibrium, a sizeable minority of fund managers were able to generate superior stock picking returns, and these managers' performance tended to persist over time.

Following on this study, Chevalier & Ellision (1997) examined the incentives created by the standard performance-flow relationship in mutual funds. From their database they estimated, for example, that a fund that beat the market in 1990 by 10 percentage points experienced a 36 percent increase in fund assets, holding various other factors constant. Fund inflows persisted in subsequent years, though at a declining rate. Noting that advisers are normally paid a "fixed" percentage of assets under management, they have an incentive to take whatever actions increase their total asset base. Given this, the performance-flow relationship serves as an implicit incentive contract to encourage them to perform well, but it may also give them an incentive to strategically increase portfolio risk after falling behind the field of other reporting funds. Chevalier & Ellison found that small funds did indeed tend to strategically respond to poor performance early in the reporting year by increasing portfolio risk toward the end of the reporting year.

To test various theories of contract choice, Deli (2002)[67] undertook to explain how advisers' *marginal* compensation differed under differing circumstances. Based on a sample of over 4,800 advisory contracts, he found that advisers' marginal compensation ("the payoff to an advisor for a small change in fund assets") was greater for advisers of equity funds than debt funds, for advisers of foreign funds than domestic funds, for advisers of closed-end funds than open-end funds, for advisers with higher turnover, for advisers of small funds or funds that were members of small fund families than for large funds or funds that were members of large fund families. He found that differences in marginal adviser compensation are driven by hypothesized differences in adviser marginal product and the difficulty investors have monitoring adviser performance across funds with different characteristics. Consistent with his empirical results, for example, high turnover funds and funds with high underlying volatility owing to investment style ─ both of which impose greater monitoring costs on investors ─ had higher marginal adviser compensation. That is, adviser compensation in these funds was especially sensitive to fund performance. These results are consistent with the hypothesis that

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[67] Daniel N. Deli, *Mutual Fund Advisory Contracts: An Empirical Investigation*, 57 J. FIN. 109 (2002).

marginal adviser compensation has evolved to ameliorate agency conflicts between fund shareholders and fund advisers. Although these results did not allow him to reject the hypothesis that adviser compensation was driven by an attempt to expropriate fund investors, he argued that the ease of entry into the industry along with the large number of funds and advisors cast doubt on the expropriation hypothesis, as did his empirical results suggesting that scale economies are to some extent passed on to investors in the form of lower marginal fees as total fund assets rise. Deli's results led him to caution that "any regulatory initiative aimed at protecting investors from 'excessive fees' must carefully consider the potential costs and benefits of alternative fee structures."[68]

Beginning with the *Wharton Report*, various commentators over the years have criticized the level of fund advisory fees as excessive and have called for some mechanism to force or cajole fund advisers into lowering them. Freeman & Brown (2000)[69] examined the conflicts of interest inherent in the board-of-director system for setting advisory fees. Noting that the ICA requires at least 40 percent of board members to be independent of the advisory firm or its affiliates, they nevertheless pointed out that advisory contracts are almost invariably renewed. They concluded that the advisory firm exercises *de facto* control of the board.[70] One piece of evidence they used to support this conclusion was the widespread belief that scale economies exist in investment management and that advisory firms fail to lower their fees accordingly. Referring to a 1999 treatise by Vanguard founder John Bogle they argued that

> . . . between 1981 and 1997, average equity fund expenses grew from 0.97% of net assets to 1.55%, with this 50% increase occurring over a period in which fund equity assets rose from $40 billion to $2.8 trillion. During the same period, annual costs paid by fund shareholders soared from $320 million to $34 billion. Assuming that economies of scale exist, it is questionable why a hundredfold increase in costs should accompany a

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[68] Daniel N. Deli, *Mutual Fund Advisory Contracts: An Empirical Investigation*, 57 J. FIN. 109, 111 (2002).

[69] John P. Freeman and Steward L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 J. CORP. L. 609 (2001).

[70] John P. Freeman and Steward L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 J. CORP. L. 609, 617 (2001).

seventyfold increase in assets. Had the average expense ratio merely stayed the same, and not risen over the period, fund investors would have saved billions annually.[71]

They concluded that the appropriate benchmark to assess the level of fund advisory fees were the much lower fees charged by private money managers charge pension plans and other institutional investors. Against this backdrop, they asked "how the cost of professional management advice sold to funds and their shareholders compares with the price paid for like services sold elsewhere in the economy" concluding that "[i]nvestment advice is essentially a commodity . . . a mental process. It principally involves deciding which securities to buy and sell in order to maximize returns. The process is scalable, [and] is essentially the same for large and small portfolios, as well as for pension funds and mutual funds."[72] And yet the *Wharton Report* had found that of the "54 investment advisors with both mutual fund clients and other clients [the] fee rates charged the mutual fund clients were at least 50% higher in 39 out of the 54 cases, 200% higher in 24 of the cases, and 500% or more higher in 9 of the cases."[73] They ascribed the disparity in costs and fees paid by mutual funds and institutional investors "to fund advisors' ability to capitalize on the conflict of interest inherent in most funds' management structures and convert it into the power to set extra-competitive prices."[74] Owing to this conflict of interest, they concluded that find advisers were "feasting on a complex and poorly disclosed fee structure that is out of kilter with free market price levels and has been for decades."[75]

C. *Excessive Fee Case Law ─ Gartenberg and Jones*

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[71] John P. Freeman and Steward L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 J. CORP. L. 609, 620 (2001).

[72] John P. Freeman and Steward L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 J. Corp. L. 609, 627 (2001).

[73] John P. Freeman and Steward L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 J. Corp. L. 609, 628 (2001).

[74] John P. Freeman and Steward L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 J. Corp. L. 609, 628 (2001).

[75] John P. Freeman and Steward L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 J. Corp. L. 609, 670 (2001).

For many years preceding private litigation under Section 36(b) of the ICA, the interest rate banks could pay on deposits was legally capped. Beginning in the 1970s, members of the fund advisory industry led by Merrill Lynch sought to provide fund investors with the liquidity of bank deposits while allowing them to earn substantially higher rates of return on the money they invested. This led to the creation of the first no-load money market mutual funds. Rather than quoting a NAV that fluctuated from day to day, money market funds sought to quote NAV at a constant one dollar per share. Any returns in excess of what was necessary to maintain NAV at one dollar would be reported as share dividends on the one-dollar principal, making them virtually identical to bank deposits. As with all mutual funds, they offered to issue and redeem shares at daily NAV plus accrued "interest," but they made liquidation especially easy, allowing shareholders to redeem by writing checks to third parties. They also offered an increasing number of ancillary services such as credit cards and retail brokerage to shareholders who opened accounts with their broker-dealer affiliates. By assuring the SEC that they would invest only in high-quality, short-term fixed income securities (primarily government T-bills) that were essentially inflation-proof, the advisory firm sponsors of money market funds succeeded in obtaining an SEC exemption from regulations that would otherwise have precluded them from operating.

Private litigation under Section 36(b) of the ICA began in earnest with *Gartenberg v. Merrill Lynch Asset Management, Inc.*[76] Like many money market funds of the time, Merrill Lynch's Ready Asset Trust (RAT) had proven wildly successful. From 1977 through 1981 Merrill's RAT increased its assets under management from $428 million to over $19 billion,[77] making it the largest in the industry.[78] At the time the suit was filed it had over 1.1 million investors.[79] In 1979 the adviser, Merrill Lynch Asset Management (MLAM), established a fee schedule that stepped down in increments from 50 basis points per year on total assets up to $500 million to 27.5 basis points per year on assets in excess of $2.5 billion.[80] Despite stepped-down advisory fees, the total

[76] 528 F. Supp. 1038 (U.S. D. Ct. for S.D. of New York, 1981).
[77] 694 F.2d 923, 930 (1982).
[78] 528 F. Supp. 1038, 1042 (1981)
[79] 528 F. Supp. 1038, 1040 (1981).
[80] 528 F. Supp. 1038, 1043 (1981). The following table appears in the court's opinion:

yearly fees MLAM collected increased over the 1977-1981 period from $1,578,476 to $39,369,587. The plaintiff's main allegation was that owing to economies of scale this was just "too much money"[81] and that MLAM had therefore breached its fiduciary duty with respect to the receipt of compensation under Section 36(b).

Reviewing the legislative history of Section 36(b), District Court Judge Pollack noted that Congress had twice rejected imposing a "reasonableness" standard on fund advisory fees and had instead chosen to impose a fiduciary standard. Although he found no dispositive case law indicating how the fiduciary standard applies to adviser compensation, he quoted various cases that established the following general concepts: "The standard of fiduciary duty under Section 36(b) 'is concerned solely with fairness and equity.'. . . The essence of the (fiduciary) test is whether or not under all the circumstances the transaction carries the earmarks of an arm's length bargain. . . . The conduct of the investment adviser must be governed by the 'duty of uncompromising fidelity' and 'undivided loyalty' to the Fund's shareholders that is imposed by Section 36(b)."[82] According to the language of 36(b), the party bringing the action has the burden of proving a fiduciary breach.

Pollack found that in enacting Section 36(b) Congress had intended for courts to examine all the facts in connection with the determination of the adviser's compensation. He reviewed the fees MLAM had earned, the quality and cost of the services it had provided, the potential for scale economies in management, the net earnings to MLAM, and the due diligence of the fund's board of trustees. In rejecting the plaintiff's claim, Pollack pointed out that even if some functions of asset management are subject to scale economies others clearly are not, that MLAM's fees were the lowest in the industry, that

Average Daily Value of Net Assets	Advisory Fee
< 500 million	0.50%
> $500 million and < $750 million	0.425%
> $750 million and < $1 billion	0.375%
> $1 billion and < $1.5 billion	0.35%
> $1.5 billion and < $2 billion	0.325%
> $2 billion and < $2.5 billion	0.30%
> $2.5 billion	0.275%

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[81] 528 F. Supp. 1038, 1040 (1981).
[82] 528 F. Supp. 1038, 1047 (1981).

the yield it paid shareholders was above the industry average, that the package of services it provided ─ not the least of which was high-volume order processing ─ were without equal, and that the lower fees advisers charged pension funds and other institutional client were irrelevant to assessing those charged by public fund advisers. He also found that the RAT trustees had exercised informed judgment in good faith and on a reasonable basis, leading him to weight heavily their approval of the advisory agreement.

What Pollack found most persuasive in rejecting plaintiff's claim was that Congress had intended 36(b) to apply to equity funds that charged up-front loads. These fixed one-time charges make it costly for investors to switch between funds, undermining the force of competition in the market for advisory services and fostering various abusive practices that Congress sought to prevent. He considered it clear from the record that Congress did not intend 36(b) to apply to money market mutual funds, which charge no up-front load and did not even exist in 1970. Noting the tremendous growth of money market funds since that time, he concluded that competition between fund advisers was sufficient to prevent excessive fees. The most important factor to be considered in evaluating the fairness of advisory fees, he concluded, is the price charged by similar advisers to funds managed by them. The "price charged by advisers to those funds establishes the free and open market level for fiduciary compensation [and] serves as a standard to test the fairness of the investment advisory fee. . . . [A fee is fair if it] is in harmony with the broad and prevailing market choice available to the investor."[83]

The Court of Appeals affirmed Judge Pollack's judgment in favor of the defendant but substantially modified his reasoning.[84] Writing for the court, Judge Mansfield rejected Pollack's finding that Congress had specifically declined to establish a reasonableness standard for fees under 36(b). As he put it, "the legislative history of § 36(b) indicates that the substitution of the term 'fiduciary duty' for 'reasonable,' while possibly intended to modify the standard somewhat, was a more semantical than substantive compromise, shifting the focus slightly from the fund directors to the conduct

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[83] 528 F. Supp. 1049, 1067-68 (1981).
[84] 694 F.2d 923 (1982).

of the investment adviser-manager."[85]   The test of fiduciary breach under 36(b), according to Mansfield,

> is essentially whether the fee schedule represents a charge within the range of what would have been negotiated at arm's-length in the light of all of the surrounding circumstances. . . . To be guilty of a violation of *§ 36(b)* . . . 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.[86]

Mansfield also rejected Pollack's reliance on market competition to assess advisory fees. "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. Reliance on prevailing industry advisory fees will not satisfy § 36(b)."[87]   Although evidence of market competition is relevant to the inquiry, it is merely a single factor to be considered and not a particularly critical factor at that. Citing the SEC's 1966 report to Congress, Mansfield observed that "the 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."[88]   Competition for investor money does not lead to fee competition by advisers because the fees each investor pays are insignificant. In his words, "[t]he fund customer's shares [*sic*] 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. . . .   The disparity is competitively insignificant. In the present case, for

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[85] 694 F.2d 923, 928 (1982).
[86] 694 F.2d 923, 928 (1982). If this statement leaves any doubt that Mansfield intended to establish a standard for 36(b) based on the reasonableness of fees, that doubt can be laid to rest by his statement in the appeal of Gartenberg II quoting, in part, the above statement. To wit: "The central issue in this case is the reasonableness of the advisory fee, which turns on whether it is so large that it 'bears no reasonable relationship to the services rendered and could not have been the product of arm's-length bargaining.'" 740 F. 2d 190, 192 (1984).
[87] 694 F.2d 923, 929 (1982).
[88] 694 F.2d 923, 929 (1982).

instance, the alleged excessive Manager's fee amounts to $2.88 *a year* for each $1,000 invested. If rates charged by the many other advisers were an affirmative competitive criterion, there would be little purpose in § 36(b)."[89] Pollack's distinction between load and no-load funds was therefore irrelevant and his emphasis on competition between advisers for investor business was misplaced.

Mansfield upheld Pollack's finding that the fees advisors charge institutional clients are irrelevant to an inquiry under 36(b) because the nature and extent of the services advisers provide each type of client differ substantially. Mutual funds must be prepared to process redemptions and sales daily, which requires them to hold substantial liquid assets and to incur the cost of processing orders throughout the nation. Pension funds do not incur these or any other costs borne by fund advisers.

In upholding Pollack's judgment, Mansfield stated that the court's "affirmance is not a holding that the fee contract between the Fund and the Manager is fair and reasonable. We merely conclude that on this record appellants failed to prove by a preponderance of the evidence a breach of fiduciary duty. Whether a violation of § 36(b) might be established through more probative evidence . . . must therefore remain a matter of speculation."[90]

Following on the heels of the "mutual fund scandals" initiated in 2003 by the now fallen New York State Attorney General Eliot Spitzer, *Jones v. Harris* appeared to be an unremarkable case on its face. The District Court granted the defendant summary judgment, and on appeal to the Seventh Circuit Judge Easterbrook could easily have affirmed and left it at that. Instead, he chose to reopen the issue of competition between fund advisers on which Judge Pollack had relied and that Judge Mansfield had rejected on appeal in *Gartenberg I*. Citing a Third Circuit decision seemingly at odds with *Gartenberg*, as well as a favorable ruling from the Seventh Circuit, Easterbrook rejected *Gartenberg's* "reasonableness" standard and adopted in its place the fiduciary standard for assessing compensation familiar in the common law of trusts. In his words, "[a] fiduciary duty differs from rate regulation. A fiduciary must make full disclosure and play no tricks but is not subject to a cap on compensation. The trustees (and in the end

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[89] 694 F.2d 923, 929 (1982).
[90] 694 F.2d 923, 933 (1982).

investors, who vote with their feet and dollars), rather than a judge or jury, determine how much advisory services are worth."[91]

He found meritless Mansfield's conclusion that competition between advisers for investor business is insufficient to constrain advisory fees. Citing a recent scholarly article by Coates & Hubbard (2007),[92] he noted that there are literally thousands of mutual funds available to investors, and that the fund industry comes close to being a model of "atomistic" competition. Even though fund boards rarely "fire" their advisers, investors can and do fire advisers cheaply and easily by moving their money elsewhere, not when the advisers' fees are "too high" in the abstract, but when they are excessive in relation to the results.[93] He continued . . .

> Holding costs down is vital in competition, when investors are seeking maximum return net of expenses--and as management fees are a substantial component of administrative costs, mutual funds have a powerful reason to keep them low unless higher fees are associated with higher return on investment. A difference of 0.1% per annum in total administrative expenses adds up by compounding over time and is enough to induce many investors to change mutual funds. That mutual funds are "captives" of investment advisers does not curtail this competition. An adviser can't make money from its captive fund if high fees drive investors away.[94]

Citing a well-know scholarly article by Schwartz & Wilde (1983),[95] he dismissed the common criticism that most investors are unsophisticated and do not, in fact, compare prices. Those investors who are sophisticated can be relied on to shop around and to exert competitive pressure that protects the rest. In affirming the judgment of the district

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[91] 527 F.3d 627, 632 (2008).

[92] John C. Coates IV and R. Glenn Hubbard, Competition in the Mutual Fund Industry: Evidence and Implications for Policy, *33 Iowa J. Corp. L. 151*, 156 (2007).

[93] 527 F.3d 627, 634 (2008).

[94] 527 F.3d 627, 631-32 (2008).

[95] Alan Schwartz & Louis Wilde, *Imperfect Information in Markets for Contract Terms*, 69 Va. L. Rev. 1387 (1983).

court, he concluded that "[p]laintiffs do not contend that Harris Associates pulled the wool over the eyes of the disinterested trustees or otherwise hindered their ability to negotiate a favorable price for advisory services. The fees are not hidden from investors ─ and the Oakmark funds' net return has attracted new investment rather than driving investors away."[96]

The plaintiff petitioned the court of appeals for rehearing *en banc*, which a majority of the court denied. Writing in dissent from that denial, Judge Posner rebuked Easterbrook for creating a circuit split where none had existed without first notifying the entire court. Posner took the opportunity to note a growing body of evidence indicating that executive compensation in public corporations is excessive because board members have only "feeble incentives" to impose limitations owing to conflicts of interest, favoritism, and reciprocity.[97] The same maligned incentives exist in all large entities, and especially in the mutual fund industry where, he observed, recent "abuses have been rampant."[98] Unreasonable compensation, he stressed, may be evidence of a fiduciary breach.

As to the power of competition to constrain excessive advisory fees, Posner noted Easterbrook's claim that advisers can't make money from their captive funds if high fees drive investors away, but he expressed doubt that high fees will, in fact, drive investors away. Quoting Freeman & Brown (2001),[99] he wrote that

> '[T]he chief reason for substantial advisory fee level differences between equity pension fund portfolio managers and equity mutual fund portfolio managers is that advisory fees in the pension field are subject to a marketplace where arm's-length bargaining occurs. As a rule, [mutual] fund shareholders neither benefit from arm's-length bargaining nor from prices that approximate those that arm's-length bargaining would yield were it the norm.'[100]

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[96] 527 F.3d 627, 635 (2008).
[97] 537 F.3d 728, 730 (2008).
[98] 537 F.3d 728, 730 (2008).
[99] John P. Freeman & Stewart L. Brown, "Mutual Fund Advisory Fees: The Cost of Conflicts of Interest," 26 *J. Corp. L.* 609, 634 (2001).
[100] 537 F.3d 728, 732 (2008).

In conclusion, Posner pointed out that "[t]he *outcome* of this case may be correct. . . . But the creation of a circuit split, the importance of the issue to the mutual fund industry, and the one-sided character of the panel's analysis warrant our hearing the case en banc."[101]

Following the U.S. Supreme Court's grant of the plaintiffs' petition for certiorari in *Jones v. Harris*[102] sixteen *amicus curiae* have filed briefs with the Court. Two of them from the scholarly community are worth reviewing. The first by Litan, Mason, and Ayers in support of the petitioners makes two basic but related points.[103] First, they argue that investors are unable to accurately assess the quality of the mutual funds in which they invest because "they do not behave rationally as predicted by economic models."[104] Second, they argue that even if mutual fund investors are purely rational, the fund industry exhibits "symptoms of market failure" owing to the cost investors must incur gathering information.[105]

In support of their first point, Litan, Mason, and Ayers rely on literature from "behavioral economics," which they assert "has come to be an enormously important field of economic research."[106] This literature documents a number of well-known "cognitive anomalies intrinsic in human behavior" that make it incredibly difficult for investors to determine "whether their money is being managed well."[107] These include "misperceptions of chance," "sample-size neglect," "loss aversion," and "mental accounting." In their view, investor irrationality impedes the forces of competition and makes it extremely difficult for investors to simply "fire" their managers by redeeming their stock and investing it elsewhere, contrary to Easterbrook's suggestion. As a result,

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[101] 537 F.3d 728, 733-34 (2008).
[102] Jones v. Harris, 2009 U.S. Lexis 1837; 77 U.S.L.W. 3505 (2009) (No. 08-586).
[103] BRIEF OF ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS *AMICI CURIAE* SUPPORTING PETITIONERS (June 17, 2008), case No. 08-586.
[104] BRIEF OF ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS *AMICI CURIAE* SUPPORTING PETITIONERS (June 17, 2008), case No. 08-586., all at 5.
[105] BRIEF OF ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS *AMICI CURIAE* SUPPORTING PETITIONERS (June 17, 2008), case No. 08-586., all at 5-6.
[106] BRIEF OF ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS *AMICI CURIAE* SUPPORTING PETITIONERS (June 17, 2008), case No. 08-586., at 8.
[107] BRIEF OF ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS *AMICI CURIAE* SUPPORTING PETITIONERS (June 17, 2008), case No. 08-586., at 8-9.

the fee structure of the entire fund advisory industry is excessive and evidence of what rival advisers charge similar funds is irrelevant.

In support of their second point they cite prior studies tending to show that few investors knew they paid advisory fees based on a percentage of assets under management, and that even fewer had any idea what that percentage actually was. What is more, they assert, the economic literature confirms that mutual funds have been effective in "hiding their costs from investors."[108] They also cite various studies of active fund performance, including several of those already discussed above such as Malkiel (1995) and Carhart (1997), indicating that active fund managers generally underperform the market and that high advisory fees are systematically associated with poor fund performance. Owing to the cost investors face gathering accurate information, the market fails to protect them from excessive fees, which largely reflect wealth expropriation from fund shareholders to their advisers.[109]

Litan, Mason, and Ayers conclude that the evidence on both points supports the inference that market forces cannot be relied on to constrain fund advisory fees to competitive levels. But rather than price controls administered by regulatory agencies, they argue it is better to preserve *Gartenberg's* "reasonableness" standard to expose the few bad actors in the profession to legal liability. The reasonable competitive benchmark rate, they advocate, should be set by the fees advisers charge institutional clients.

The second scholarly *amicus curiae* brief is authored by Coates & Hubbard and signed by various law and finance professors in support of respondent. The brief reiterates many of the points made by Coates & Hubbard (2007)[110] regarding the effective working of competition in the fund industry. Their analysis closely tracks the

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[108]BRIEF OF ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS *AMICI CURIAE* SUPPORTING PETITIONERS (June 17, 2008), case No. 08-586., at 6.

[109] The vast majority of economic theory and evidence regarding the effect of agent expropriation of their principal's wealth is that expropriation or likely expropriation reduces wages. To the extent agents know they can expropriate wealth they will offer to work for lower wages. See, e.g., My analysis relies specifically on two seminal works in transaction cost economics: Michael C. Jensen and William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure*, 3 J. FIN. ECON. 305 (1976). Based on a recent analysis of citations, this articles ranked third among all articles published in 41 prominent economics journals between 1970 and 2002. E. Han Kim, Adair Morse, and Luigi Zingales, *What Has Mattered to Economics Since 1970* (Sept. 2006), NBER Working Paper No. W12526. Available at SSRN: http://ssrn.com/abstract=931371.

[110] John C. Coates IV and R. Glenn Hubbard, Competition in the Mutual Fund Industry: Evidence and Implications for Policy, *33 Iowa J. Corp. L. 151*, 156 (2007).

standard type of industrial organization analysis of market competition familiar to courts and antitrust scholars and argues that those who criticize fund advisory fees as excessive mistakenly rely on outdated economic theory that is stuck in the 1960s. Their analysis strongly supports the conclusion that

> [i]nvestor mobility, combined with a number of other undisputed characteristics of the mutual fund industry, such as lack of concentration, a multitude of investor choices, low barriers to entry, common and continuous actual new entry, numerous distribution models, frequent and widespread advisory fee reductions, and, most importantly, strong and consistent correlation between lower advisory fees and higher returns, higher returns and investor flows, and lower fees and higher market share results in robust fee competition.[111]

Especially compelling evidence that competitive forces constrain advisory fees is that forty percent of equity funds from 1998 to 2004 waived fees annually. One 2001 study even showed that fifty-five percent of money market fund advisers waived at least two-thirds of their fees.[112] It concluded that they did so owing to intense competitive pressure to report attractive returns that would generate fund inflows.

Despite what it argues is overwhelming evidence of fee competition in the fund advisory industry, the Coates & Hubbard brief supports Easterbrook's judgment in *Jones v. Harris* but rejects much of his reasoning as well as his departure from the *Gartenberg* "reasonableness" standard. It merely asks the Court to find that in assessing excessive fees under 36(b) trial courts should consider two sets of facts relating to the forces of competition. First, courts should consider evidence of competition the adviser faces for investors from rival advisers of similar funds, and, second, they should consider evidence of the extent to which competition constrains fee setting by the adviser and the fund's

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[111] BRIEF FOR ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS AMICI CURIAE SUPPORTING PETITIONERS, JONES V. HARRIS ASSOCIATES L.P., 129 S. T. 1579 (2009) (No. 08-586).

[112] BRIEF FOR ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS AMICI CURIAE SUPPORTING PETITIONERS, JONES V. HARRIS ASSOCIATES L.P., 129 S. T. 1579 (2009) (No. 08-586)., at ?, (citing Susan E. K. Christoffersen, *Why Do Money Fund Managers Voluntarily Waive Their Fees?*, 56 J. FIN. 1117, 1121 (2001).

board, as well as the extent to which "that competition is likely to be similar to arm's-length bargaining."[113]

III. The Economics of Mutual Fund Organization

Having laid the necessary foundation, in this section I examine the economics of mutual fund organization. I proceed by discussing in greater detail four basic myths about fund advisory fees and the insights they provide for excessive fee litigation in light of the relevant regulatory constraints on fund organization, the contractual arrangements actually observed, the theory and evidence from the scholarly literature, the various court opinions in *Gartenberg* and *Jones*, and the *amicus curiae* briefs in *Jones* mentioned above. I not only support Judge Easterbrook's approach in *Jones*, but I argue it is the only economically (and legally) sensible way to apply a fiduciary duty standard to negotiated advisory fees where investor dollars flow freely in and out of funds and where the quality of advisory services is difficult for investors to assess. Absent a demonstrable showing of adviser misconduct, asking judges to determine the "reasonableness," or "fairness," of advisory fees would be "to set sail on a sea of doubt," as Judge Taft long ago warned in the often-cited antitrust case *U.S. v. Addyston Pipe and Steel*.[114] In Easterbrook's words, "[c]ompetitive processes are imperfect but remain superior to a 'just price' system administered by the judiciary."[115]

Much, though not all, of the economic theory in this section relies on standard transaction cost analysis familiar to antitrust scholars, practitioners, and judges. I take a Coasian property rights approach, which is to say that any imperfections or inefficiencies ─ so-called "market failures," if you like ─ that occur in the mutual fund industry provide the transacting parties with an opportunity to profit by eliminating the problem.[116] This is

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[113] BRIEF FOR ROBERT LITAN, JOSEPH MASON, AND IAN AYERS AS AMICI CURIAE SUPPORTING PETITIONERS, JONES V. HARRIS ASSOCIATES L.P., 129 S. T. 1579 (2009) (No. 08-586)., at ?.

[114] United States v. Addyston Pipe & Steel Co., 85 F. 271, 283-284 (1898)

[115] 527 F.3d 627, 633 (2008). See, also, Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEXAS L. REV. 1 (1984).

[116] Pioneered by 1991 Nobel Prize winning economist Ronald H. Coase, transaction cost economics has been likened to Einsteinian physics in its revolutionary influence and power to explain how people organize their economic affairs. Whether applied to the marketplace, commercial contracts, or mutual funds, transaction cost economics introduces the equivalent of friction into the neoclassical model of impersonal

true even where one "party" consists of dispersed and rationally ignorant investors. As long as advisers must compete for investor favor they will devise organizational forms that limit their own ability to expropriate investor wealth. Witness, for example, the creation of open-end mutual funds in the 1920s and their eventual ascent over closed-end funds, which now appear destined for obscurity. Or the development of money market mutual funds as alternatives to bank deposits. Or simply the rise of mutual funds as an alternative to individual retail brokerage-house accounts, an organizational form that has shown itself to be remarkably vulnerable to agent overreaching. Seen from this standpoint, mutual fund investor ignorance and apathy arise, not because these "behaviors" are etched in stone, but because given the alternatives investors feel sufficiently protected from expropriation that remaining relatively ignorant is in their best interest.

For the same reason people come together to trade at all — to capture mutual gains from trade — they will seek ways to organize their transactions to maximize joint gains subject to the constraint imposed by transaction costs, reducing or eliminating market failures only to the extent optimal. This hypothesis provides the guiding light to explaining why the competitive environment selects certain organizational forms for survival while others fall into obscurity or perish altogether. It is a positive proposition, not a normative one; it does not presume freedom of contract is good and government regulation is bad. It presumes only that people do what they can to improve their lot, and that they will cooperate with others in the process as long as doing so is not too costly. Clearly, some potentially profitable transactions will fail to occur absent government action of some sort. And there may be many situations in which government regulation improves the transacting environment, possibly including the creation of private rights of action for excessive advisory fees. The question at hand is whether the proposed statutory interpretation reduces transaction costs and thereby helps the parties increase

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exchange of goods whose quality is easily evaluated at the moment trade occurs. See, e.g., Johnnie L. Roberts and Richard Gibson, *'Friction' Theorist Wins Economics Nobel*, Wall Street Journal, Oct. 16, 1991, Section B, page 1. Coase's *The Problem of Social Costs*, 3 J.L. & ECON. 1 (1960), is no doubt the most cited article in all of economics. Together with his *The Nature of the Firm*, 4 Economica 386 (1937), his impact has been remarkable, as reflected in a virtual revolution in antitrust and other areas of law. Most recently, see *Leegin Creative Leather Products v. PSKS, Inc*, 127 S. Ct. 2705 (2007), relying on Coase's work to reverse a near-100-year Sherman Act precedent treating minimum resale price maintenance as illegal *per se*.

the gains from trade. Easterbrook's clear, easily administered legal rule is superior to *Gartenberg's*, which requires extensive fact finding to resolve economic issues even the best economists consider intractable.[117]

One question worth asking at the outset is what economic good investors expect when they buy shares in a mutual fund. This should be the first question a well-trained economist asks before venturing further into the study of mutual finds and their economic organization. Yet, with the exception of Ippolito (1992), few over the years have even asked this question, let alone answered it.[118] My examination into the four myths goes a long way toward answering it, if partly in the negative.

A. Mutual Funds as an Open Access Commons

As Berk & Green (2004) emphasized in tracing the implications of investor rationality for NAV returns, before resorting to theories based on investor irrationality or asymmetric information it is important to determine what "more direct explanations" can tell us when carefully applied. That is what I do in the next three passages. The assumption made for decades in the debate over the returns to active fund management is that fund shareholders collectively own the fund. It is true they own something, but standard economic theory and the available evidence suggest that because of competition the manager owns the abnormal returns accruing to his superior stock picking skill. To show this, I begin by assuming investors are rational, though not fully informed. They may regularly make mistakes, either individually or collectively, but they do not systematically err in their assessment of manager stock-picking skills or NAV returns. This is quite rational given the costs and benefits of being better informed. The

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[117] One such economic issue is how to apportion the cost of two products or services generated jointly by a single production process. This issue arose in *Gartenberg*, *Krinsk*, and no doubt other 36(b) cases. There is no theory in economics that allows us to correctly allocate joint costs. Business practitioners must invariably allocate them and do so according to various rules of thumb based on the benefits they appear to generate. As Easterbrook remarked in *Jones*, "[j]oint costs . . . make it hard to draw inferences from fee levels. Some tasks in research, valuation, and portfolio design will have benefits for several clients. In competition those joint costs are apportioned among paying customers according to their elasticity of demand, not according to any rule of equal treatment." 527 F.3d 627, 635 633 (2008).

[118] See Baumol, William J., Steven M. Goldfeld, Lilli A. Gordon, Michael F. Koehn, The Economics of Mutual Fund Markets: Competition Versus Regulation (Rochester Studies in Managerial Economics, Kluwer, 1990), at 173-74, 192.

implication is that, on average, investors will contribute or withdraw money from mutual funds until the expected NAV return across all funds equals what they would expect to earn on their next best outside investment after accounting for transaction costs, risk, and other relevant factors.

Putting aside one-time transaction costs such as up-front loads or inter-fund exchange fees, entry into and exit from mutual funds is cheap, that is, the investment is liquid.[119] Owing to competition between investors, new inflows dilute any expected abnormal returns, with fund investors sharing an undivided pool of assets in common. Among the universe of potential fund investors, none has the ability to exclude others from sharing in any rents (abnormal returns) a fund manager might produce. Just as in an open-access fishery, the prospect of capturing rents invites entry, which continues until the expected NAV returns exactly equal the marginal investor's outside earnings and all investor rents are competed away.[120] Those shareholders in the fund prior to revelation of the manager's skill will capture any *unexpected* abnormal returns arising from other investors' forecasting errors, but they will equally suffer any unexpectedly poor returns.

One important difference between an open-access fishery and an open-access fund is that to enter the fund investors must pay the current NAV and bear ongoing advisory fees and expenses for as long as they maintain their investment. As a result, the fund manager captures the rents accruing to superior management in the form of higher total fees on a larger asset base. Assuming the manager owns his human capital, these payments constitute a Ricardian rent that cannot be competed away.[121] The startling question is why a generation of gifted economists would have thought otherwise. What is more, when evaluating the *social* return to active fund management it is clear that advisory fees should be included in the cost/benefit calculus as part of that return.

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[119] In legal lexicon, an ownership claim in an open-end fund is divisible. In contrast, an ownership claim in a closed-end fund is indivisible absent wholesale liquidation of the fund's assets.

[120] See Steven N.S. Cheung, *The Structure of a Contract and the Theory of a Nonexclusive Resource*, 13 J. L & ECON. 49 (1970). The effect of competition by entrants into an unowned commons is widely recognized. See Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968). It seems odd that Posner would miss this point when applied to mutual funds, as he was a pioneer in applying it to the issue of monopoly. See Richard A. Posner, *The Social Costs of Monopoly and Regulation*, 83 J.P.E. 807(1975). His point there was that the potential rents from achieving a monopoly are nonexclusive and would lead aspiring monopolists to compete to capture them, dissipating much or all of their value in the process. To the extent monopoly rents are dissipated by costly competition, they must be included as part of the social loss from monopoly.

[121] David Ricardo, ON THE PRINCIPLES OF POLITICAL ECONOMY AND TAXATION (1817).

This is exactly what the Grossman & Stiglitz (1980) and Berk & Green formulations imply. It is nothing more than the zero-profit condition from the model of perfect competition: in long-run competitive equilibrium all privately owned factors of production earn an expected payoff after adjusting for risk and other factors that just covers their opportunity cost.[122] The difficulty financial economists have had finding abnormal NAV returns to shareholders in actively managed funds is perfectly understandable given the terms of the advisory contract, according to which managers own their human capital and, by contractual design, shareholders own only an undivided claim to an open access common pool in which any expected abnormal returns are up for grabs and are quickly dissipated by the entry of new investment dollars.[123] Returns dilution resulting from fund flows is not an alarming artifact of open-end mutual funds but an evolved — and essential, as I argue below — attribute of their economic organization.

Perhaps what has misdirected the debate over fund returns is the apparent inability of investors to arbitrage mutual fund shares. On any given day investors can buy and sell at NAV, which is necessarily based closely on the current value of the underlying portfolio of assets. Unlike a closed-end fund, in an open-end fund there is no opportunity to bid fund shares up or down to compete away excess returns. In an open-end fund investment flows compete away excess returns. To see clearly how this works, it is important to focus on the essential nature of fund returns. It has become convention in

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[122] The model of perfect competition is an extremely powerful and rigorously and successfully tested body of economic theory.

[123] The rent dissipation (investor returns dilution) that attends actively managed mutual funds often begins long before existing or prospective fund investors have any hint the manager has superior stock picking ability. The evidence is overwhelming that a major component of fund transaction costs arises when fund managers enter the market to trade based on information about mispriced securities they would, of course, like to keep private. The observation that large (presumably informed) institutional trades often result in price impact — an adverse change in the price of the security between the moment the manager identifies the trade and the moment at which it is fully executed — suggests that stock picks, themselves, are subject to open-access rent dissipation by informed outsiders eager to capture the surplus from an active manager's superior stock picking ability.

Informed outsiders have the option of frontrunning the manager's portfolio trades or investing in his fund at what they recognize to be an advantageous NAV, and it would not be surprising to find that they do some of both, optimizing between the alternatives depending on relative costs. A manager who is able to identify potential frontrunners would prefer that they invest their money in the fund because this would allow the manager to capture his Ricardian rents in the form of additional fees. Any agreement to ensure this result would appear to be Pareto optimal, making the frontrunners and fund shareholders no worse off while improving the manager's welfare. It may be that this was the motivation behind some of the sticky asset and fund timing agreements that prompted the mutual fund scandals.

finance to express the returns to any investment in percentage terms, with arithmetic returns being equal to the difference between the starting value of the asset and its ending value (including any income, such as dividends) divided by the starting value. This is fine where the objective is to compare returns across different projects. But *percentage* returns are irrelevant to investors in determining how much money to contribute to a fund. Fund managers start with a pool of assets and use their labor effort and any other resources necessary to identify mispriced securities to increasing the dollar size of that pool. Their ability to identify and profitably trade mispriced securities is ultimately limited as total assets under management.[124] Whatever the percentage return on total assets might be when calculated ex post, the relevant return inevitably translates in to a fixed dollar amount. This is what investors compete to capture by entering the fund. As they enter, the fixed dollar amount is shared in common among a larger group of investors, diluting the absolute size of both incumbents' and entrants' shares. Even in the absence of advisory fees, this process will compete any abnormal NAV returns down to zero.

The widely observed performance-flow relationship in mutual funds reported by Ippolito (1992), Chevalier & Ellison (1997), Sirri & Tuffano (1998), and Kosowski, *et al*. (2006) suggests it is accurate to characterize them as an open-access common pool from investors' standpoint. There is no doubt investors in large numbers move their money between funds based on recent performance or that superior performance brings a flood of new investment into a fund. Much of the empirical work on the returns to active management, and more importantly the most recent empirical work, fails to reject the hypothesis that investors rationally compete to capture abnormal fund returns, dissipating them in the process. Scholarly work to the contrary by Jensen (1968), Malkiel (1995), Carhart (1997), and others relies on NAV returns without accounting for fund flows. Collectively, investors appear quite rational in the Berk & Green (2004) formulation. The work by Wermers (2001), Wermers (2003), and Kosowski, *et al*. (2006) is especially compelling because it shows how superior manager stock picking returns get eaten up in

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[124] As Berk & Green (2004) put it, fund managers face "decreasing returns to scale" in deploying their own talent. (at 1271). Owing largely to the transaction costs of executing trades, the marginal costs of generating a constant gross percentage return increases at an increasing rate in assets, leading net returns to increase at a decreasing rate.

transaction costs, fees, and other expenses, but that a sizeable minority of managers more than cover these costs through superior stock-picking skill rather than luck.

In light of the most recent literature, it is impossible to accept the assertion Litan, Mason, and Ayers make in their *Jones amicus curiae* brief that fund investors are irrational. They cite neither Berk & Green (2004), nor Wermers (2001), nor Wermers (2003), nor Kosowski, *et al*. (2006), but instead rely on discredited empirical work based on NAV returns. Their fallback argument is that investors are imperfectly informed, so much so that the market for fund shares "fails."[125] Of course fund investors are imperfectly informed, but knowing this they seem to protect themselves by following simple rules of thumb, such as weighting their new investment flows toward recent top performing funds. Ippolito (1992) shows that this rule of thumb would have rewarded investors who followed it while at the same time punishing poor performing fund managers and that *en masse* investors appear to follow it.

Both Ippolito (1992) and Sirri & Tuffano (1998) found that in allocating new money fund investors react distinctly to past performance, but that already invested money is somewhat sticky in that investors seem slow to withdraw it from poor performing funds. This finding is consistent with investors' rational recognition that they must incur transaction costs to move already-invested money, both in terms of search costs and the costs of redemption and reinvestment. What is more, Ippolito (1992) found that the return investors earned in funds that charged an up-front load was higher than for no-load funds. Apparently, fund investors are capable of limiting their investment in such funds to roughly equalize their net-of-load returns across load and no load funds. When "bad actors" are revealed, however, even already-invested money can flow out of troubled funds at an alarming rate that increases with the severity of the trouble. Using fund flow data from 1994 to 2004, Choi & Kahan (2007)[126] found that funds targeted in the mutual fund scandal experienced substantially greater outflows than those not targeted. They also found that outflows increased across targeted funds the more severe the scandal and the greater the harm to fund shareholders.

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[125] It is an odd market failure that persists over decades in the face of trillions of dollars of investment inflows.
[126] Stephen J. Choi and Marcel Kahan, *The Market Penalty for Mutual Fund Scandals*, 87 B.U.L. REV. 1021 (2007).

The mutual fund timing settlements could be used to generate further empirical evidence regarding investor rationality. Following the 2003 revelations of fund timing agreements in various fund families, then New York State Attorney General Elliot Spitzer announced settlements against their advisory firms that included large cash payments into the affected funds as well as reduced advisory fees for a fixed period of years.[127] The stated goal was to compensate injured fund shareholders. But given the open access nature of mutual funds, these remedies were unlikely to benefit investors. If, as is unlikely to be the case, the lump sum cash payments made by the advisers to their funds were completely unexpected and were made the moment the remedy was announced, existing fund shareholders at that moment would have benefited from the unexpected increase in NAV. But given the actual lag between the announcement of the settlement and implementation of the remedies, investors would have been fully able to foresee the cash payments in advance and very likely moved their money into the fund in expectation of capturing a share. Owing to fund flows, the rationality hypothesis predicts no investor earned an abnormal return. Similarly, no investor could possibly gain from the announcement that future advisory fees will be reduced. These "benefits," being foreseeable, will be entirely dissipated by a flood of new subscriptions in a race to first possession.[128]

It is clear that what investors own when they buy fund shares does not include an expectation of sharing in any abnormal returns to an active fund manager's superior stock picking skill. Fund flows dictate that the best shareholders can expect is a liquid investment in a well-diversified portfolio and the adviser's commitment to actively prospect for private information that generates occasional unexpected superior returns.[129] I refer to this as "state-of-the-art savings" as a short-hand.

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[127] See, e.g., Chris Serres, *Strong cleans up its act; During the past seven months, Strong Financial has slashed fees and improved performance as it waits to join the Wells Fargo family*, Minneapolis Star Tribune, Thursday, December 30, 2004, p. 1D; *Financial Markets; News In Brief*, Facts on File World News Digest, December 23, 2004, p. 1008B2.

[128] It would be unsurprising to find an increase in NAV returns to compensate shareholders for investing in a fund whose manager had been implicated in misdealing.

[129] For a discussion of the meaning of a well-diversified, or "efficient," portfolio, see, for example, Brealey & Myers, Principle of Corporate Finance (McGraw-Hill: 5th Ed., 1996). Investors' demand for unexpected positive abnormal returns is equivalent to saying they would like to wake up tomorrow and be richer than today. For the manager with average stock selection skill, the chance shareholders will be poorer will exactly offset the chance they will be richer *after flows*. For those with above average skill, a string of

B. The Irrelevance of Fees

Various regulators and commentators have suggested that the high fees advisers earn directly reduce investor returns.[130] Rather than compensating advisers for providing investors with a better but more costly product, the assumption is that high fees are a pure wealth transfer ─ "expropriation" ─ from investors to advisers with no positive influence on the total gains from trade. The underlying policy implication is that if advisers could be convinced or compelled to reduce their fees investor returns would rise. The discussion above regarding fund flows completely discredits this conclusion. Because fund inflows drive returns down to the point where investors just cover their best outside opportunities, the size of the fee advisers charge is irrelevant, at least as a first approximation.[131] Holding investors' expectations of manager stock picking skill and other factors constant between two funds, the fund with the lower fee will simply attract larger inflows in the process of equalizing investors' returns with their best outside opportunity.

A simple one-period model demonstrates this point. Whatever the level of assets in the fund at a given moment, the question rational investors face is how much additional capital, A, to contribute to a fund whose manager is expected to generate absolute dollar returns of R over the coming period. Any investor would prefer to buy just a single share and prevent others from entering the fund, but as long as entry is open all investors know they will share R in common with their fellow shareholders, and they will buy an additional share as long as the net return they receive exceeds their best outside alternative.

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good performance will lead investors to anticipate continued success and they will flood into the fund based on the expectation of positive abnormal returns.

[130] See the quote from Eliot Spitzer in the masthead of this essay. Recall the SEC's statement that "fees can have a dramatic effect on an investor's return. A 1% annual fee, for example, will reduce an ending account balance by 18% on an investment held for 20 years." SEC, Final Rule, Shareholder Reports and Quarterly Portfolio Disclosure of Registered Management Investment Companies, 69 Fed. Reg. 11244, 11245 (Mar. 9, 2004). See, also, John P. Freeman and Steward L. Brown, *Mutual Fund Advisory Fees: The Cost of Conflicts of Interest*, 26 J. CORP. L. 609, 620 (2001).

[131] I show *infra* at ? that investors probably benefit from higher fees under plausible circumstances.

To simplify without loss of generality, assume the fund has zero assets at time t_o and that it will be liquidated at time t_1. The advisory contract states that investors must pay the adviser a percentage fee, f, on total fund assets at time t_1. Assume this is the only expense to investors and that they have identical outside investments opportunities that will generate a rate of return, r. As in a money market fund, shares, S, are priced at one dollar each. Investors will continue to buy shares in the fund as long as the capital they contribute, $A \equiv S$, plus the dollar return they expect, R, less the fees they pay on both, are greater than or equal to the capital they could invest elsewhere, A, plus the dollar return they could earn on that capital, Ar. With open access, entry will continue until these two magnitudes are identical, as shown in the following equation:

$$A + R - Af - Rf = A + Ar \tag{1}$$

Rearranging this equation to solve for A we get:

$$A = R(1-f)/(r + f) \tag{2}$$

Plugging in different values for f shows that a reduction in f increases A but has no effect on Ar. Suppose R = \$100, $r = 0.1$, and $f = .01$. Solving for A we find that investors will contribute capital of \$900 to the fund at time t_o. At time t_1 the fund is worth \$1000. Investors then pay a fee equal to f x \$1000, or \$10. This leaves them \$990, which equals their original \$900 capital investment plus a ten percent return on that investment. Now suppose R = \$100, $r = 0.1$, and $f = .005$. Solving for A we find that investors will contribute capital of \$947.61 to the fund at time t_o. At time t_1 the fund is worth \$1047.61. They then pay a fee equal to f x \$1047.61, or roughly \$5.24. This leaves them \$1042.37, which equals their original \$947.61 capital investment plus a ten percent return on that investment. The rate of return investors earn on their capital investment never changes. Owing to fund flows it is a constant ten percent. This is unsurprising, as r is set by forces outside the fund industry.

Again rearranging Equation (1) shows that the net-of-fee dollar return to the fund, $R(1 - f)$, exactly equals total cost to investors, consisting of the total dollar fees they pay, Af, plus the total dollar return they could earn outside, Ar:

$$R(1 - f) = Af + Ar \qquad (3)$$

To calculate the per share net-of-fee return divide both sides of Equation (3) by $A \equiv S$ to get:

$$R(1 - f)/S = f + r \qquad (4)$$

This equation says that investors will buy additional shares until the net-of-fee return per share is just equal to the marginal fee they pay on an additional dollar of contributed capital plus the outside return they would earn on that dollar. The equality is illustrated in Figure 2. The horizontal axis depicts total contributed assets, A, which by definition is identical to the number of shares issued, S. The downward sloping line $R(1 - f)/S$ shows the amount investors are willing to pay for a given total number of fund shares rather than invest the same capital outside.[132] Investors will continue to buy shares until the benefit accruing to the marginal share, $R(1 - f)/S$, intersects $f + r$, which reflects their marginal cost. This occurs at S_1. It is easy to see that if f increases (falls), investors will buy fewer (more) shares and total assets, A, will grow. This is exactly what Sirri & Tuffano (1998) found ─ a fund that increased total fees by one standard deviation above the mean of all funds would have experienced a substantial reduction in fund inflows

While it is true in the above example that the adviser earns higher total fees as f rises, this in no way comes at fund shareholders' expense, and in any event it is a simple artifact of how the example is constructed. By assumption, the example assumes there is no connection between f and R. In a competitive industry it would be unsurprising to find that R increases with f through some range.

C. Scale Economies in Fund Management

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[132] $R(1 - f)/S$ is the equivalent of an all-or-nothing demand curve for shares.

Following soon after the *Wharton Report*, the SEC's own *Public Policy Implications of Investment Company Growth*, a report to the House Committee on Interstate and Foreign Commerce,[133] threatened fee regulation unless industry members policed themselves by lowering fees to account for scale economies. The industry capitulated, with many fund advisers adopting stepped down management fees. In pushing for stepped-down fees, the SEC completely failed to recognize that fund flows would preclude either existing fund shareholders or the universe of potential fund investors from enjoying higher returns as a result of declining fees. Any attempt by the advisory firm to pass these savings along to investors through reduced fees is futile in an open-access fund. For given expectation of manager stock-picking performance, lower fees — which investors at-large can fairly anticipate — simply increase the flows necessary to compete away all returns in excess of r. The most obvious effect of stepped down fees is that total assets under management will increase, no doubt along with various transaction and administrative costs such as the expense of processing a larger number of accounts noted by Judge Pollack in *Gartenberg*.

To quote Nobel Laureate George Stigler, "[t]he theory of the economies of scale is the theory of the relationship between the scale of use of a properly chosen combination of all productive services and the rate of output of the enterprise."[134] Scale economies exist when the average cost of producing an economic good consumers demand declines as *output* of that good rises. But assets-under-management is not an output investors demand, nor is it an accurate characterization of what fund advisors produce. Indeed, all else being equal fund shareholders are worse off as assets-under-management increase. Simply because the average cost of management declines as total fund assets rise is no reason to conclude asset-based advisory fees should decline as fund assets rise. To draw such a conclusion requires an economic theory of contract choice defining the good being transacted, identifying the various parties' incentives, and explaining how alternative adviser compensation affects the cost of transacting and the joint gains from trade.

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[133] Washington D.C.: U.S. Government Printing Office (December 2, 1966).
[134] George Stigler, THE ORGANIZATION OF INDUSTRY (The University of Chicago Press, 1968: Chicago), at 71.

No doubt fund management is subject to fixed costs that do not vary with output. Through some range of output this will cause average cost to fall. But a firm's rate of output is determined by its marginal cost, and without carefully identifying the output it is impossible to draw sound inferences about marginal costs, such as whether or not they are sufficiently high to generate diseconomies of scale. Even if the output fund advisers (or the firms in any other industry) produce can be specified with tolerable precision it is extremely difficult to empirically identify economies of scale. One important reason for this is that opportunity costs do not appear on accounting ledgers, being too difficult to measure. In Stigler's words "the central concept of the theory ─ the firm of optimum size ─ has eluded confident measurement. . . . [A]ll economists have been ignorant of the optimum size of the firm in almost every industry all of the time."[135] It is unwise to ask judges to identify scale economies, or to base civil liability on their presence or absence, when even the best economists have been unable to do so.

The model of perfect competition tells us that if scale economies exist at the current scale of industry firms, competition will drive the industry to be dominated by one or several large firms, which is clearly not the case in the mutual fund industry. This process of competition between advisers for investor business would operate even if investors were irrational or implausibly ignorant. Those funds that happened to attract additional inflows, even if by accident, would prosper and grow compared to their less fortunate rivals. The competitive environment selects survivors.[136]

A legitimate question under the circumstances is what effect stepped-down advisory fees might have had on the industry. Because fund shareholders bear expenses in common, fees that step down with assets under management cause the average fee, which is what shareholders pay at the margin, to decline faster than the marginal fee, which is what the adviser receives at the margin. If, for example, the fee on the first $500 million of assets is 50 basis points and the fee on the next $250 million of assets is 42.5 basis points, the shareholder placing the last dollar in a $750 million fund pays the same

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[135] George Stigler, THE ORGANIZATION OF INDUSTRY (The University of Chicago Press, 1968: Chicago), at 71. In discussing how to identify scale economies Stigler argued that the only workable test is to observe what scale of firms survive in a competitive industry and conclude that that is the scale at which any economies of scale are exhausted, i.e., the optimum scale. This came to be known as the "survivor test." At 71-94.

[136] See Armen A. Alchian, *Uncertainty, Evolution, and Economic Theory*, 58 J. POL. ECON. 211 (1950).

average fee of 47.5 basis points paid by existing shareholders.[137] The added benefit to the adviser from the marginal invested dollar between $500 and $750 million in assets is only 42.5 basis points.

Figure 1 illustrates the economics of stepped-down fees. As before, the line $f + r$ reflects investors' constant marginal cost in assets. With a constant fee, the average fee is identical to the marginal fee; what investors pay at the margin (total fees divided by total outstanding shares) is just equal to what the adviser receives. Investors will buy S_1 shares, where the marginal fee they pay (plus r) is just equal to the marginal benefit they receive $R(1-f)/S$. Now suppose a regulator mandates (or threatens) stepped down fees. Following the 1970 amendments to the ICA, many funds imposed fees that declined in discrete steps, but for convenience I have assumed fees step down continuously in assets, so that the marginal fee schedule, mf', is a straight line. With stepped down fees, as investors buy additional shares they pay a fee equal to af' because they bear total fees in common. Figure 2 shows that investors will by S_2 shares, where the marginal fee they pay is just equal to the marginal benefit they receive.

The very least investors expect (what they *demand*) from an actively managed fund is state-of-the-art savings. In addition, as others have suggested, investors want "high quality" management. The problem is that quality is unobservable except after a long course of dealing. Although it is difficult to know how the cost to advisers of producing a high-quality good varies at the margin as total assets increase, it is likely that in long-run equilibrium the marginal cost of high-quality management, MC, increases in assets and intersects $R(1-f)/S$ at S_1, reflecting efficient resource allocation. This is not

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[137] The table shown above from *Gartenberg* is modified below to show how the average fee investors pay declines as total assets rise. The calculation assumes total assets in each fee step are at the maximum for that step:

Average Daily Value of Net Assets	Total Assets	Marginal Advisory Fee	Average Advisory Fee
< 500 million	$500 million	0.50%	0.50%
> $500 million and < $750 million	$750 million	0.425%	0.475%
> $750 million and < $1 billion	$1 billion	0.375%	0.45%
> $1 billion and < $1.5 billion	$1.5 billion	0.35%	0.417%
> $1.5 billion and < $2 billion	$2 billion	0.325%	0.394%
> $2 billion and < $2.5 billion	$2.5 billion	0.30%	0.375%
> $2.5 billion	$ 3 billion	0.275%	0.358%

only because administrative costs are likely to increase at an increasing rate in total assets (owing in part to the cost of processing additional accounts) but also because large funds face higher transaction costs trading portfolio securities, and these costs should also increase at an increasing rate in total assets.[138]

With stepped-down fees and larger assets of S_2, the adviser's marginal cost of providing high-quality management, MC, will exceed mf'. Note that the adviser would prefer a smaller fund because marginal cost at S_2 exceeds its marginal benefit. With quality being unobservable, advisers' likely response will be to cut quality to reduce marginal cost to MC′, such that MC′ $= mf'$ at S_2. Doing this equates the adviser's marginal benefit from additional assets with its marginal cost. The striking result is that shareholders not only suffer an unobservable reduction in quality but that they overpay for the quality they actually receive. This is because at S_2 the marginal shareholder is willing to pay af' to enter, which is more than the manager's marginal cost. In economic textbook terms, this is a garden variety externality. Stepped-down fees appear to create a conflict of interest between shareholders and managers that does not exist with constant fees.[139]

A test of the open access hypothesis could be performed by examining the effect of stepped-down management fees on the portfolio inflows that follow superior performance. All else being equal, it predicts that stepped-down management fees will lead to larger portfolio inflows following superior performance because greater inflows will be required to bring investors expected abnormal returns to zero. Funds with stepped-down fees should be larger, on average, as a function of cumulative superior performance.

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[138] Using data from 1962-1999, Joseph Chen, Harrison Hong, Ming Huang, and Jeffrey D. Kubik, *Does Fund Size Erode Mutual Fund Performance? The Role of Liquidity and Organization*, 94 A.E.R. 1276 (2004), find evidence of diseconomies of scale in fund management, which they attribute to increased trading costs associated with liquidity and price impact.

[139] There are any number of ways an adviser can cut quality without being immediately detected. One is to engage in a strategy of "closet indexing" by secretly following a published market index. Another is to engage in side deals with large shareholders that expropriate investor wealth, possibly including "sticky asset" agreements in exchange for "fund timing" privileges, as Spitzer alleged in the mutual fund scandals. It is, of course, impossible to ascribe causation, but it is not implausible that the mutual fund scandals were the eventual consequence of the conflict of interest engendered by the imposition of stepped-down advisory fees.

The increase in fund size occasioned by stepped-down fees may have had the paradoxical effect of raising the minimum viable scale for new firms to enter and reducing the number of funds or fund families.[140] It may be that stepped down management fees have promoted industry incumbents by raising barriers to entry and by increasing total industry assets relative to other savings vehicles such as bank savings accounts, life insurance, and real estate.[141]

D. Quality Assurance

Recall Myth 4, which says that the much lower fees private money managers earn for managing institutional portfolios ─ those held by pension plans, insurance companies, and trust funds ─ are a proper metric for the fees fund advisers would charge if fee negotiations occurred at arm's length.[142] The normative policy implication is that the prospect of suits for excessive fees benefits investors by driving fees down. But if advisory fees are irrelevant to the returns rational, fully-informed shareholders earn, as shown above, the primary effect of excessive fee suits that do not require a demonstrable fiduciary breach is simply to tax advisory firms. By relaxing the assumption that investors are fully informed, this passage shows they can benefit from *higher* fees.

An implicit assumption many of the critics of fund advisory fees make is that fund management is a "commodity."[143] It would be difficult to find an industry that departs more radically than the mutual fund industry from the textbook model in which goods of known quality are traded by well-informed consumers and competition ensures price is equal to marginal production cost. Rather than being a commodity, or what economists call a "search good" ─ one whose quality public investors can costlessly identify at the point of sale ─ fund management is better seen as an "experience good" ─ one whose quality is costly for investors to identify at the point of sale and even after an extended

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[140] Many fund mergers and liquidations have resulted from new fund offerings failing to gather enough cash flows to continue. See Investment Company Institute 2004 *Index of Mutual Funds Fact Book,* Chapter III ,p. 40. Available at: http://www.ici.org/pdf/2004_factbook.pdf.
[141] To the extent that substantially more investment dollars came into the fund industry as a result of stepped-down fees, it is possible investors opportunity rate, r, was bid up, in which case they would have benefited over the long run from the creation and growth of open-end funds.
[142] Freeman & Brown (2000).
[143] Freeman & Brown (2000).

holding period.[144] Where fund assets are risky, fund returns noisy, and monitoring costly, it is impossible for investors to accurately assess manager quality ex ante and difficult for them to do so ex post.

Ippolito (1992) formally recognized investors face substantial costs assessing fund quality. After extensive empirical analysis of the relationship between fund performance and subsequent fund flows, he found that investors rationally react to measures of high and low quality. Sirri & Tuffano (1998) concluded that investor search costs play an important role in explaining fund flows and that investors "do not simply view their mutual fund purchase decisions as a choice among identical commodity products in which price (the advisory fee) is the primary consideration."[145] Even Litan, Mason, and Ayers recognize the quality assurance problem in their *Jones v. Harris amicus* brief, although they justify their support for *Gartenberg* by relying on Freeman & Brown (2001), who incorrectly assert fund management is a commodity.

Those who invest in mutual funds have no way of knowing whether the adviser will be diligent and entrepreneurial in managing the portfolio or complacent and devoid of insight. Maintaining a well-diversified portfolio in a shifting securities market takes substantial managerial effort and skill, and prospecting for opportunities to profit from mispriced securities is at least as demanding. Shareholder monitoring to prevent adviser shirking is an especially troublesome problem for those who invest in actively managed funds because their managers can easily save effort by secretly tracking a market index that reflects the purported style of their fund while collecting a premium fee designed to compensate for high-quality management. A large-cap equity fund manager, for example, might simply mimic the composition of the S&P 500 and collect a fee in the neighborhood of 75 basis points rather than the ten basis points many index funds charge. Owing to the race to first possession described above, shareholder returns in a high-quality fund are likely to track the market index for an extended period. An adviser might be able to provide low-quality management for a considerable time before large numbers of investors catch on.

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[144] Philip Nelson, *Information and Consumer Behavior*, 78 J.P.E. 311 (1970).
[145] Erik R. Sirri and Peter Tuffano, *Costly Search and Mutual Fund Flows*, 53 J. FIN. 1589, 1597 (1998).

Aside from garden-variety shirking, the adviser might cut quality by failing to deal candidly with the fund's outside board members in fee negotiations, or otherwise, or even by engaging in self-dealing that expropriates shareholder wealth. The heart of the ICA is aimed at adviser self-dealing,[146] and if adviser quality in this sense was easily monitored there would be no need for its protections.

In open-end mutual funds, shareholder redemption is the primary mechanism to punish adviser misbehavior. As an adviser's performance wanes relative to investors' outside alternatives, the fund will experience either lower inflows than otherwise or substantial attrition and even affirmative outflows (Ippolito (1992)). Where investors face costly information, this mechanism is incremental and subject to the vagaries of noisy performance and transaction costs and may therefore be far from immediate. In other cases, as where the adviser faces public allegations of self-dealing, the termination mechanism appears to be swift.[147] Another mechanism, potentially even more immediate, is at-will termination of the advisory contract by outside directors.

At first glance, the ICA's mandate that the fund and the advisory firm be vertically disintegrated and that the advisory contract be terminable at-will by the board or shareholders "on not more than sixty days' written notice to the investment adviser" might seem alarming.[148] After all, the advisory firm creates and promotes its managed funds from their inception and makes long-term relationship-specific investments in them.[149] Ease of termination might give rise to opportunistic behavior by outside board members[150] or even by dissident shareholders. But given the difficulty investors face assessing management quality ex ante, ease of termination is an important predicate to quality assurance even if it seldom occurs in practice.

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[146] See *supra* at n. ?

[147] See Stephen J. Choi and Marcel Kahan, *The Market Penalty for Mutual Fund Scandals*, 87 B.U. L. Rev. 1021 (2007) (funds managed by advisers publicly accused of self-dealing experienced massive redemptions).

[148] 15 U.S.C. § 80a–15(a)(3).

[149] See Benjamin Klein, William Crawford, and Armen Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J. LAW & ECON. 297 (1978) (providing an economic analysis of the incentive problems that arise between contracting parties from investment in specific assets.

[150] See, e.g., Robert A. Robertson, FUND GOVERNANCE: LEGAL DUTIES OF INVESTMENT COMPANY DIRECTORS (Law Journal Press, New York: 2006), at 6.03[5], p. 6-50.6, n. 144 (opportunistic termination arguably occurred in a case involving the Navellier funds. Navellier v. Sletten, 262 F.3d 923 (2001).).

In addition to ease of termination, the adviser must have something substantial to lose in the event shareholders or outside members of the board detect low-quality management. If the advisory fee is equal to the marginal cost of high-quality management, the adviser may have more to gain by reducing quality, saving on management costs, and earning a one-time profit until cheating is finally detected. A well-known solution to the quality assurance problem in labor markets is an "efficiency wage," developed by Akerlof & Yellen (1986)[151] and others, wherein employers pay employees premium wages in the face of uncertainty about labor quality. This ensures employees have much to lose from cutting quality because, if detected, the employer terminates them and they suffer sustained unemployment.

Klein & Leffler (1981) provide a more general solution to the quality cheating problem.[152] In their model, consumers who want high-quality goods buy from reputable producers. They pay a premium price above the producer's cost of high-quality production and implicitly threaten the producer with termination in the event they detect cheating. Depending in part on the time it takes consumers to detect low quality, wealth maximizing producers will continue to provide high quality only if the discounted present value of the ongoing premium stream exceeds the one-time gain from cheating. Competition between high-quality producers leads them to make up-front investments bonding their reputations equal to the discounted present value of the quality assuring price premium, thereby assuring a zero-profit equilibrium.[153] The bond takes the form that maximizes value to consumers subject to the constraint that it has no salvage value to the producer if he is detected cheating.

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[151] George A. Akerlof and Janet Yellen, EFFICIENCY WAGE MODELS OF THE LABOR MARKET (Cambridge: Cambridge University Press, 1986)

[152] Benjamin Klein and Keith B. Leffler, *The Role of Market Forces in Assuring Contractual Performance*, 89 J. POL. ECON. 615 (1981). Based on a recent analysis of citations, this article ranked fifty-ninth among all articles published in forty-one prominent economics journals between 1970 and 2002. E. Han Kim, Adair Morse, and Luigi Zingales, *What Has Mattered to Economics Since 1970* (Nat'l Bureau of Econ. Research, Working Paper No. W12526, 2006), *available at* http://ssrn.com/abstract=931371.

[153] Brandname investments might include such things distinctive signs and globes that help consumers identify the product (McDonald's Golden Arches being the classic example), various forms of advertising such as payments to celebrities for product endorsements (prohibited by the ICA), and possibly even a long history of fair dealing as where a firm touts itself as having been in business for 50 year. Brandname investments are not the only form of up-front capital investment that can assure quality, but they are regarded as an important form. See, e.g., Stephen M. Horan and D. Bruce Johnsen, *Can Third-party Payments Benefit the Principal? The Case of Soft Dollar Brokerage*, 28 INT'L. REV. OF LAW & ECON. 56 (2008).

A simple numerical example demonstrates the point in the context of fund advisory services. Purely for expositional convenience, the example completely ignores the details of how high or low quality management affects fund returns and flows. I take as given that fund investors are better off with high-quality management, that it takes time for them to assess the difference and to terminate a low-quality manager, and that the cost of suing for breach of contract or other civil remedies is prohibitive. Assume the fund has total-assets-under-management of $100 and that the cost to the adviser of providing high-quality management is 80 basis points, or 80 cents per year, while the cost of low-quality management is 50 cents. These costs are in excess of what the manager would incur working outside the fund industry and, similarly, the fees they stand to earn are in excess of what they would earn outside. Assume a fund adviser that provides low quality management will embezzle $1.49 and that shareholders are able to detect this only after the first fee payment, allowing the manager to walk away with $1.49 plus whatever he receives in fees net of management costs.[154] Having been discovered embezzling he never works in the industry again.

Preferring high-quality management, shareholders (or their representatives on the board) hire a manager who promises high quality. He agrees to work for 80 basis points, which exactly covers his management costs. He might earn a decent living by being honest, but he can do better by cheating. Rather than provide high quality he provides low quality, saving 30 cents on management costs. At the end of the year he collects 80 cents in fees, for net fees of 30 cents, and walks away with an additional $1.49 in embezzled funds for a profit of $1.79. Although he never works again in the industry, he can work outside the industry for lower wages and enjoy the income on a $1.79 investment, say, in real estate.

Because of the cheating problem, shareholders can do better by refusing to pay a fee in excess of what a low-quality manager charges. In this case they pay the manager 50 cents in fees at the end of the first year, which exactly covers his management costs. He then walks away with $1.49 in embezzled funds. Shareholders come out ahead by 30

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[154] In this case cheating involves a direct wealth transfer from shareholders to the manager. A manager intent on embezzling funds must spend resources hiding his misconduct, which explains why even an embezzler must incur management costs. If it seems implausible for an adviser to jeopardize its management contract to embezzle $1.49, assume the fund has $1 billion in assets rather than $100.

cents compared to paying a high-quality management fee. Under these circumstances low-quality management drives high-quality management from the market, even though high-quality management would increase the gains from trade and shareholder wealth.

The solution proposed by Klein & Leffler (1981) is a self-enforcing agreement. Shareholders instead offer to pay a manager who promises high quality a premium fee of $1.00 per year as long as he refrains from cheating. If he agrees but cheats, he collects his $1.00 fee at the end of the year, nets out the 50 cent cost of low-quality management, embezzles $1.49, and walks away with a total of $1.99. Alternatively, if he follows through on his promise to provide high quality, at the end of the year he collects $1.00 in fees, nets out the 80 cent cost of high-quality management, pockets the 20 cents profit, and continues to work for another year. Assuming he intends to work forever and the appropriate discount rate is 10%, at the moment he commits to honest dealing he realizes a perpetuity of 20 cents per year in premium fees.[155] This provides him with a one-time increase in wealth of 20¢/0.1 = $2.00. It is easy enough to see under the circumstances that it never pays him to cheat because he prefers a $2.00 profit at time t_o to $1.99 at time t_1. He will always find it in his interest to deliver on his promise to provide high quality.

There is one more step to the example because there can be no profits to the manager in long-run competitive equilibrium. Managers will compete for the right to increase their wealth by $2 above the opportunity cost of providing high-quality management, but they cannot offer to cut their fee below 100 basis points. To see why, suppose a manager approaches shareholders offering to work for 97 cents and to provide high quality management. His promise is incredible because shareholders know that if he cheats he ends up with a surplus of $1.96 ─ $1.49 embezzled plus 47 cents in excess fees. At a 10% discount rate, the time t_o present value from cheating is $1.96/1.1 = $1.78. If he maintains quality his wealth increases at time t_o by only $1.70, which is the discounted present value of a 17 cent per year premium perpetuity. He will invariably cheat. Having

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[155] The formula for calculating the value of a perpetuity (a perpetual annuity) is remarkably simple. The capitalized value $W = I/r$, where W is wealth, I is income, and r is the discount, or interest, rate. Although an individual manager will not live forever, an advisory firm that is incorporated and properly organized might. What is more, the ICA allows the adviser to indirectly transfer the advisory contract by selling control in itself to another firm that can carry on the business. In any event, at a discount rate of 10%, most of the present value of a perpetuity occurs in the first 30 years, which is within the working time horizon of an individual.

all the necessary information at hand, even imperfectly informed shareholders will foresee this and refuse to enter into the contract.

Rather than competing by cutting fees, managers must compete for shareholder business along non-fee dimensions. The simplest way is for the adviser to offer shareholders $2 for the right to manage the fund for a recurring fee of $1.00 per year.[156] This up-front payment exactly compensates the fund for its 20 cent per year liability to the adviser in premium fee payments, in essence bonding the manager's promise to provide high quality. Net of the manager's payment, the fund makes the same present value of fee payments as it would if it contracted for high-quality management at 80 cents per year, but in the process it gains assurance that the adviser will not cheat. By hypothesis, shareholders are better off with high-quality management and the manager is no worse off. With an increase in total gains from trade, some of the gains from adopting a self-enforcing agreement will no doubt accrue to advisory firms so that both parties benefit.

One important insight from Klein & Leffler (1981) is that consumers associate a low price with low quality and arbitrary price reductions with quality cheating. This explains why consumers routinely rely on a relatively high price as a signal of quality for a host of brand name goods, from aspirin, to golf balls, to gasoline, to perfume. Public mutual fund management is doubtless an experience good, and the mechanisms used to assure quality are part of a theory of contract choice that explains why fund advisers invest heavily in their brand names, why adviser compensation takes the form it does, and, most important, why advisers are reluctant to cut their fees. Premium fees reflect quality assurance, not adviser expropriation of shareholder assets.

Those who suggest the lower fees private money managers charge to institutional clients are a valid metric for assessing mutual fund advisory fees fail to recognize that pension sponsors and insurance companies face far lower costs assessing manager quality than do public mutual fund investors. Institutional clients have the wherewithal to directly monitor their managers and in any event routinely hire sophisticated consultants to help them do so. For them, quality assurance is unnecessary and lower fees are exactly

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[156] Under the ICA, advisers must provide a minimum up-front capital contribution of $100,000 and must have firm agreement from no more than 25 responsible investors for an additional $100,000 before they can solicit subscriptions from public investors. 15 U.S.C. § 80a–14(a).

what we should expect, but of course to keep a proper accounting we must deduct their monitoring costs from reported portfolio returns to determine the returns they actually realize.

A second important insight from the Klein & Leffler (1981) model is that absent a demonstrable reduction in quality it is in investors best interest for the advisory contract to be renewed. Shopping the contract around is the worst thing the outside board members could do if investors value quality-assurance. Because adviser quality is costly to assess, high fees benefit fund investors by ensuring the adviser has too much to loose from cheating. In the example above, the manager paid $2.00 into the fund for the right to earn a 20 cent per year fee premium. The fee premium can be seen as a *quality-assuring rent* and the manager's $2.00 up front payment can be seen as a *quality-assuring bond*. An important question is whether fund advisers actually make such investments to bond their promise to provide high quality in exchange for premium fees. Ippolito (1992) was unable to find clear evidence to indicate such bonding occurred. But there is no doubt advisory firms spend substantial resources creating and promoting new funds from their inception and that the invested resources are specific to the managed fund, that is, they cannot be salvaged if investors detect cheating and withdraw their money or the fund's board terminates the advisory contract. Much of the up-front investment appears to be a fund- or fund family-specific investment in reputational capital. There is no doubt the mutual fund industry relies heavily on the brand names they generate in the process. In fact, cheating by an adviser in one fund in a family has been shown to spill over to negatively affect flows to other family members.[157] Perhaps one of the clearest examples of up-front performance bonding is the regular ex post fee waivers many advisers provide.[158] Other examples include advertising expenditures, as reported by Sirri & Tuffano (1998), and possibly the occasional decision by fund advisers to close successful funds to new investors.[159]

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[157] Stephen J. Choi and Marcel Kahan, *The Market Penalty for Mutual Fund Scandals*, 87 B.U. L. Rev. 1021 (2007).

[158] Susan E. K. Christoffersen, *Why Do Money Fund Managers Voluntarily Waive Their Fees?*, 56 J. FIN. 1117, 1121 (2001).

[159] Funds that close to new investors normally remain open to additional investment from existing shareholders. In closing the fund, the adviser limits the inflow of investment dollars, reducing total advisory fees in the process and possibly allowing existing shareholders to capture additional returns by

If fees have no direct effect on fund returns, what indirect effect can premium fees be expected to have as a result of the quality assurance they provide? Recall Ippolito's (1992) finding that fund shareholders earn sufficiently higher returns in funds that charge an up-front load to equalize net returns with no-load funds. This and other evidence strongly suggests investors adjust their participation across mutual funds to account for various benefits and costs. The same should be true for the quality of fund management as signaled by premium fees or various fund-specific reputational investments.[160] The important point is that higher quality should be associated with *lower* fund returns.

This is true for several reasons. First, to the extent investors believe they will get a better product free from manager shirking, self-dealing, and other forms of misbehavior (any of which might cause the fund to implode at a later date), they will compete by entering the fund and bidding down reported returns. Fund shareholders may be more than happy to tolerate lower reported steady-state returns in exchange for a guarantee that their retirement savings will be safe from adviser misbehavior. Second, quality assurance reduces the costs investors must incur searching between funds and monitoring the adviser. These cost reductions will lead them to compete by entering the fund and bidding down reported returns. A proper accounting should include the reduction in monitoring costs investors enjoy in any calculation of the returns actually they realize. Unfortunately, it is difficult to measure the search and monitoring costs investors avoid as a result of quality assurance, but there is good reason to believe the number may be substantial. This point bears emphasizing. For many investors, mutual funds are the preferred vehicle for retirement savings precisely because investors can comfortably avoid having to devote constant attention to their portfolio and the agents to which they entrust it. The benefits from quality assurance in terms of monitoring costs avoided must be added to reported fund returns to determine the returns investors actually realize.

One quality signal investors are likely to rely on is the size of the management fee. In the Klein & Leffler (1981) model, higher product prices signal higher quality, and there is every reason to think this applies equally to fund advisory fees. Evidence

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limiting competition from outside investors. Whether or not existing shareholders experience additional returns, the adviser clearly loses advisory fees compared to the but-for world.

[160] Ippolito (1992) used past superior performance as a proxy for fund quality with reasonable success. But past performance is a crude proxy at best, among other reasons because it can arise by luck from manager cheating in the form of inefficient increases in portfolio risk.

reported by Carhart (1997), Malkiel (1995), and others showing that higher fees are associated with lower NAV returns is perfectly consistent with the reaction we would expect to quality assurance from rational investors who recognize their own ignorance. A testable implication is that the negative relationship between NAV returns and advisory fees should decline or disappear if a suitable proxy for adviser quality is included as an independent variable ("factor") in the fund returns regressions in Jensen (1968) and Carhart (1997).

Deli (2002) found that advisers to closed-end funds, which cannot suffer fund outflows for adviser misbehavior, earn higher marginal fees than advisers to open-end funds. Where it is more costly to discipline manager misbehavior after being detected, the potential penalty must be larger to effectively assure quality. Deli also found that funds with greater volatility owing to a particular investment style ─ a proxy for investor monitoring costs ─ had higher marginal fees. Deli's findings are consistent with a general implication of the Klein & Leffler (1981) model, which is that the longer it takes consumers to detect quality cheating ─ and the harder it is for them to withdraw their patronage ─ the larger the price premium necessary to assure quality. This implies that where fund returns throughout the market become more volatile over time, the size of the quality-assuring performance bond can be expected to rise. We would therefore expect to see an increase in fee waivers and other forms of reputation-specific investment in times of greater volatility of industry-wide fund returns.

A number of commentators have suggested that asset-based advisory fees suffer from serious conflicts of interest because the adviser's sharing rate is too low and because it only loosely ties manager compensation to investment performance, tempting managers to engage in self-dealing and other forms of misbehavior. Among other things, advisers might grow assets under management, and total dollar fees, through means other than investment performance.[161] For example, they might use fund assets to promote the sale of fund shares.[162] Alternatively, because there is a tournament feature to fund performance rankings, to attract subsequent fund inflows managers might inefficiently increase portfolio risk in hopes of salvaging their ranking after initial poor

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[161] Deli (2002), , Elton, Gruber, and Blake (2003).
[162] See, e.g., D. Bruce Johnsen, *The SEC's Mistaken Ban on Directed Brokerage: A Transaction Cost Analysis*, 40 AZ. STATE L. J. 1241 (2008).

performance.[163]   Elton, Gruber, and Blake (2003) believe so-called "incentive fees" provide superior managerial incentives.[164] With incentive fees the adviser is paid a much larger share of each year's excess returns relative to a stated benchmark, and also suffers a reduction in fees for falling below the benchmark. By conditioning the adviser's compensation exclusively on investment performance, incentive fees are said to encourage the adviser to devote more effort to stock picking.

It bears emphasizing that the compensation an adviser earns from increasing assets under management by, say, $100 provides him with an increase in fees this year equal to $100f$, but if the increase persists the adviser earns an additional $100f$ in each subsequent period as long as its contract is renewed. If capital markets are even weak-form efficient in the traditional sense, securities prices follow a random walk and the expectation is that portfolio value at time t_1 will be the same as at time t_0. What virtually all commentators have failed to recognize is that the adviser's direct marginal compensation conditional on good behavior approaches f/r as the duration of its advisory role increases. If $f = 0.5\%$ and $r = 10\%$, the present value of this perpetuity is $5.00 or 5% of the one-time return.

In addition, as virtually all the empirical work on fund flows shows, a manager that generates superior returns will experience inflows that increase assets-under-management and further increase the present value of his marginal compensation, again conditional on good behavior. Based on elasticity estimates from Chevalier & Ellison (1997), a manager who outperforms the market by one percent and earns a 50 basis point fee will experience a marginal increase in wealth closer to seven percent. For a two percent abnormal return his wealth increases by over 8.5 percent.

Claims by financial economists that so-called "incentive fees" provide the adviser with superior motivation compared to asset-based fees are mistaken because they fail to recognize the back-end loaded structure of asset-based fees, which provide a powerful incentive for advisers to maintain quality. The prospect that misbehavior will result in the loss of trailing fees on the additional assets resulting from inflows further bonds the

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[163] Brown, Harlow, and Starks (1996) and Chevalier & Ellison (1997).
[164] See Elton, Gruber, and Blake (2003).

adviser's good faith performance.[165] Though advisers might have a marginal incentive to unduly promote the sale of fund shares, if they fail to follow through with superior performance even rationally ignorant investors will eventually withdraw their money and go elsewhere.[166]

With asset-based fees, the adviser accepts a stream of payments for good performance that is back-end loaded and contingent on continued good performance. This is both because manifestly poor performance will lead to fund outflows and a reduction in the asset base and because manifestly bad management can lead outside directors to terminate the contract and seek a new adviser. For fear of losing the stream of asset-based fees, the manager maintains quality and thereby benefits investors. With incentive fees, in contrast, each performance period begins anew, with little in the way of inter-temporal incentive alignment. An adviser paid on this basis might be tempted to engage in short-run maximizing behavior, say by inefficiently increasing risk, hoping for a lucky outcome, collecting a high fee as long as the bet pays, and then terminating when the bet fails. This strategy will be unprofitable for a manager paid an asset-based fee because failure will bring the loss of trailing fee payments. Far from being a contractual form that creates conflicts of interest or allows expropriation by fund advisers, asset-based advisory fees align adviser and investor interests.

To anyone familiar with the Coasian property rights approach to economic theory it should seem odd to suggest that two or more contractual forms would persist together over the long run with one of them providing superior incentives and payoffs; efficient contracts drive out inefficient contracts. A more likely explanation is that one contractual form dominates in some circumstances, while the other dominates in other circumstances.[167] The relevant question is not which contractual form is superior, but what circumstances drive the choice of contractual form. In an investment management universe where quality-assurance cannot necessarily be taken for granted, incentive fees

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[165] Elton, Gruber, and Blake (2003) recognize that managers paid an incentive fee are also paid what they and others call a "fixed" fee to ensure their compensation is never negative

[166] If the cost of sales effort necessary to increase fund assets by $100 exceeds the added fees of 50 cents per year for as long as investors can be fooled, a wealth maximizing manager will decline to make the investment. Better to invest the same capital increasing investment performance.

[167] It is of course possible that asset-based compensation is the low-quality contract form in a separating equilibrium. I thank Erik Sirri for this point. This seems unlikely because, as Elton, Gruber, and Blake (2003) and Deli (2002) point out, asset-based fees are far more popular than "incentive" fees.

will tend to be used where investors face low monitoring costs, possibly with the help of a well-motivated intermediary.

This proposition provides the basis for testable implications. Where investors or a specialized intermediary such as an advisory firm are in a position to actively monitor the hands-on portfolio manager to prevent short-term strategic behavior with negative long-run consequences,[168] the parties should be more inclined to rely on incentive fees to reward the portfolio manager rather than asset-based fees. For example, hedge fund shareholders and private equity investors are financially sophisticated and few enough in number that their collective action problem is less severe than for shareholders in public funds. These investors are in a better position to monitor their managers to prevent short-term strategic behavior. The quality assurance hypothesis predicts that hedge fund managers will tend to be paid using incentive fees rather than recurring asset-based fees, all else being equal. This implication is consistent with the weight of casual evidence regarding hedge fund manager compensation, which is widely known for giving the manager a substantial asset-based fee plus a large one-time share of each period's portfolio performance or portfolio performance relative to a benchmark.[169]

Putting hedge funds aside, the world of public funds can be broken down into stand-alone funds ─ in which the adviser is also the portfolio manager ─ and fund complexes ─ in which the adviser serves as a centralized intermediary capable of monitoring its employee portfolio managers or sub-advisers. The quality-assurance hypothesis predicts that portfolio managers in fund complexes will tend to be paid performance fees while the advisory firm earns exclusively an asset-based fee. The advisory firm is subject to the loss of future asset-based fees for manager wrongdoing and is no doubt capable of monitoring its portfolio managers to prevent misbehavior. In contrast, the adviser-managers of stand-alone funds will rarely be paid a performance fee because there is no intermediary to monitor the manager to prevent misbehavior. The prospect of losing future fees on past superior performance bonds the manager against bad behavior.

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[168] Brown, Harlow, and Starks (1996) provide evidence of one form of short-run strategic behavior.
[169] See Elton, Gruber, and Blake (2003) and Easterbrook in Jones v. Harris, 27 F.3d 627, 634 (2008).

Evidence in support of the hypothesis that asset-based fees fulfill a powerful bonding function comes from Brown, Harlow, and Starks (1996). These authors hypothesize that because investment dollars flow to recent top performing funds from among the field of all funds, managers will behave as if they are in a winner-take-all tournament. Those finding themselves behind midway through the tournament have an incentive to strategically manipulate portfolio risk in a way that is not necessarily in the interests of fund shareholders. Their examination of 330 growth-oriented mutual funds over the 1980-1991 period shows that managers who perform poorly relative to the field during the first half of the year tend to increase the riskiness of their portfolio during the second half, apparently in hopes of salvaging their performance ranking by year's end.

Of interest here, the authors note that this tendency is substantially reduced for "well-established" funds and especially for those having a history of superior past performance. This observation is consistent with the notion that an asset-based fee structure ameliorates conflicts of interest. With recurring asset-based fees, any increase in net asset value resulting from superior performance can be expected to persist, at least if security prices follow a random walk. The advisers to these funds therefore have a tangible expectation of receiving a large stream of future asset-based fee payments owing to superior performance in any given period. The loss to them of engaging in short-run strategic actions whose net present value for the fund is negative is substantially greater than for less-established funds. What is more, I would expect them to be hypersensitive to the prospect that outside directors will terminate their contract as a result of any impropriety resulting from a conflict of interest.

The Coasian property rights approach suggests that private parties will devise contracts and other form of economic organization to maximize the joint gains from trade subject to the constraint imposed by transaction costs. Recognizing that investors bear transaction costs in searching between funds and monitoring manager performance, Deli (2002) finds that the cross-sectional pattern of marginal adviser compensation is consistent with the theory of optimal contracting. He warns that any regulatory initiative aimed at protecting investors from "excessive fees' must carefully consider the potential costs and benefits of alternative fee structures."[170]

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[170] Delis (2002), at 111.

IV. Summary and Concluding Remarks

Correcting the four myths about fund advisory fees using basic economic theory provides remarkable insight into the U.S. Supreme Court's task in reviewing *Jones v. Harris*. I have shown that if investors are rational and fully informed, fund shareholders cannot expect to capture any abnormal return from their manager's superior stock picking ability because the level of fund advisory fees has no effect on shareholder returns. Whether fund management is subject to scale economies can be answered only once the output of fund management has been carefully specified. Assets-under-management is not the output. The primary effect of fees that decline as assets-under-management increase is simply to increase the size of the fund.

This essay suggests that a reasonable approximation of the *output* of fund management is state-of-the-art savings, including the adviser's commitment to prospect for ways to generate unexpected abnormal returns, and state-of-the-art organizational arrangements to ensure investors their savings will be safe from indolent or self-dealing management — what I characterize as *quality assurance.* Any attempt to mandate that advisers reduce fees is likely to injure investors by forcing advisers to reduce quality.

These and other insights rely on economic theory that has been found admissible in no end of judicial proceedings, not the least of which includes the large body of antitrust case law that has emerged over the past few decades. This case law recently culminated in *Leegin v. KSPS* (2007),[171] where the U.S. Supreme Court reversed its near-100 year precedent condemning resale price maintenance (RPM). Citing Coase's work on property rights and transaction costs, the Court found that manufacturer-imposed minimum resale prices might plausibly lead retailers to compete for customer sales in ways other than cutting the retail price. Because the manufacturer faces prohibitive monitoring costs, this can be the best way to ensure retailers provide customers with valuable but difficult-to-monitor special services. As a theory of contract choice, the quality-assurance explanation for why premium advisory fees benefit fund investors falls into the same general category as the Court's theory of RPM.

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[171] Leegin Creative Leather Products v. PSKS, Inc, 127 S. Ct. 2705 (2007).

The available empirical work in no way calls into question the proposition that investors are rational and collectively well-informed, in which case the level of fund advisory fees can have no effect on shareholder returns. More important, if investors are imperfectly informed owing to search and monitoring costs, widely accepted transaction cost economics suggests that premium advisory fees bond advisers' implicit promise to provide high quality and thereby reduce investors' search and monitoring costs. Given the quality assuring specific performance bond high-quality advisers must post, it is hardly surprising that their advisory contracts are almost invariably renewed. The empirical evidence equally supports this proposition. As an intellectual matter, inventive theories based on cognitive biases and investor irrationality should be avoided where widely-accepted and well-tested economic theory will do. As a legal matter, theories based on "behavioral economics" have no place in law courts. Even if it were true, as Litan, Mason, and Ayers argue in their *amicus* brief, that "behavioral economics has come to be an enormously important field of economic research," it has no place in legal proceedings. Law courts are an inappropriate forum to vet *avante garde* economic theory whose analytical contours have yet to be worked out and for which scientific testing is years away and far from inevitable.[172]

Litan, Mason, and Ayers support the traditional *Gartenberg* approach as an appropriate way to punish the "few bad actors" in the industry. At the same time, they argue that the much lower fees private money managers charge institutional clients are the proper benchmark by which to assess advisory fees under Section 36(b). Yet the use of this benchmark would punish virtually the entire industry of fund advisers, and if, as Litan, Mason, and Ayers acknowledge, investors have difficulty assessing fund quality, would very likely punish investors as well. What is more, one need not scratch far below the surface of the Section 36(b) case law to see that many cases have been brought

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[172] See Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579 (1993) (four factors for assessing the admissibility of scientific expert testimony are whether the body of theory on which the expert bases his testimony i) is generally accepted as reliable in the relevant scientific community, ii) has been the subject of peer review and publication, iii) is testable and has been tested, and iv) has a known or knowable rate of error). The inadmissibility of plaintiff's proffered experts figured prominently in the District Court in Jones v. Harris. Jerry N. Jones, Mary Frances Jones, and Arline Winnerman, Plaintiffs, vs. Harris Associates, L.P., Defendant, 2006 U.S. Dist. LEXIS 19632 (U.S. District Court for the Northern District of Illinois, Eastern Division).

against advisory firms that can by no plausible stretch of the imagination be seen as "bad actors."

Merrill Lynch, for example, was a pioneer in the money market mutual fund industry. Its products were wildly successful. Immediately after defending itself in four *Gartenberg* cases,[173] it found itself back in court defending a Section 36(b) claim in *Krinsk v. Fund Asset Management* (1987).[174] That case involved MLAM's Cash Management Asset Program (CMAP), which offered integrated services such as a securities margin account, a choice between one of three money market funds, and a Visa credit card and checking account. The CMAP included a patented sweep feature that cleared investors' cash balances out of liquid but low-yielding accounts at the end of each day and into higher-yielding but less-liquid accounts over night. This was one of the first business method patents ever issued, and surely cost Merrill dearly. As with MLAM's earlier money market funds, the CMAP was wildly successful. The fund grew accordingly, as did its total yearly fees, in spite of a declining fee schedule. Merrill has had to defend at least two additional Section 36(b) claims since that time.[175] In 2006, it finally pulled the plug, selling is asset management business to BlackRock, Inc., in exchange for a large minority stake in that firm.[176]

In light of Merrill's remarkable history of innovation and investor satisfaction, it would be difficult to argue with a straight face that it was a "bad actor" deserving of having to defend itself against excessive fee claims almost as a matter of routine. It is ironic that what has landed advisers in court is their very success as reflected by

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[173] Following the trial and appeal of *Gartenberg I*, Merrill Lynch Asset Management (MLAM) was forced to defend itself in *Gartenberg II* against a virtually identical set of claims, with the only difference being the time period over which MLAM earned the disputed fees. 573 F. Supp. 1293 (1983). Judge Pollack dismissed many of the claims under the doctrines of *res judicata* or *collateral estoppel*. 694 F.2d 923, 933 (1982). The outcome on the remaining claims was identical to *Gartenberg I*, with the plaintiff appealing the District Court's judgment and the Court of Appeals affirming.

[174] 654 F. Supp. 1227 (S.D.N.Y. 1987) (plaintiff alleged that defendants violated Section 36(b) claiming it had charged excessive advisory and distribution fees in violation of its), aff'd, 875 F.2d 404 (2d. Cir. 1989).

[175] Green v. Fund Asset Management, L.P., 147 F. Supp. 2d 318 (D.N.J. 2001) (the district court granted defendants' motion to dismiss plaintiffs claim under section 36(b) of the Investment Company Act of 1940 for breach of fiduciary duty and deceit), aff'd, 286 F.3d 682 (3d. Cir. 2002). In re Merrill Lynch Investment Management Funds Securities Litigation, 434 F. Supp. 2d 233 (S.D.N.Y. 2006) (district court granted defendants' motion to dismiss plaintiffs' claim that the distributor and investment adviser defendants violated Section 36(b) of the Investment Company Act of 1940 by charging "inflated" and "excessive" marketing and management fees).

[176] *Merrill and BlackRock Deal Draws Cheers on Wall St.*, The New York Times February 14, 2006, at 4.

investors' revealed preference. To my knowledge, no investor has ever brought a Section 36(b) claim against a fund adviser that negotiated an unusually high asset-based fee, say four percent, and then experienced substantial outflows. To the contrary, it is the very success advisers have had in attracting investors that has driven up their total fees and subjected them to 36(b) claims. The underlying argument is not that the fee rate is too high but that the contractual arrangement, according to which total fees depend on total assets, suffers from a crippling conflict of interest that inevitably leads to adviser self-dealing. As I have shown, this argument is completely inconsistent with standard economic theory and widely-accepted transaction costs analysis, both largely ignored in the scholarly literature, in regulatory pronouncements, and in judicial opinions under Section 36(b). Writing in 1968, Oliver Williamson's observations regarding the importance of transaction cost economics to antitrust enforcement is uncanny for its relevance to Section 36(b). In his words, "if neither the courts nor the enforcement agencies are sensitive to [transaction cost] considerations, the system fails to meet a basic test of economic rationality. And without this the whole enforcement system lacks defensible standards and becomes suspect."[177]

I have argued here that basic economic theory provides novel and profound insights into Section 36(b) fiduciary duty standard. Owing to their open access nature, mutual funds cannot possibly provide fund investors with an expectation of systematically capturing the rents accruing to their adviser's superior stock picking ability. The best they can expect is state-of-the-art savings on the efficient frontier, the chance to share in any unexpected superior returns while also suffering any unexpected inferior returns, and the assurance that their savings will be safe from expropriation and other forms of adviser misdealing. Indeed, Congress's objective in passing the '40 Act was to protect Americans' savings. With any expected abnormal returns subject to a race to first possession, mandatory reductions in the level of fees cannot benefit fund shareholders. If one takes seriously the notion that investors face costly information about adviser quality, mandatory fee reductions are likely to injure fund shareholders by generating a reduction in management quality.

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[177] Oliver E. Williamson, *Economics as an Antitrust Defense: The Welfare Tradeoffs*, 58 AM. ECON. REV. 18 (1968).

Given the open-access nature of mutual funds, Easterbrook's approach in *Jones v. Harris* is the only economically sensible way to understand Section 36(b)'s fiduciary standard if frivolous litigation that injures both advisers and fund shareholders is to be avoided. It is also the legally sensible approach. Once having imposed on fund advisers a fiduciary duty with respect to the receipt of compensation, there must be some way to constrain judges from indulging in hindsight bias when assessing claims for excessive fees. Once an adviser has created and promoted the fund, nurtured it through the public issuance of shares, negotiated the asset-based advisory fee, and experienced substantial fund inflows that dramatically increase total fees, it is all too easy for a judge to evaluate the adviser's compensation as if the adviser knew at the moment of negotiation exactly what the future would bring. Absent some kind of demonstrable fiduciary breach such as failure to inform, or bad faith, the economically complex and protracted inquiry *Gartenberg* requires places far too much responsibility on judges ill-trained to assess the relevant issues. Only in the rare cases in which such "procedural" failures can be proved should courts make such detailed inquiries. This approach has the prudential benefit of focusing the court's evidentiary proceedings on the causal relationship between the alleged breach and the excessive fees charged to the plaintiff.
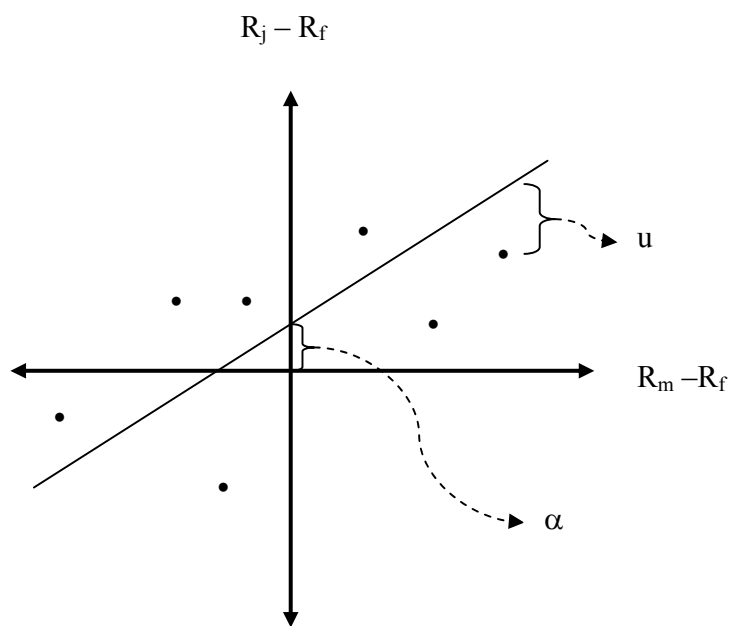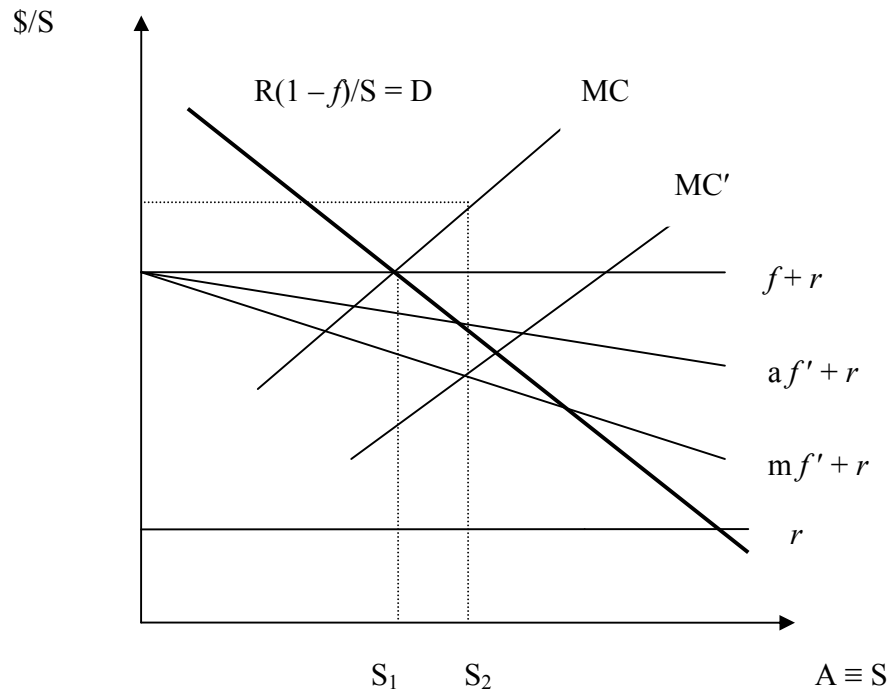
Figure 1: Regression Line

Figure 2: The Effect of Fund Flows