

# Status Quo Bias in the Mutual Fund Market: Consumer Inertia Amidst Benefitless Fee Increases

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This study contributes to the literature by showing that consumers exhibit a status quo bias for mutual funds, a bias which allows acquiring firms to raise the fees for target fund investors. As shown by net asset flow (new money less withdrawals), consumers tend to stay in target funds even though the acquirer subsequently raises fees only if the target advisory firm remains after the acquisition. As such, the status quo bias is tied to consumer overconfidence in the management team, which is against consumers' own interests. The novel empirical finding is that incumbent advisory firm retention is associated with an increase in fees and low annual returns, even after controlling for switching costs, fund performance, and other plausible alternative explanations.

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## 1. Introduction

It is a well-established anomaly that consumers consistently accept low returns by investing in mutual funds that impose high costs when better alternatives are available (Ferris and Yan 2009; Mahoney 2004). In fact, the financial services industry highlights the fact that fees are a primary contributor to these firms' profitability. What is unknown is why mutual fund investors allow suboptimal funds to survive.

One conjecture is that information asymmetry drives suboptimal decision making in the sense that individuals - the primary purchasers of mutual funds - have small balances that diminish their incentive to obtain the knowledge necessary to switch to another fund, thus causing inertia. Yet, during an acquisition regulators require funds to make the changes in fee structure and portfolio composition widely known. Hence, inertia should not be as severe of a problem surrounding mutual fund acquisition unless consumers show a general tendency to prefer the current state of affairs; that is, they may tolerate costs due to a status quo bias. To date, this question has not been investigated in the financial services literature.

It is unclear whether consumers show a status quo bias in the strong sense of remaining with their funds even when information is transparent. Our study fills this gap in the existing literature on consumer financial decision making by focusing on investor switching decisions following external acquisitions of mutual funds. To do so, our study relies on a unique sample of 3902 open-ended, publicly traded fund complexes that completed external acquisitions from 1993 to 2002, a peak takeover period for this industry.

We examine the consumers' investment decisions after an exogenous acquisition shock, a period when media scrutiny and explicit disclosure exists. We do so by evaluating whether investors continue to have inertia due to status quo bias as opposed to engaging in active decision making. When an external acquisition occurs, consumers are forced to explicitly consider the choice of staying with their existing mutual fund subsequent to a change in ownership versus finding another, more attractive option. Hence, the acquisition event provides a natural experiment for evaluating actual investor behavior and the related consequences.

For several reasons, this corporate transaction data provides an ideal testing-ground for

evaluating status quo bias in consumers. First, regulators require substantial disclosure to consumers during this transaction. When a fund is acquired, its existing customers are sent a prospectus that outlines any changes in pricing, allocation, advisor firm, etc. Thus, consumers are not handicapped by an information asymmetry. Second, consumers' decisions about their mutual funds involve large amounts of money (relative to that involved in many laboratory experiments), and so suboptimal decision-making cannot be explained away as being due simply to inadequate incentives.

The data show that recently acquired mutual funds have systematic increases in expense ratios without a parallel rise in return performance, especially when the target advisor firm is retained. Alternatively, when a target advisor firm is replaced, the net asset flow into the fund becomes more negative, whereas retention of the incumbent target advisor firm led to abnormally positive net asset flow despite an increase in expense ratio. Status quo bias is supported by the fact that only in the second year after acquisition did an abnormally low asset flow occur into the target fund following the increase in expense ratio despite the fact that the asset flow was abnormally high in the three year period before the transaction.

In the remainder of this paper, we first discuss the theoretical foundation of inertia within financial decision-making by discussing the existing literature as well as hypotheses that arise out of the status quo bias concept. The next sections describe the data selection process and methodology used for analysis, followed by the results. Finally we discuss the implications of the results for consumers and marketers of mutual funds.

## 2. Literature Review

The paper uses a theoretical concept from the behavioral literature to provide insight into an empirical puzzle. Previous research has suggested that mutual fund consumers tend to buy into funds that they have previously owned (Kempf and Ruenzi 2006; Patel, Zeckhauser, and Hendricks 1991). The few papers that have examined mutual fund acquisitions have done so from the corporate perspective rather than the consumer perspective (e.g., Jayaraman, Khorana, and Nelling 2002; Khorana 1996; Khorana, Tufano, and Wedge 2007). None have focused on the fact that consumers' perception of the status quo depends in part on the advisory firm status, a salient cue in the acquisition process. When the advisory firm remains after a fund acquisition, consumers may be more apt to conclude that the status quo remains, and therefore more likely to stay with the fund.

### 2.1 Inertia within Financial Decision-Making

Even though the financial economics literature tends to assume that consumers make financial decisions within such a rational framework, high profile academics provide research that questions this underlying belief (Baker and Nofsinger 2002; Benartzi and Thaler 2007; DellaVigna 2009). Several studies find that consumers make errors in judgment while implementing their investment decision making (Baker and Nofsinger 2002; Benartzi 2001).

The literature on retirement savings finds that most consumer decisions have a status quo bias in the sense that individuals disproportionately prefer to remain with their current choice (Choi, Laibson, Madrian, and Metrick 2004; Tversky and Shafir 1992). For example, Samuelson and Zeckhauser (1988) show that the majority of Harvard employees kept the same retirement allocations and health plans year after year, even when such consistency was against their best interests. Chernev (2004) finds that individuals display an exaggerated preference for their current state of affairs. This status quo bias helps to explain why individuals make suboptimal investments (Kempf and Ruenzi 2006; Patel, Zeckhauser, and Hendricks 1991). These papers, however, do not link the status quo bias to incumbent advisory firms.

Closely related to the status quo bias is the default bias, the tendency to choose the default option. Madrian and Shea (2001) conjecture that the default bias results both from participant inertia and from many employees taking the default as investment advice on the part of the company (also see Johnson and Goldstein 2003). Choi, Laibson, Madrian and Metrick (2004) propose that individuals be made to make an active decision as whether or not to join a retirement plan by eliminating the default option and checking a yes or no box. They argue that it is beneficial for

employees to state their preferences. The empirical results show that the participation rates increased by 25 percentage points when one firm switched from an opt-in program to an active decision regime. The general consensus is that consumers interpret default options as the recommended course of action (Brown and Krishna 2004; McKenzie, Liersch and Finkelstein 2006), which may decrease their willingness to acquire further information.

Identifying such biases justifies more proactive steps by policy makers. Greenleaf and Lehmann (1995) comment that policymakers need to determine how to best protect consumers in financial product markets in order to solve the post-retirement crisis, especially since behavioral economics shows that individuals may not always act to realize their best interests.

This paper specifically examines whether inertia affects consumers when they have to choose whether to remain with a mutual fund after it has changed both its ownership and pricing terms. Do consumers understand their preferences and work to maximize these preferences in these situations? If consumers fail to act, it most likely will decrease their wealth due to opportunity costs.

## 2.2 Status quo bias following mutual fund acquisitions

Of course, status quo behavior must depend on the perception that an option *is* the status quo. Perception that a mutual fund is "basically the same" after a change, such as an external acquisition, may depend on a variety of factors. One important factor should be the consumer's familiarity with the advisory firm, the managers who are responsible for making the allocation and risk decisions. Familiarity drives a surprising portion of investment decisions in the sense that people tend to invest more heavily in their own company stocks, and in stocks from their own city, geographic region, or country (Huberman 2001). Benartzi (2001) finds that out of 154 firms in the S&P 500, people preferred to invest in their own company's stock in their 401K plan. This preference cannot be justified by the employees having useful inside information about their own company, as their allocations did not predict future returns. Thus, familiarity may increase the status quo bias, and with mutual funds, familiarity with the advising firm may be an important contributor to this bias.

Even though a rigorous study of investor inertia and loyalty to the advisory firm is not available, anecdotal evidence exists. Key examples of unwarranted consumer loyalty are the Yacktman Fund and the Navellier Aggressive Small Cap Equity Fund. In both these funds the directors wanted to replace the investment advisor for poor performance by soliciting proxies from shareholders. In response, the investment advisor opposed the change and issued counter proxies. In both cases, investors voted to retain the investment advisor, which forced the directors to be dismissed. These examples suggest that, even independent of a takeover, consumers show loyalty to an advisory firm. Of course, this evidence is purely anecdotal.

What is less understood is what causes consumers to stay with poorly performing funds. Goetzmann and Peles (1997) discuss several explanations such as high transaction costs or representative bias due to overreliance in past performance. In the finance literature, empirical evidence shows that dollars flow into funds with abnormally positive performance more quickly than they flow out of funds with negative abnormal performance (Sirri and Tufano 1998).

Kempf and Ruenzi (2006) show that fund flow in one year strongly predicted fund flow in the next, and this pattern was not simply due to past performance or fees (also see Patel, Zeckhauser, and Hendricks 1991). Furthermore, this pattern depended on the number of available funds to choose from within the fund segment: status quo bias increased as the number of alternatives increased, consistent with Samuelson and Zeckhauser's (1988) experimental work on status quo bias.

In order for consumer decisions with mutual funds to constitute a "bias", though, their inertia should not only lack a benefit; it also should be harmful. To our knowledge, no previous work has shown that preference for the status quo is costly to mutual fund consumers. Additionally, as Kempf and Ruenzi (2006) admit, there are several possible non-status quo explanations for net asset flow in one year predicting net asset flow in the next. To address this issue, we examine abnormal asset flow, that is, asset flow in funds that have recently experienced an acquisition relative to asset flow in funds that have not. If consumers remain with funds after prominent changes (e.g., a takeover)

then this would provide support for the status quo bias interpretation. Prominent changes offer the opportunity to identify one or more factors, such as the removal of the advisory firm, that are associated with consumers' perception of the status quo.

In our empirical analysis, the status quo bias and active decision hypotheses are tested by examining the relationship between net asset flow and advisory firm replacement, expense ratio, and annual return. Within the context of mutual funds, consumers' unwillingness to change is measured by net asset flow. Positive net asset flow persists with more purchases, whereas negative asset flow is defined by increased withdrawals. The status quo bias hypothesis assumes that consumers will stay with the target fund too long after the acquisition due their perception that the fund has essentially remained the same. Such perception of the status quo may depend on whether the advisory firm remains after the fund is acquired. Thus, status quo bias is embodied in the following joint hypotheses:

H1: Net asset flow is more negative when the incumbent advisory firm is replaced compared to when it is retained.

We predict that this status quo bias is not the result of rational, active decision-making on the part of consumers. In fact, this bias may go against their best interests because it is associated with increased expense ratios:

H2A: The expense ratio increases subsequent to the acquisition.

H2B: Expense ratio increases (decreases) are related to advisory firm retention (replacement).

These increased expense ratios should not provide any benefit to consumers in the form of increased returns:

H3: The expense ratio increases associated with advisory firm retention are not related to an improvement in the annual return subsequent to the acquisition.

Even when controlling for annual returns prior to acquisition, net asset flow is expected to be more negative when the incumbent advisory firm is replaced compared to when it is retained under the status quo bias. In general, empirical evidence supportive of H1-H3 would be consistent with a status quo bias among consumers. Empirical evidence in the opposite direction of H1-H3 would be consistent with consumers engaging in active decision-making.

Finally, acquiring firms may take advantage of the status quo bias in consumers. Such firms should be able to increase the expense ratios even without a corresponding improvement in fund performance. That is, H1-H3 should be true, and additionally, acquiring firms should systematically seek out low expense ratio funds to acquire:

H4: The likelihood of an external acquisition is inversely related to the target fund's expense ratio.

### **3. Methodological approach**

#### **3.1 Data**

We empirically test the above hypotheses for 3,902 external acquisitions by 602 fund complexes within the mutual fund industry from 1993 to 2002. We examine newly acquired funds that were kept separate from other funds of the acquiring firm. This allows us to track characteristics of the acquired funds as independent entities. Our focus is on publicly-traded mutual fund complex acquirers. Ferris and Yan (2009) find that public fund families charge the highest fees and acquire the most funds: they conclude that agency costs are high between fund management and fund shareholders. Another rationale for focusing on public funds is that a better inference can be drawn from a comparative executive pool from the same industry.

This time period provides the benefit of analyzing both the bull markets of the mid to late 1990s and the bear markets in the early 2000s. The bull markets of the 1990s would have increased the demand for investment services as investors were seeking the expertise of investment firms. Conversely, the following bear market resulted in an increase in redemptions (net cash flow declined in 1994, 1999 and 2002). However, in both markets, there was increased competition for assets under management.

The Cambridge Commentary reports a steady increase in investment management deal results in 117 deals announced in 2002 with approximately \$8 billion in assets changing management. The Berkshire Capital Corporation reports that in 2000 there were 126 investment management transactions for approximately \$36.4 billion in transaction value and \$1,405 trillion of assets under management changing hands. With net cash flow declining three times during this period, some funds could have chosen to acquire external mutual funds to increase or at least generate similar fees.

Consistent with existing research, the CRSP Mutual Fund and Morningstar databases are used to obtain a sample of publicly-traded open-end mutual fund acquisitions. The databases contain the target fund name, family complex name, individual portfolio advisor manager or team, date that the manager or team was listed on CRSP, monthly returns (OAR), expense ratio, dollar value of fund assets under management, net asset value (NAV), portfolio turnover, investment objective, inception/termination date, acquisition dates, and other information. Returns are computed by adding to the change in net asset value (NAV) both the income and capital gains distributions during the period, and then dividing by the beginning-of-period NAV. The reinvestment of dividend distributions is computed at the ex-date. These returns are not adjusted for sales charges, front- or back-end load, or redemption fees.

For the 1993-2002 periods, we analyze fund performance for three years prior and three years subsequent to the acquisition. Hence, the entire sample period extends from 1990 to 2005. To ensure validity, the data from a random sub-sample of fund prospectuses was checked with other sources from the Internet, Thomas Financial SDC Platinum, and press releases in Lexis-Nexis. The information from these sources is consistent with the data obtained from CRSP.

The SDC Platinum acquisition database by Townsend Financial produces statistics for all industries. Following the approach taken by Khorana, Tufano, and Wedge (2007), the incidence and year of an external acquisition across funds are identified. For example, between 1993 and 1994, the Kidder Peabody Asset Allocation fund belonged to Kidder Peabody & Co. (ICDI identifier 215), but in December of 1994 CRSP indicated that it became part of Paine Webber Group Inc (ICDI identifier 314). After the acquisition, Thomas A. Masi, the target fund manager, remained as fund manager. Using this approach, 3902 external acquisitions were initially identified from 1993 to 2002. While the time period is somewhat dated, this period provides the most fertile environment for analyzing mutual fund acquisitions and the impact of external monitoring from the market for corporate control.

The initial mutual acquisition sample consisted of 5571 funds. The sample of 3902 external acquisitions is obtained using the following exclusion procedure: 1) funds that did not have sufficient information on the Center for Research in Security Prices (CRSP) tapes are not considered (254), and 2) funds that changed their investment objectives after the acquisition are excluded (1415). We exclude funds that change their investment objective in order to determine whether a change in the net asset flow is related to an advisor firm status quo bias. Moreover, for the purpose of comparability, we exclude the mutual funds of banks, insurance companies, closed-end investment companies, and face amount certificate companies.

The 3902 mutual fund acquisitions have up to 25 different investment objectives and were made by 602 fund complexes. Of these acquisitions, 2346 are equity, 1126 bond, and 430 money market funds. Then, after controlling for the investment objective, we compare the net asset flow, advisor firm turnover, expense ratio, annual return and other characteristics to a control sample of mutual funds that were not involved in acquisitions. The acquisition and non-acquisition samples are matched in calendar time. They are also matched by size (NAV) and fund investment objective. In selecting a randomly selected control sample, funds are excluded that have material non-acquisition information announcements.

### **3.2 Methodology and description of variables**

The study examines the extent of status quo bias by evaluating whether mutual fund

consumers make a sub-optimal decision to invest in a fund when the expense/return trade-off after the acquisition is worse than prior to the transaction. Status quo bias predicts several empirical specifications. The first specification measures if the replacement of the target advisory firm coincides with an abnormal decline in net asset flow, which implies that retention of the advisory firm, should lead to no change or abnormally high cash inflow. The analysis begins with a logistic regression that estimates the relationship between evidence of no change as reflected by the retention of the target advisor firm and consumer's willingness to withdraw their funds after an acquisition.

The empirical specification predicting a change in net asset flow is as follows:

$$(Change\ in\ Net\ Asset\ Cash\ Flow_{-3,+3})_i = b_0 + b_1(Change\ in\ Expense\ Ratio_{-3,+3})_i + b_2(Change\ in\ Annual\ Return_{-3,+3})_i + b_3(Target\ Turnover)_{i,t-1} + b_4(Target\ Age)_{i,t-1} + b_5(Target\ Size)_{i,t-1} + b_6(Number\ of\ Target\ Funds)_{i,t-1} + b_7(Number\ of\ Objectives\ in\ the\ Family\ Complex)_{i,t-1} + b_8(NAV_{Target}/NAV_{Bidder})_{i,t-1} + b_9(Fund\ Manager\ Replaced)_{i,t+1} + b_{11}(Year\ Fixed\ Effect)_t + b_{12}(Mills\ Ratio)_{i,t} + e \quad (1)$$

The dependent variable Change in Net Asset Flow is the difference between assets under the advisory firm management over the six year period surrounding the acquisition for an individual fund minus the median difference for all funds in the same investment class (see Table 1). The main independent variable for status quo bias, Fund Manager Replaced, is an indicator variable equaling one if the target fund advisor in the pre-acquisition period is not listed on CRSP as the manager in the post-acquisition period. In the sample from 1993 to 2002, 1249 out of 3902 funds terminated their incumbent advisor firm subsequent to the acquisition.

Other variables that have been shown to influence net asset flow are also included in the specification. It is known that previous performance (annual return), the expense ratio, the turnover ratio, the fund's age, asset size, as well as the number of funds and objectives offered by the target fund are important. We also include dummy variables to control for year-specific effects and a Mills ratio that econometrically accounts for our decision to focus on the target fund sample. Even though our analysis focuses on objective annual returns (OAR) as a measure of performance, the risk-adjusted annual return performance benchmark (RAR) has been evaluated. The results are not reported in the paper because they are quantitatively similar to the OAR analysis. For the purpose of constructing OAR, monthly returns are obtained for the entire population of funds in each investment objective class. To estimate multifactor models of fund performance, monthly returns on the value-weighted index from the CRSP files, returns on Treasury bonds, and returns on corporate bond indexes are obtained.

*Expense Ratio* is measured as the fund's expense ratio minus the median expense ratio for all funds in the same investment objective class. The objective-adjusted annual holding period return (OAR) is the measure for fund performance in excess of the average return for all funds in the same investment objective class. Essentially the objective-adjusted return measures the target fund advisor's ability to generate shareholder value since this return captures the abnormal performance of a fund relative to the mean of other funds with similar investment objectives. Other fund variables are also included in the analysis. *Target Turnover* is the turnover ratio of the target fund. Portfolio turnover is measured as the trading activity in percentage terms over the year. *Target Age* is the logarithm of age computed in years. Cash flow is less sensitive to performance for older funds. *Target Size* is the log of total net assets. Size is measured by the dollar value of assets in the fund's portfolio (in millions of dollars) inflation adjusted to 1993: small funds are expected to have low performance due to diseconomies of scale. *Number of Target Funds* is measured as the number of funds with unique investors. *Number of Objectives in the Family Complex* is measured as the number of investment objectives in the acquiring fund family complex in the year preceding the merger. *NAV<sub>Target</sub>/NAV<sub>Bidder</sub>* is the relative bargaining strength of the target fund with respect to that of the fund family complex. *Year Fixed Effect Dummy* is an indicator variable equal one for each year. Year Fixed Effect is used to capture annual differences in mean returns and net asset flows due to macroeconomic factors.

All of the specifications regress the dependent variables against the previously described

independent variables and a Mills Ratio that controls for the anticipation of an external acquisition in the mutual fund industry (see Heckman 1979). White's robust estimates of SE are used to compute t-statistics, and a robust variance-covariance matrix is used to derive a log-likelihood (chi-square) test for overall significance.

The next two specifications examine whether consumers make suboptimal decisions by remaining with target funds that retain the incumbent advisor firm. Evidence of advisory firm status quo bias is consistent the acquirer increasing the expense ratio most for target funds that retain their advisor firm without a parallel improvement in annual return performance.

Specification 2 measures if advisor firm replacement (retention) is negatively (positively) related to the change in expense ratio surrounding the acquisition. The next empirical regression specifications attempt to determine whether the decision to remove the incumbent advisor firm is related to the change in the expense ratio and annualized return. The model predicting change in the expense ratio for target firms is as follows:

$$(Change\ in\ Expense\ Ratio_{-3,+3})_i = b_0 + b_1(Change\ in\ Annual\ Return_{-3,+3})_i + b_3(Net\ Asset\ Flow)_{i,t-1} + b_4(Target\ Turnover)_{i,t-1} + b_5(Target\ Age)_{i,t-1} + b_6(Target\ Size)_{i,t-1} + b_7(Number\ of\ Target\ Funds)_{i,t-1} + b_8(Number\ of\ Objectives\ in\ the\ Family\ Complex)_{i,t-1} + b_9(NAV_{Target}/NAV_{Bidder})_{i,t-1} + b_{10}(Fund\ Manager\ Replaced)_{i,t+1} + b_{11}(Year\ Fixed\ Effect)_t + b_{12}(Mills\ Ratio)_{i,t} + e \quad (2)$$

These results are reported in Table 5.

The empirical specification that evaluates the relationship between the changes in annual return over a six year period is as follows:

$$(Change\ in\ Annual\ Return_{-3,+3})_i = b_0 + b_1(Change\ in\ Expense\ Ratio_{-3,+3})_i + b_2(Net\ Asset\ Flow)_{i,t-1} + b_3(Target\ Turnover)_{i,t-1} + b_4(Target\ Age)_{i,t-1} + b_5(Target\ Size)_{i,t-1} + b_6(Number\ of\ Target\ Funds)_{i,t-1} + b_7(Number\ of\ Objectives\ in\ the\ Family\ Complex)_{i,t-1} + b_8(NAV_{Target}/NAV_{Bidder})_{i,t-1} + b_9(Fund\ Manager\ Replaced)_{i,t+1} + b_{10}(Year\ Fixed\ Effect)_t + b_{11}(Mills\ Ratio)_{i,t} + e \quad (3)$$

These results are reported in Table 6.

Empirical evidence consistent with the three specifications would provide strong support for the status quo bias surrounding an exogenous event that leads to substantial changes in the fund's policy. Contradictory evidence, however, is consistent with rational active decision making.

The fourth specification tests if acquiring funds recognize this form of status quo bias by retaining the incumbent advisory firm more often than a control sample of mutual funds not involved in a takeover. The likelihood of external acquisition by a mutual fund complex is estimated as follows:

$$Probability\ (External\ Acquisition)_{i,t} = b_0 + b_1(Expense\ Ratio)_{i,t-1} + b_2(Expense\ Ratio_2)_{i,t-1} + b_3(Net\ Asset\ Flow)_{i,t-1} + b_4(Net\ Asset\ Flow_2)_{i,t-1} + b_5(Objective-Adjusted\ Return)_{i,t-1} + b_6(Target\ Turnover)_{i,t-1} + b_7(Target\ Age)_{i,t-1} + b_8(Target\ Size)_{i,t-1} + b_9(Number\ of\ Target\ Funds)_{i,t-1} + b_{10}(Number\ of\ Objectives\ in\ the\ Family\ Complex)_{i,t-1} + b_{11}(NAV_{Target}/NAV_{Bidder})_{i,t-1} + b_{13}(Year\ Fixed\ Effect)_t + b_{12}(Fund\ Manager\ Replaced)_{i,t+1} + e \quad (4)$$

where *External Acquisition* is an indicator variable equaling one if the target fund was acquired in an arm's length transaction by another family complex. These results are reported in Table 9.

Since Khorana, Tufano, and Wedge (2007) find that the presence of a retirement plan, the number of outside directorships held by independent board members, the prior industry experience of the board, and the fund's age do not affect the likelihood of performance related fund mergers, we exclude these variables from our analysis. Also, these board-related characteristics are not related to post merger performance in their study.

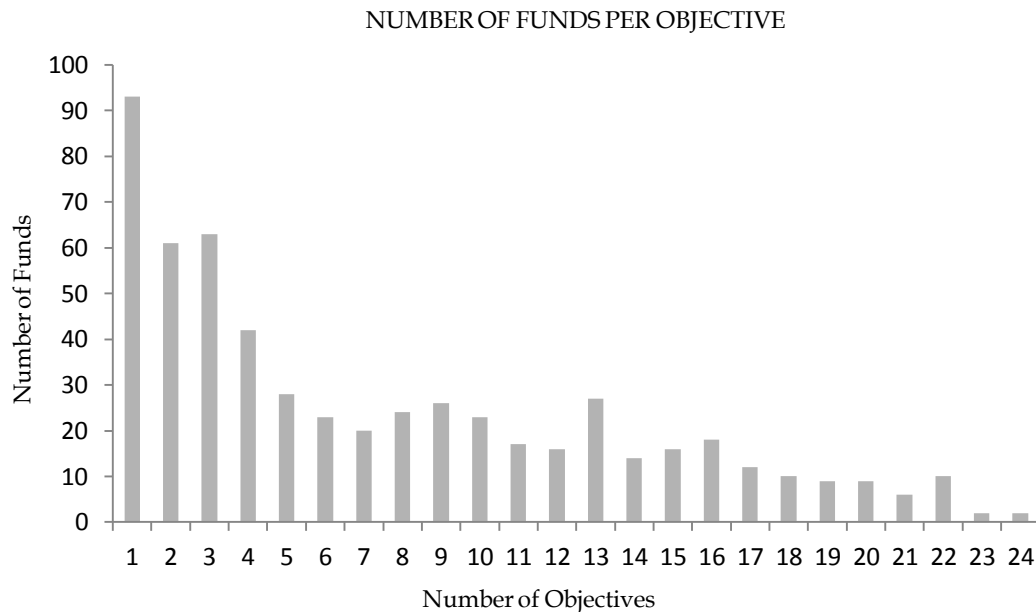
### 3.3 Statistics on funds

Figure I reports statistics for the number of investment objectives that the acquiring family fund complex has prior to making an acquisition. Most of the acquirers have few investment objectives for their entire complex. For example, 93 (16 percent) of the acquiring fund families had only one investment objective.

Figure II presents a summary of the total number of separate funds irrespective of its investment objective offered by the acquiring firm complexes. The majority of complexes, 295 funds,

had only 1 to 10 different funds prior to the acquisition, with the exception of 75 acquirers that had more than 100 funds under management. Combined, Figures I and II suggest that acquiring complexes with few funds that have limited investment objectives mostly initiate mutual fund external acquisitions.

**Figure I**



**Figure II**

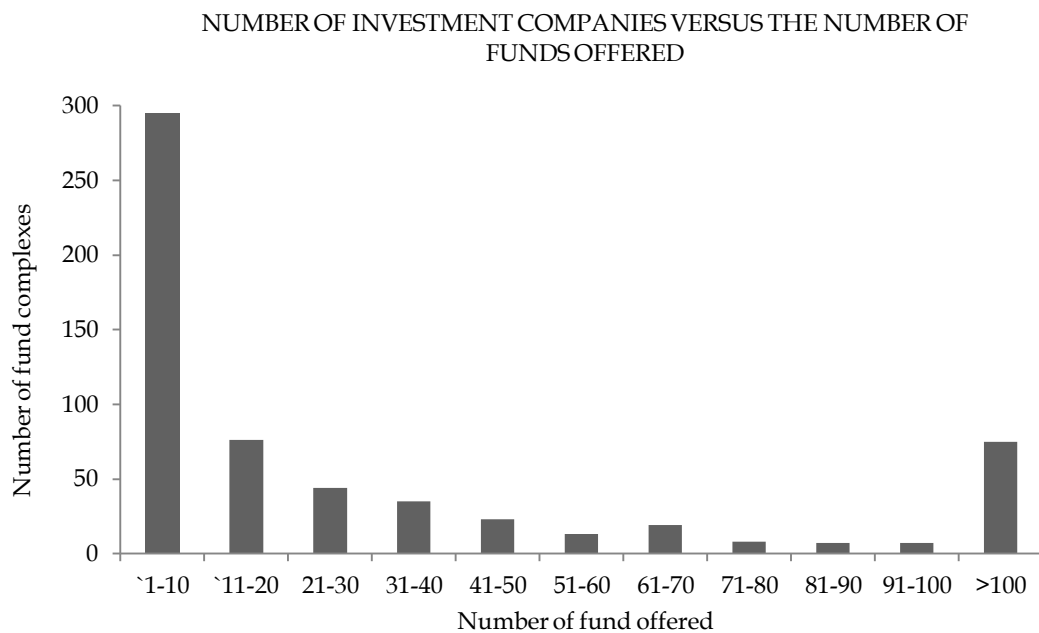


Table 1 reports the number of external acquisitions by investment objective from 1993 through 2002. The majority, 60.12 percent of the funds, concentrate on equity securities, while 28.86 percent and 11.02 percent of the managers invest in bonds and money markets, respectively.



**Table 1**  
**Distribution of mutual fund acquisitions by investment objective and year**

Investment Objective	Total ART	Total ARC	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Sample Total	% of Total Sample
<i>Panel A. Equity Funds</i>														
Aggressive Growth	31	117	8	26	15	9	43	14	41	101	50	67	374	9.58
Balanced	15	33	6	8	2	6	14	1	19	41	15	19	131	3.36
Global Equities	2	30	3	9	1	4	30	8	13	20	6	16	110	2.82
Growth and Income	16	73	10	24	13	12	33	6	25	75	40	33	271	6.95
Government Securities	10	29	8	27	22	14	22	2	18	52	7	25	197	5.05
International Equities	17	125	5	12	14	6	53	21	50	113	32	96	402	10.30
Income	1	20	4	11	7	4	10	2	5	25	6	1	75	1.92
Long-Term Growth	37	158	16	43	27	30	57	15	56	128	51	113	536	13.74
Sector Fund	7	45	1	2	6	.	22	4	16	17	26	33	127	3.25
Total Return	8	29	8	17	13	2	14	2	30	8	4	25	123	3.15
Total	144	659	69	179	120	87	298	75	273	580	237	428	2,346	60.12
<i>Panel B. Bond Funds</i>														
High Quality Bond	13	63	11	35	18	27	27	11	28	86	34	44	321	8.23
High Yield Bond	2	24	1	7	4	1	4	4	20	6	7	17	71	1.82
Global Bond	11	34	4	13	4	5	19	9	14	17	8	15	108	2.77
Ginnie Mae	2	16	3	18	9	1	8	2	10	16	2	2	71	1.82
High Quality Municipal Bond	6	33	5	19	10	8	26	6	14	36	20	27	171	4.38
Single State Municipal Bond	30	108	10	27	29	56	113	5	28	57	15	44	384	9.84
Total	64	278	34	119	74	98	197	37	114	218	86	149	1,126	28.86
<i>Panel C. Money Market Funds</i>														
Tax-Free Money Market fund	1	24	5	22	15	16	20	3	14	67	12	31	205	5.25
Government Securities Money Market Fund	2	32	4	18	17	16	11	11	19	69	20	28	213	5.46
Taxable Money Market Fund	4	41	0	3	0	1	1	0	0	4	0	3	12	0.31
Total	7	97	9	43	32	33	32	14	33	140	32	62	430	11.02
Sample Total	215	1,034	112	341	226	218	527	126	420	938	355	639	3,902	100

Note: ART= Advisor Replaced for the Target sample, ARC= Advisor Replaced for the Combined sample (target and non-target funds)

#### 4. Results

Table 2 provides summary statistics on the level of abnormal asset flow for the target funds surrounding the acquisition. For the entire sample of target funds, consumers had purchased an abnormally large amount of shares in the three year period prior to the takeover transaction. In the year prior to the takeover transaction, target mutual funds had net asset flows that were 9.04 percent higher than similar funds that were not involved in acquisitions. This difference is statistically significant at the 5 percent level. In contrast, two years after the transaction and increase in expense ratio, the target funds had net asset flows that were -5.98 percent lower than the other funds. This pattern is mainly driven by equity mutual funds. In the year prior to the transaction and increase in fee equity mutual funds has net asset flow 10.65 percent higher than equity funds not involved in transactions. In year two after the transaction, the net asset flow is -6.99 percent. Both changes in net asset flow are statistically significant at the 5 percent level. Alternatively, the investors in the bond and money market mutual funds did not decrease the amount that they invested after an acquisition.

**Table 2**  
**Net Asset Flows of Target Funds surrounding Mutual Fund Acquisitions**

Year Relative to Acquisition	-3	-2	-1	1	2	3
<b>Panel A: All Target Funds</b>						
Annualized Objective- Adjusted cash flow (%)	23.87*	4.32*	9.04***	0.59**	-5.98**	-4.17*
Number of Acquisitions	636	853	1,052	1048	832	694
<b>Panel B: Equity Target Funds</b>						
Annualized Objective- Adjusted cash flow (%)	36.32*	8.19*	10.65***	1.25*	-6.99**	-6.400
Number of Acquisitions	396	530	669	665	513	433
<b>Panel C: Bond Target Funds</b>						
Annualized Objective- Adjusted cash flow (%)	24.83	29.33***	0.98	1.04***	1.02**	0.92**
Number of Acquisitions	176	239	288	288	235	199
<b>Panel D: Money Market Target Funds</b>						
Annualized Objective- Adjusted cash flow (%)	-1.43**	-2.85***	-7.04***	-0.05	1.14**	1.02***
Number of Acquisitions	64	84	95	95	84	62

Note: Objective-adjusted net asset flows are computed as the difference between a fund's annual flow and the average flow of all funds in the investment objective. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$

In line with the status quo bias, net asset flow should be more negative when the incumbent advisor firm is replaced than when it is retained. Table 3 reports the results from regression models that estimate the net asset flows of target funds over the 6-year period surrounding the transaction. Consistent with the hypothesis, when an advisor firm is replaced in the period after the acquisition, the target fund experiences a net asset out flow. The coefficient on the fund manager replaced variable is -0.65 ( $p=0.0001$ ). Therefore, the removal (retention) of the advisory firm led to an abnormally (negative) positive net asset flow. The negative response to the removal of an advisory firm management team that allowed an acquirer to raise expense ratios without a parallel increase in return performance is strong support for status quo bias.

Other factors related to a decline in net asset flow include expense ratio, annual return, and fund size. The coefficient of -7.80 ( $p=0.001$ ) is consistent with investors withdrawing funds surrounding the acquisition when acquirers raise fees on the target investors. The next step in the analysis is the determination of whether consumers' investment decisions surrounding acquisition were suboptimal, on average. Table 4 provides summary statistics on the level of abnormal expense ratio values surrounding the acquisition. After adjusting for outliers, the panels show that target funds had appreciably lower expense ratios prior to the acquisition than the non-acquisition peer group, but equivalent ratios afterward.

**Table 3**  
**Regression Model of Net Asset Flows for target fund surrounding External Acquisitions**

Variables	Model i	Model ii	Model iii	Model iv	Model v
Intercept	5.5923***	6.2497***	6.3177***	7.0234***	6.8163***
Change OA Expense Ratio -3,3	-7.8010***	-8.3045***	-8.6343***	-8.5592***	-8.9131***
Change in OA Annual Return -3,3	2.7539***	2.5089***	2.8136***		
Target Asset Turnover t-1	-4.3794	-4.8683		-5.1983	-5.2736
Target Fund Age t-1	1.0053*	0.9587*		0.9936*	
Target Size (log of TNA) t-1	2.3548***	2.5405***	2.6038***	2.6847***	
Target family funds t-1 Offered	0.0792		0.0826		0.0985
Target Family Number t-1 of objectives	2.4938		2.7395	3.2845	
Net Asset Value (Target) t-1/ Net Asset Value (Acquirer)	0.7240	0.7821	0.8247		
Fund Manager Replaced	-0.6517***	-0.7293***			-0.7719***
Year	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
Mills Ratio	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
# of observations	21,004	20,445	19,578	19,487	19,239
f-test	8.3400	8.0700	7.8600	7.5500	7.4700
P- Value	0.0224	0.0263	0.0270	0.0275	0.0281

Notes: Parentheses show the regression p-value for the hypothesis that the coefficients of the independent variable are statistically different from zero. Change in OA Expense Ratio and Annual Returns are computed as the difference between that of the fund and that of the average of all funds in that investment objective. Fund Manager Replaced equals one if the incumbent advisor is replaced in the three year period subsequent to the acquisition transaction. The Mills statistic is a selectivity bias variable that is computed from the logistic model in Table 9 that predicts the likelihood of a mutual fund acquisition. \*p<.10, \*\*p.05, \*\*\*p<.01  
OA= Objective Adjusted, TNA = Total Net Assets

**Table 4**  
**Expense Ratios of Target Funds surrounding External Acquisitions**

Year Relative to Acquisition	-3	-2	-1	1	2	3
<b>Panel A: All Target Funds</b>						
Annualized Objective- Adjusted Expense Ratio (%)	-2.09***	-1.77***	-1.92***	-0.22	-0.14*	-0.09**
Number of Acquisitions	656	845	1058	1058	843	709
<b>Panel B: Equity Target Funds</b>						
Annualized Objective- Adjusted Expense Ratio (%)	-2.43***	-1.01***	-1.05***	-0.47	-0.95	-.41
Number of Acquisitions	401	519	673	672	521	445
<b>Panel C: Bond Target Funds</b>						
Annualized Objective- Adjusted Expense Ratio (%)	-0.86***	-1.22*	-0.77***	-0.13	0.10	0.69
Number of Acquisitions	188	241	291	291	238	202
<b>Panel D: Money Market Target Funds</b>						
Annualized Objective- Adjusted Expense Ratio (%)	-0.39	-0.96	-1.09***	-0.51*	0.28***	0.57***
Number of Acquisitions	67	85	94	95	84	62

Note: Objective-adjusted net asset flows are computed as the difference between a fund's annual flow and the average flow of all funds in the investment objective. \*p<.10, \*\*p<.05, \*\*\*p<.01

For the sample of mutual funds as a whole, the expense ratio for the target funds is lower than similar funds not involved in acquisitions at a 0.0001 statistically significant level. In years 3, 2 and 1 prior to the transaction, the fund had differences of -2.09, -1.77 and -1.99 percent, respectively. In the years after the transaction, the two groups had similar expense ratios in years 1 and 2, but a statistically significant difference in the two samples of -0.09 in year 3. Target equity funds had lower differences in expense ratios in years 2, 2 and 1 before the acquisition. Target bond funds also had lower relative expense ratios in years 3 and 1 of -0.86 and -0.77 prior to the takeover.

To further assess the consumers' decision process, we analyze the relationship between advisory firm replacement and the percentage change in expense ratio. In Table 5, the Fund Manager Turnover coefficient of -0.0912 ( $p=0.0011$ ) is consistent with hypothesis 2B and, thus, status quo bias. The fact that consumers invest abnormally high levels of new money into target firms that retain the incumbent advisory firm shows psychological bias because these funds have larger increases in expense ratios than those that find replacements.

**Table 5**  
**Regression model of change in expense ratios for target funds surrounding external acquisitions**

Variables	Model i	Model ii	Model iii	Model iv	Model v
Intercept	10.2987***	11.9408***	13.9438***	12.2587***	15.9830***
Change in Annual Return -3, +3	0.0002	0.0010	0.0015	0.0007	0.0021
Net Asset Flow I, t-1	-0.0083***	-0.0072***	-0.0089***		
Target Turnover I t-1	-0.5742***	-0.5289***		-0.5329***	-0.5920***
Target Fund Age I, t-1	-0.0037***	-0.0038***		-0.0042***	
Target Size (TNA) I, t-1	0.0062	0.0079	0.0068	0.0084	
Target family funds offered	0.0157		0.0162		0.0163
Target Family Number of objectives	0.0053**		0.0057**	0.0062**	
Net Asset Value (Target) /Net Asset Value (Acquirer)	0.6828*	0.7133*	0.7429*		
Fund Manager Turnover	-0.0912***	-0.1032***			-0.1264***
Year	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
# of observations	19,640	19,739	20,483	20,947	21,005
f-test	6.27	6.25	6.23	6.19	6.12
P- Value	0.0342	0.0387	0.0401	0.0411	0.0466

Notes: Parentheses show the regression p-value for the hypothesis that the coefficients of the independent variable are statistically different from zero. Change in OA Expense Ratio and Annual Returns are computed as the difference between that of the fund and that of the average of all funds in that investment objective. Fund Manager Replaced equals one if the incumbent advisor is replaced in the three year period subsequent to the acquisition transaction. The Mills statistic is a selectivity bias variable that is computed from the logistic model in Table 9 that predicts the likelihood of a mutual fund acquisition. \* $p<.10$ , \*\* $p<.05$ , \*\*\* $p<.01$ . OA= Objective Adjusted, TNA = Total Net Assets

The difference in expense ratio policies alone, however, is not sufficient to conclude suboptimal decision making. Additional analysis on the relationship between advisor firm replacement and annual return performance is needed. Table 6 provides summary statistics on the level of abnormal annual return for the sample of target funds. In no year did the target funds outperform the non-acquisition counterparts either before or after the transaction. Table 7 further addresses this issue. The Fund Manager Replaced coefficient of 0.0258 ( $p=0.0001$ ) shows that manager replacement was associated with better returns. Consistent with hypothesis 3, consumers' tendency to remain with target funds that retained the incumbent cannot be justified by post-acquisition annual returns; as such annual returns were better when the advisory firm was replaced.

**Table 6**  
**Annual Return Performance of Target Funds surrounding External Acquisitions**

Year Relative to Acquisition	-3	-2	-1	1	2	3
<b>Panel A: All Target Funds</b>						
Annualized Objective- Adjusted return (%)	-1.01**	-0.89	-0.06*	-1.13***	-0.54	-1.42***
Number of Acquisitions	636	853	1052	1048	832	694
<b>Panel B: Equity Target Funds</b>						
Annualized Objective- Adjusted return (%)	-1.74***	-1.30*	-0.26	-2.11***	-0.69	-2.18***
Number of Acquisitions	396	530	669	665	513	433
<b>Panel C: Bond Target Funds</b>						
Annualized Objective- Adjusted return (%)	0.43	0.21	0.52*	0.33	0.37	-1.02**
Number of Acquisitions	176	239	288	288	235	199
<b>Panel D: Money Market Target Funds</b>						
Annualized Objective- Adjusted return (in %)	0.17	-0.29***	0.38	-0.38***	-0.69**	-0.19***
Number of Acquisitions	64	84	95	95	84	62

Note: Objective-adjusted net asset flows are computed as the difference between a fund's annual flow and the average flow of all funds in the investment objective. \*p<.10, \*\*p<.05, \*\*\*p<.01

**Table 7**  
**Regression model of change in objective adjusted annual return performance for target funds surrounding external acquisitions**

Variables	Model i	Model ii	Model iii	Model iv	Model v
Intercept	8.9329***	9.3802***	11.0040***	10.8473***	11.4932***
Change in Expense Ratio -3, +3	0.0493	0.0529	0.0507	0.04824	0.0510
Net Asset Flow I, t-1	0.0633**	-0.0827**	-0.0832**		
Target Turnover I t-1	1.0483**	1.0859**		0.9437**	0.9962**
Target Fund Age I, t-1	0.8276*	0.8520*		0.8884*	
Target Size (TNA) I, t-1	1.6307***	1.6931***	1.7054***	1.8461***	
Target family funds offered	0.6493*		0.7102*		0.7618*
Target Family Number of objectives	0.7328		0.7656	0.8009	
Net Asset Value (Target)/ Net Asset Value (Acquirer)	-0.5472	-0.6021	-0.6683		
Fund Manager Turnover	0.0258***	0.0283***			0.0317***
Year	Insignifica nt	Insignifica nt	Insignifica nt	Insignifica nt	Insignifica nt
# of observations	18,742	19,039	19,830	19,995	20,086
f-test	4.87	4.64	4.62	4.44	4.27
P- Value	0.0727	0.0775	0.0781	0.0790	0.0812

Notes: Parentheses show the regression p-value for the hypothesis that the coefficients of the independent variable are statistically different from zero. Change in OA Expense Ratio and Annual Returns are computed as the difference between that of the fund and that of the average of all funds in that investment objective. Fund Manager Replaced equals one if the incumbent advisor is replaced in the three year period subsequent to the acquisition transaction. The Mills statistic is a selectivity bias variable that is computed from the logistic model in Table 9 that predicts the likelihood of a mutual fund acquisition. \*p<.10, \*\*p<.05, \*\*\*p<.01. OA= Objective Adjusted, TNA = Total Net Assets

These findings are consistent with status quo bias since retention of the advisory firm leads to larger than industry median net asset flow, above and beyond the effect from other influential variables. Similar to other research studies, consumers cash out of target funds that increase the expense ratio, but they purchase funds that had a positive change in annual return. Our evidence indicates that this active decision making that leads to rational behavior is mitigated when the acquirer maintains consistency with respect to the team that decides the allocation of money.

Another possible explanation for our results could be transaction costs. Some of this consumer inertia may be due to back end load fees, but additional empirical analysis reveals that transaction costs do not account for our results. Consumer inertia patterns remain even when controlling for back-end load fee after the acquisition. Table 8 reveals that more target funds had back-end load and front-end load fees post-acquisition. After the acquisition, many funds adopted front-end load fees, back-end load fees, and 12b-1 fees.

Table 8 reports that the existence of a back end load fee rose dramatically to 938 or 24 percent of the sample of 3902 target funds in the post-acquisition period. In contrast, only 303 or 8 percent target funds had back end load fees in the pre-acquisition period. The median redemption ratio of 1 percent stays constant across both time periods, but the mean back end load ratio declined in the post-acquisition period to 1.77 percent of assets from 2.06 percent. Hence, the magnitude of back end load fees was not used by family fund complexes to control the volatility of target net asset flow.

**Table 8**  
**Objective adjusted expenses for target funds surrounding external acquisitions**

		Pre-Acquisition	Post-Acquisition	Difference
Expenses				
Front End Load	N	2,106	2,964	858
	Mean	2.49	3.03	0.54 **
	Median	3.00	4.25	1.25
	Minimum	0.20	0.20	0.00
	Maximum	8.50	8.50	0.00
Back End Load	N	303	2,964	-3267
	Mean	2.06	1.77	-0.30
	Median	1.00	1.00	0.00
	Minimum	1.00	1.00	0.00
	Maximum	5.00	5.00	0.00
12B-1 Fee	N	1,112	1,815	703
	Mean	0.24	0.26	0.02
	Median	0.20	0.20	0.00
	Minimum	0.20	0.20	0.00
	Maximum	1.00	1.00	0.00
Expense Ratio	N	3,902	3,902	0.00
	Mean	1.15	1.32	0.17 ***
	Median	1.05	1.12	0.07
	Minimum	0.25	0.25	0.00
	Maximum	4.29	5.11	0.82

Note: Objective-adjusted net asset flows are computed as the difference between a fund's annual flow and the average flow of all funds in the investment objective. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$

However, although tables are not provided in text for exposition, the back-end load fee percentage is not statistically related to Fund Manager Replaced when it is substituted for expense ratio as a dependent variable. In fact, the back-end load fee percentage independent variable is not statistically significant in any regression specification. The results are similar for an analysis that

estimates the expense ratio on a value weighted basis by class asset size. They also do not change when the expense ratio is estimated based upon the class of shares (stand alone versus multiclass) in which each class has its own fee structure and expense ratio.

The above results suggest that consumers show a status quo bias toward their mutual funds, particularly when the advisory firm remains, and that this bias goes against consumers' financial interests. If so, acquiring firms may tend to acquire funds with low expense ratios so as to capitalize on this bias. To examine this issue, in Table 9, we estimate the relationship between Fund Manager Turnover and the likelihood of acquisition. The Fund Manager Replaced coefficient of -0.1894 ( $p=0.0001$ ) is consistent with hypothesis 4. Acquirers tend to retain the target incumbent advisor firm, seek out targets with abnormally low expense ratios, annual returns, and turnover in the year prior to the transaction.

**Table 9**  
**Logit regression analysis of factors affecting external acquisitions**

Variables	Model i	Model ii	Model iii	Model iv	Model v
Intercept	-6.2357***	-6.975***	-6.3086***	-6.2950***	7.206***
Target Expense Ratio	-4.385***	-4.7328***	-4.424***	-4.6334***	-5.0483***
Target Expense Ratio Squared	0.0813***	0.0887***	0.0834***		
Target Cash Flow	0.0593	0.0613	0.0609	0.0627	
Target Cash Flow Squared	-0.0037	-0.0042		-0.0038	
Target Annualized Objective Return	-2.052***	-2.7532***	-2.241***	-2.4355***	-3.1403***
Target Turnover	-0.3154***	-0.40657***		-0.3887***	
Target Fund Age	-0.3629***		-0.3837***	-0.3673***	-0.4203***
Target Size (TNA)	-0.0168	-0.0178		-0.0184	
Target family funds offered	0.0157**		0.0163***	0.0162**	
Target Family Number of objectives	-0.0102***		-0.0126***	-0.0143***	
Net Asset Value (Target)/ Net Asset Value (Acquirer)	-0.0013		-0.0017	-0.0016	
Fund Manager Replaced	-0.1894***	-0.2043***			-0.2272***
Year	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
# of observations	21,463	22,508	21,926	21,633	23,274
f-test	16.48	13.56	13.87	14.04	13.21
Log Likelihood	2676.3	2,637.6	2,645.4	2,646.2	2,622.8
P-value	0.0001	0.0001	0.0001	0.0001	0.0001

Notes: Parentheses show the regression p-value for the hypothesis that the coefficients of the independent variable are statistically different from zero. Change in OA Expense Ratio and Annual Returns are computed as the difference between that of the fund and that of the average of all funds in that investment objective. Fund Manager Replaced equals one if the incumbent advisor is replaced in the three year period subsequent to the acquisition transaction. The Mills statistic is a selectivity bias variable that is computed from the logistic model in Table 9 that predicts the likelihood of a mutual fund acquisition. \* $p<.10$ , \*\* $p<.05$ , \*\*\* $p<.01$ . OA= Objective Adjusted, TNA = Total Net Assets

## 5. Discussion and Conclusions

Previous work has shown inertia in fund flow in the mutual fund industry in general. The current work shows consumer inertia even when a major change occurs, in particular, the change of ownership of the fund. This change is substantial, requires disclosure to investors, and is associated with systematic increases in expense ratios. Thus, mutual fund acquisition provides a strong test of

status quo bias because several factors should lead consumers to re-evaluate their funds. To our knowledge, no other study analyzes the expense structure, return performance, or advisor firm turnover of funds surrounding external acquisitions.

Even amidst the substantive change of a mutual fund acquisition, consumers show status quo bias. Relative to a control group of funds that were not involved in acquisitions, the consumers at acquired funds delayed their decision to leave until the second year after the transaction date. This inertia stemmed at least in part from consumers' familiarity with the existing advising firm. Funds with the largest increase in expense ratios after the acquisition had the smallest net asset outflow, primarily when the acquiring fund retained the incumbent advisor fund that consumers were familiar with.

The status quo bias is not in consumers' best interests. Consumer behavior is unlikely to be due to incentives, as the pattern remained even when controlling for transaction costs and post-acquisition annual returns. In fact, mutual funds that retained their target fund advisors had the worst subsequent objective-based annual returns, suggesting that the status quo bias imposed an opportunity cost. Additionally, consumer inertia cannot be accounted for by the representativeness heuristic. Consumers appeared to remain with acquired funds, particularly funds that retained the advisory firm, due to a preference for the current state of affairs, the status quo.

The status quo bias among consumers might have been anticipated by acquiring firms, as such firms showed evidence of capitalizing on this consumer behavior. Prior to acquisition, target funds' expense ratios and their annual returns were persistently lower than their investment objective peers. After the acquisition, the target funds' performance continued to be sub-par, but the targets' expense ratios were increased to the industry level. No previous study has shown that mutual fund acquirers increase expense ratios for target fund investors subsequent to the change in ownership. This finding is important because target shareholders were charged higher fees for worse performance. Retention of the advisory firm was associated with an even greater increase in fees, suggesting that acquiring firms raised fees the most when consumers were most likely to tolerate such action. Thus, post-acquisition expense hikes may have been driven by managers' own self-interests rather than the interests of consumers, with managers capitalizing on consumers' status quo bias.

The use of aggregate non-experimental data provides a realistic setting with strong incentives for consumers, but such data has several limitations. One limitation is that other variables associated with mutual fund acquisition may have driven net asset flow patterns. We have controlled for variables, such as pre and post-acquisitions returns, that provide plausible alternative explanations, but there can be no guarantee that we have controlled for *all* plausible alternatives. Importantly, any satisfactory alternative explanation would have to be correlated with not only net asset flow but also fund acquisition and advisor firm retention, and this requirement narrows the range of plausible alternative accounts. A second limitation of aggregate data is that it cannot distinguish between a status quo pattern driven by most consumers, or by just a small subset of consumers with especially large portfolios. The latter possibility seems improbable because it would mean that consumers with larger incentives made less optimal decisions. A third limitation of aggregate data is that net asset flow does not distinguish between old and new investors. That is, it is possible that new investors drove up the net asset flow following acquisitions, especially when the advisory firm was retained. However, such a scenario seems unlikely. New investors looking to take advantage of a merger should do so prior to the acquisition, not afterwards. Furthermore, our analysis controlled for pre and post-acquisition returns, so new investors searching for a good financial instrument cannot account for the observed asset flow patterns. In any event, the above limitations of aggregate data could be addressed and complemented by true experiments. For example, participants could make decisions about hypothetical takeovers of (or other changes to) their mutual fund investments after reading simulated prospecti.

Aside from limitations associated with aggregate data, an additional limitation has to do with



the psychological explanation of consumer inertia following mutual fund acquisition. We have emphasized a status quo bias explanation, though it is possible that closely related biases are at work. Rather than having a clear preference for the current state of affairs (the status quo bias), it is possible that consumers are biased simply to prefer no action (Ritov and Baron 1994; Schweitzer 1994) or to defer their decision until a later date (Dhar 1996). The status quo bias is implicated in the current results because consumer inaction is most common when the advisory firm is retained, that is, when the acquired fund is most likely to be perceived as keeping with the status quo. Of course, we cannot rule out the possibility that action omission and decision deferral also contribute to consumers' general tendency to retain funds too long after an acquisition, regardless of advisory firm status. Future research is necessary to make more fine-grained distinctions among such closely related biases.

Broadly speaking, our results are consistent with Benartzi and Thaler (2007) conclusion that investors are slow to demand the most advantageous terms in a retirement contract; they make infrequent changes; and they adopt naïve strategies. The status quo bias in the mutual fund market is a problem from a personal and societal perspective due to retirement investment patterns. The trend in pension plans is toward 401K plans, and the majority of assets in such plans are mutual funds. In addition to 401K plans, mutual funds constitute the largest component of IRAs (Investment Company Institute 2010).

A policy implication is that funds should widely publicize any anticipated increases in the target fund's expense ratios to investors. Radin and Stevenson (2006) and the SEC (2004, 2000) provide examples of the lack of disclosure on mutual fund governance and gaps in disclosure within fund prospectus and company websites. The authors argue that the "mutual fund industry has not embraced the cultural changes and transparency in communications that has become the norm for publicly traded companies." Future research should examine whether the family complex management's ability to increase the target fund's expense ratio is due to ineffective governance by internal corporate governance.

Our findings provide empirical support for limited regulatory intervention (Benartzi and Thaler 2002; Camerer, Issacharoff, Loewenstein, O'Donoghue, and Rabin 2003). Following mutual fund acquisitions, the automatic default option of retaining consumer accounts enables acquiring fund complexes to employ suboptimal pricing strategies. A policy recommendation is for regulators to mandate an active decision clause requiring acquiring complexes to ask for consumer permission prior to increasing expense ratios and directly ask them if they want to remain with the fund being acquired. Consumers could be given a simplified enrollment process with a yes or no box for any substantial change in the contract such as an increase in expense ratio. Since mutual funds represent one of consumers' largest financial assets, individuals should be given a strong incentive to read the prospectus for any potential increase in the expense ratio and make an active decision to switch from their existing fund to an outside alternative.

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