Looking Inside Mutual Fund Advertising:

Governance Effects on Fund Flows and Future Performance

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Abstract

This research aims to evaluate the effectiveness of governance mechanisms of mutual funds that engage in advertising activities. The problem associated with mutual fund advertising is that it potentially misleads investors about the funds' performance and deters investors from redeeming their shares. This problem largely arises from advertising effects on fund flows and the two mutual fund control mechanisms, namely, boards of directors and share redemptions. The existing literature suggests that share redemptions are not fully functioning and provides mixed results for effectiveness of mutual fund governance.

Post-advertising adjusted returns analyses show that advertised funds do not underperform their counterparts in the aftermath. Rather, the advertised funds appear to consistently outperform the control group funds in every adjusted return measure as well as raw returns, though with weak statistic significance. The analyses of governance effects on future flows show that reputations of the board of directors, represented by the average disinterested directors outside directorships, significantly attract new investments. The analyses also show that director reputations are positively associated with future returns. Positive relations between reputations and future flows and returns suggest that the boards of advertised funds do not allow fund managers to exploit investors and are effective in monitoring fund performance. Investors are able to reduce search costs by investing in advertised funds of good governance. This conclusion is consistent with evidence that advertised funds possess high credentialed directors and that investors value board quality as future fund flow is positively associated with the number of outside directorships of disinterested directors.

I. Introduction

This research aims to evaluate the effectiveness of governance mechanisms of mutual funds that engage in advertising activities. The problem associated with mutual fund advertising is that it potentially misleads investors about the funds' performance and deters investors from redeeming their shares.[1] This problem largely arises from advertising effects on fund flows and the two mutual fund control mechanisms, namely, boards of directors and share redemptions. Fama and Jensen (1983) argue that governance mechanisms are less essential in mutual funds since fund investors are both shareholders and customers. If mutual funds under-perform then investors can redeem their shares at the market value of their pro-rata share of the funds assets. Redemption of mutual fund shares by investors withdraws assets under control of the fund managers which can be seen as a partial takeover which should serve to discipline the funds' managers. However, existing evidence shows that investors chase good returns but do not redeem shares in response to bad returns. Thus the prospect of mutual fund share redemption does not appear to be an effective disciplinary mechanism for fund managers. As a result, mutual fund advertising can potentially serve to insulate mutual fund managers from the disciplinary mechanism of share redemption.

The literature provides a rich theoretical background as well as empirical evidence for boards of directors as a functioning control mechanism in industrial corporations. However, mutual fund literature provides mixed results as to the effectiveness of the boards of directors. The literature assumes that fund fees are proxy for advertising. More interestingly, an important duty of mutual fund boards is negotiating fund fees with mutual fund management companies. This fact and the assumption that fees are proxy for advertising naturally bridge a relationship between board structure and advertising. Therefore, whether boards of directors of advertised mutual funds are effective monitors becomes the focal question of this research.

[1] Goetzmann and Peles (1997) administer questionnaires to funds shareholders and show that investors are adhered to their past investment decisions. The authors refer such the incident to psychological terms "cognitive dissonance." The authors note that the term is originally defined by Leon Festinger.

To answer the primary research question, I hypothesize that advertised funds have better governance mechanisms in comparison with control group funds. Mutual fund boards of directors can alleviate the managerial agency costs of mutual fund managers by carefully monitoring fund performance, negotiating fund fees and providing guidance to fund managers. Although these board functions are not always observable, the literature looks for favorable relations between fund performance and governance aspects as a proxy for good governance. Consequently, good governance would result in good fund performance and increases in fund flows. In evaluating effectiveness of governance, this research utilizes relations between board characteristics and future flows and relations between board characteristics and future returns.

The analyses of governance effects on future flows show that reputations of the board of directors, represented by the average disinterested director outside directorships, significantly attract new investments. Such effects of board reputations on future flows surpass the effects of advertising. This evidence partially supports the main hypothesis as well as gives rise to an additional assessment criterion for the main hypothesis. That is, director reputations must be positively associated with future returns in order to fully accept that governance of the advertised funds is effective. The analyses of governance effects on future returns show that governance attributes are related to future returns. Characteristics of boards of directors that contribute to good performance are low percentage of disinterested directors, low director compensation and highly reputable disinterested directors. Even though the boards of directors of advertised funds appear to capture economics rents through compensation and allow mutual funds to deliver decreasing future returns with respect to director compensation, investors do not increasingly invest in the advertised funds of highly compensated directors. The evidence from governance and future returns analyses, in conjunction with that of governance and future flows analyses, validates the main hypothesis.

II. Hypotheses and Related Literature

A. Hypotheses

Evidence from Jain and Wu (2000) that advertising significantly attracts new investments to mutual funds along with a view that advertising is a credible signal of fund quality and that only well governed funds will choose to advertise give rise to a main hypothesis that advertised funds have better governance mechanisms in comparison with control group funds. The Securities and Exchange Commission (SEC) regulates the form and content of mutual fund advertisements, and the goal is to prevent mutual funds from running misleading or fraudulent advertisements. Additionally, mutual funds often advertise their rankings or ratings from independent sources such as Morningstar or Lipper and such ratings could be seen as certification of quality by investors.[2] As a result, the advertised mutual funds should be among those well-governed funds. Following from the main hypothesis, the well-governed mutual funds would truthfully advertise and help investors reduce search costs.

In evaluating the main hypothesis, I compare the advertised funds performance with that of the non-advertised funds in the aftermath of advertising as well as evaluate the relations between governance and future performance. The evaluation based on relations between governance and performance arises from literature on industrial organizations which provides some evidence that good governance or intense monitoring is associated with good performance. Fich and Shivdasani (2006) find that stock return performance is associated with positive (negative) abnormal returns in response to more (less) intense monitoring proxied by a busy-board measure. Core, Holthausen and Larcker (1999) show that weak boards of directors are associated with high CEO compensation; and, such compensation level is associated with inferior company performance

Mutual fund literature also suggests that the value of governance to investors is substantial. For example, Zhao (2007) finds that fund flows are positively related to director ownership following the implementation of SEC's disclosure rules. That is,

[2] Morningstar is a registered trademark of Morningstar Inc., Chicago, IL. Lipper is a subsidiary of Thomson Reuters, London, England.

investors invest more in funds that are associated with better governance. Hence, evaluating the relations between governance and fund flows add to hypothesis assessment.

Based on the aforementioned hypothesis evaluation, advertised funds have better governance mechanisms when: (1) advertised funds performance is at least as good as that of their counterparts; (2) the relation between fund flows and governance is positive and more pronounced in advertised funds than in control funds; and (3) governance is favorably associated with future performance. The acceptance of the main hypothesis would lead to conclusions that advertising is effective when the boards are effective monitors and that the boards of directors help investors search for good mutual funds and protect shareholders' investments.

Previous empirical work on mutual fund governance suggests that the boards of directors are not always effective in the mutual fund industry. Meschke (2006) documents an insignificant relation between board independence, measured by either independent chairperson or percentage of independent directors, and fund performance. However, with different research design, Ding and Wermers (2005) show that the number of independent directors is positively associated with future fund performance. Additionally, Khorana, Tufano and Wedge (2007), studying mutual fund mergers, find that only boards with all independent directors are more likely to initiate mergers across fund family. Hence, as opposed to the main hypothesis, an alternative hypothesis is that the boards of directors of advertised funds are not distinguishable from those of other mutual funds. Evidence that does not agree with the good governance conditions would lead to an acceptance of the alternative hypothesis that advertising mutual funds are not associated with better governance and that advertising could represent a type of agency cost.

B. Mutual Fund Advertising, Fund Flows and Return Chasing

Mutual fund literature that studies advertising and fund flows suggests that advertising could be a misleading signal that add to a problem of incomplete share redemption. Jain and Wu (2000) find that fund flows are significantly greater for advertised funds than for a set of control group funds. The evidence in Jain and Wu

(2000) agrees with research studying the relation between past performance and fund flows. Sirri and Tufano (1998) find that investors choose to invest more in funds that exhibit better returns in the previous period. Ippolito (1992) specifically studies investor response to "fund quality" and finds that investors choose to invest in funds that exhibit good past performance and not to invest in funds that exhibit poor past performance.[3] In more recent research, Johnson (2006) utilizes proprietary data of all shareholder transactions in a mutual fund family and finds that investors chase good returns but the relation between share redemption and fund performance is not significant. The evidence from Jain and Wu (2000) hints that mutual fund advertisements fuel the problem of asymmetry buy-and-sell patterns documented in Ippolito (1992) and Johnson (2006).

In addition to research focusing on advertising, past returns and fund flows, empirical work analyzing fees charged by mutual funds provides consistent results with the effects of advertising and past returns on flows. Barber, Odean and Zheng (2005) find that, among other fees and expenses, only 12b-1 fees are positively related to fund flows.[4] Since 12b-1 fees are designated for marketing activities, the authors offer a conclusion that "investors buy funds that attract their attention through advertising and distribution." O'Neal (2004) documents an inverse relation between expenses and share redemptions and suggests that "such advertising not only increases overall fund flows, but also slows redemptions." These two aforementioned empirical works assume that fees are proxy for advertising. This assumption is partially correct because advertising budgets are funded by 12b-1 fees. One important duty of mutual fund boards is negotiating fund fees with mutual fund management companies. This fact and the assumption that fees are proxy for advertising naturally bridge a relationship between board structure and advertising. The literature also examines the relation between board structure and the level of mutual fund management fees. Tufano and Sevick (1997) find that fund fees are negatively related to

[3] The author defines a high-quality fund as the fund that "adds value to offset incremental expenses."

[4] 12b-1 fees refer to fees charged to shareholder according to the exemptive rule 12b-1 (permitting use of fund assets to pay distribution expenses pursuant to a plan approved by the fund directors, including a majority of the independent directors). The SEC also provides an explanation for mutual fund fees. Specifically, the 12b-1 fees "include fees paid for marketing and selling fund shares, such as compensating brokers and others who sell fund shares, and paying for advertising, the printing and mailing of prospectuses to new investors, and the printing and mailing of sales literature." This explanation is available at http://www.sec.gov/answers/ mffees.htm (accessed February 2009).

the number of independent directors and positively related to size of the board.[5] This evidence affirms a relation between board characteristics and fees and thus gives rise to a conjecture that board characteristics and advertising are related.

C. Performance Persistence

An important primary objective of investing in mutual funds is to increase shareholder wealth. Because advertised funds largely refer their advertisements to past performance, answering the questions whether these funds continue to deliver value and whether these funds outperform their counterparts of comparable past returns adds to the contribution of this research and provides a basis for main hypothesis evaluation. The literature shows that mutual funds tend to be able to maintain their performance. However, the length and the explanations of such persistence vary and depend on research designs. The evidence that performance persists and that fund flows are positively related to performance validate the control group fund selection criterion that control group funds and advertised funds have comparable past returns.

Focusing on annual data, Brown and Goetzmann (1995) show that mutual fund performance persists but note that the persistence is sensitive to sample year. The authors also note that "investors can use historical information to beat the pack." Grinblatt and Titman (1992) analyze mutual fund performance over a 10 year period of which the first five years are designated for past performance and benchmark returns calculations and the last five years are designated to persistence analyses. The authors, utilizing time-series regressions of cross-sectional average portfolio returns on benchmark returns, find that mutual funds exhibit performance persistence. Utilizing both regression framework and portfolio evaluation, Hendricks, Patel and Zeckhauser (1993) extensively evaluate the persistence of mutual fund performance with various *ex post* and *ex ante* windows. The authors find consistent results that mutual fund performance persists. Additionally, the authors emphasize that shorter-horizon past performance is more related to shorter-horizon future performance than the cases of longer evaluation periods.

[5] Independent directors are those not deemed to be interested persons defined by section 2(a)(19) of the Investment Company Act of 1940. The SEC has conducted studies and released documents regarding the independence of independent directors. Interpretations for independence are largely referred to material business and professional relation. An example of the related documents (statement of staff position) is available at http://www.sec.gov/rules/interp/ic-24083.htm (accessed February 2009).

Carhart (1997) implements risk-factor models and shows that the momentum factor very well explains mutual fund returns. Specifically, in a four-risk-factor model, the coefficients of momentum factor are significant in time-series analyses as well as vary across yesteryear-return-sorted decile portfolios. The author also shows that the momentum factor does not explain mutual fund returns in the analyses of longer past portfolio formation periods and future returns. Interestingly, over the author's study period, only two out of ten decile portfolios, formed on yesteryear returns, show greater average monthly excess (of risk-free rate) returns than the average monthly market excess (of risk-free rate) returns.[6] Although the author does not particularly study this comparison or provide statistical tests, this evidence is consistent with a notion that most mutual funds exhibit poor performance in comparison with market returns. Carhart, Carpenter, Lynch and Musto (2002) provide theoretical analyses to Carhart (1997) and confirm that the mutual fund performance persists.

Much of the literature on mutual fund return persistence provides that performance persists to some extent. Nevertheless, a handful of research finds the lack of performance persistence. Berk and Green (2004) analyze money flows into mutual funds and conclude that chasing performance is rational even with an absence of performance persistence. Return chasing is a result of competition among investors to invest in funds of superior performance. The analyses in Berk and Green (2004) provide that return chasing is rational, even though the funds do not subsequently deliver persistent returns.

In a recent study, Bollen and Busse (2005) re-examine performance persistence and find that the persistence of declie portfolios, formed on daily abnormal returns estimated during a lagged three-month period, only last into the following three months. This persistence is shorter than that previously documented in the literature. The evidence in Bollen and Busse (2005) weakens the dominating conclusion of performance persistence. Jain and Wu (2000) finds that, from their sample of advertised and control group funds, future returns exhibit reversal patterns. The evidence that appears to conflict with that of the majority of literature arises from different research designs. In Jain and Wu (2000), the advertised and comparable funds are those of high past returns. The

[6] See table II and table III in Carhart (1997).

sample in Jain and Wu (2000) is different from the mutual fund samples that yield persistent returns and, thus, yields reverse returns.

Based on the aforementioned literature, performance persistence lasts at least into the near future, even though the explanations for such persistence are mixed between momentum effect and manager skills. Theoretical frameworks also show that investing in funds of good past performance is rational. Hence, using a control group of funds with similar past returns is essential to the evaluation of advertised funds' performance, persistence and fund flows. Additionally, regardless of the inconsistent evidence, an evaluation of future performance is essential to the purpose of this research.

D. Director Incentives and Control Mechanisms

Director compensation is one of the most obvious forms of incentives for directors to perform their duties. Hence, director compensation provides another basis of hypothesis evaluation. Compensation can either motivate fund directors to monitor efficiently or deter them from rigorously perform their duties. The later scenario, a problematic and unique situation to mutual fund industry, arises from the fact that fund management companies initially specify the boards of directors. Subsequently, the boards would be more inclined to retain the management companies so as to continue enjoying the compensation. Tufano and Sevick (1997) discuss the implication of compensation and fees charged to shareholders as following:

> Funds or fund sponsors that are more likely to seek higher fees to capture rents (produced through brand-name capital or barriers to exit by shareholders) would be more likely to select boards that would be less effective monitors. … The sponsor might also voluntarily share some of its rents with the directors in the form of higher directors' compensation to induce them to permit the sponsor to capture a larger share of the rents (in the form of higher fees).

The results in their study show some evidence that boards with highly compensated independent directors allow funds to charge higher fund fees. A theoretical framework in Kuhnen (2005) and Kuhnen (2007) agrees with this evidence. Not only does the director

compensation appear to directly associate with fees, but the compensation should also have implications on advertising as well as fund performance. Consequently, the director compensation is a meaningful vehicle for hypothesis assessment.

Director ownership is another form of incentives useful to evaluate the main hypothesis. Following from Jensen and Meckling's (1976) theory of the firm and large body of managerial ownership research in industrial corporations, the mutual fund literature has also identified a relation between director ownership and fund performance. Meschke (2006) finds that fund performance is positively related to director ownership but negatively related to director compensation. Consistent with this evidence, Cremers, Driessen, Maenhout, and Weinbaum (2006) show that a portfolio consisting of low director ownership funds exhibit significantly lower returns than a portfolio of high director ownership funds. Because director ownership is evidently related to fund performance and performance leads to advertising, an inclusion of director ownership would provide an insight for evaluating the effectiveness of mutual fund boards of directors.

Based on the findings that interested directors own more shares than do disinterested directors and that more individual interested directors own shares than individual disinterested directors, Chen, Goldstein and Jiang (2008) suggest that monitoring benefits to shareholders motivate directors to own mutual fund shares. This suggestion is consistent with evidence in Zhao (2007) who focuses on investor reactions to the SEC's requirements of director ownership disclosure.[7] Drawing from a finding that fund flows are positively related to director ownership following the enactment of the requirement, Zhao (2007) suggests that investors take director monitoring and ownership into account. This evidence implies that directors should own more when fund flows are increasing due to advertising. Thus, the director compensation and ownership are also meaningful in evaluating the main hypothesis.

[7] In January 2001, The SEC passed amendments to exemptive rules under the Investment Company Act of 1940. The amendments require that, among other requirements, mutual funds disclose directors share ownership of funds they oversee and aggregate ownership of all other funds within the same fund family. The compliance date for this requirement is January 31, 2002. Details of the amendments are available at http://www.sec.gov/rules/final/34-43786.htm#seciii (accessed February 2009).

In addition to director compensation and share ownership, a total of an individual's directorships also provide some evidence that it is associated with governance quality. Literature in corporate governance regards outside directorships as a measure of director reputations. However, only the appropriate number of directorships would results in an optimum workload which in turn allows a director to provide intense monitoring. Fich and Shivdasani (2006) derive a busy-board measure from directors' outside directorships and document positive (negative) abnormal returns in response to more (less) intense monitoring. The workloads of directors in mutual funds are typically different from that in industrial corporations. For mutual funds, the number of directorships might be associated with performance differently. Therefore, analyses of the relations between outside directorships and future returns and flows would add to the main hypothesis evaluation.

III. Sample, Data and Fund Flow Calculations

A. Advertised Mutual Funds

This research collects mutual fund advertisements from Barron's and Money magazine from January 2003 to June 2006. The initial printed advertisement sample consists of both referential and non-referential advertisements. I define referential advertisements as those that cite any combinations of past performance, Morningstar ratings and Lipper ratings and non-referential advertisements as those that do not mention any performance references.[8] During a period of 42 months, there are a total of 2,377 advertisements. I drop the non-referential advertisements since the provided information does not always tie to specific funds and largely only refers to fund management companies. The sample is left with 1,282 fund-appearances that cite any combinations of performance references. This pool of printed advertisements results in 173 unique mutual funds.

[8] An example of referential advertising is T.RowePrice Dividend Growth Fund (NASDAQ ticker, PRDGX) that advertises Morningstar rating and adds past performance in the subsequent appearances. The beginning of this fund advertising campaign is its first appearance in Barron's in July 2003 of which no advertising appears during the preceding three months. During the sample period, the fund advertises 11 times and the last appears in Money in February 2006. An example of non-referential advertising is Marsico Funds advertising which is pictorial and does not provide any information of specific funds. The non-referential advertising does not account for the advertising sample.

The advertised funds are indentified manually in CRSP database using NASDAQ ticker symbol, fund name, management company name and share class. I drop funds that are not covered by CRPS and adopt Lipper objective as a mean to identify fund category since Lipper objective is the only fund classification available in the database during the study period. Following the selection criteria in previous literature, I include only equity funds in the advertised funds sample. The resulting advertised funds sample consists of the following Lipper categories; (1) Balanced, (2) Capital Appreciation, (3) Equity Income, (4) Growth, (5) Growth and Income, (6) Mid-Cap and (7) Small-Cap. While Lipper classification may not be completely identical to Morningstar classification implemented in previous literature, these resulting Lipper categories are quite general and should not differ substantially from Morningstar categories. The final advertised funds sample consists of 115 unique funds.

The next step of sample selection is to identify the beginning of each fund's advertising campaign. I define the beginning of each advertising campaign as a fund's first advertising without any advertising appearance during the preceding three calendar months. The calendar month that contains first advertising is, then, labeled as month zero. Unlike Jain and Wu (2000), who count a certain fund as different observations when fund subsequently updates its advertised past returns, I count each fund into the sample only once. From the sample of 115 funds, the advertising campaigns last 332 days and appear 8.53 times on average.

B. Control Group Mutual Funds

Based on existing evidence that return chasing prevails in mutual funds, past performance is a suitable control group selection criterion for the purpose of this research. I assume that control group funds possessing comparable past performance would be equally attractive to investors as the advertised funds would. This assumption essentially controls the chosen funds for the foremost determinant of fund flows. Therefore, the control group funds of comparable past performance enable econometric analyses to single out the effects of advertising.

This study adapts Jain and Wu's (2000) matched fund selections so that the processes are applicable with CRSP mutual fund database. I separate and drop both

referential and non-referential advertised funds and all other funds that belong to the advertised funds management companies from the database. Dropping out all other funds from advertised fund families ensures that matched funds are those not benefitting from advertisements. Additionally, funds must be older than five years old at the time of matching, be between $500,000 and $30 billion in total net assets and be an investor class as identified in CRPS mutual fund database. Then, for each month and each Lipper objective category, I rank the sample funds and all other non-advertised funds by previous 12-month compound returns.

Similar to Jain and Wu (2000), I limit the matched fund at eight funds for each advertised fund. However, I specifically select matched funds from the four higher and the four lower funds closest in previous 12-month compound return ranking for each advertised fund. The resulting numbers of control group funds are not completely symmetric on higher and lower ranking for every advertised fund because some advertising funds are the best performers in their Lipper objective categories. The final sample of non-advertising matched funds consists of 892 funds.

C. Mutual Fund Performance Data and Fund Flow Calculations

I utilize monthly mutual fund performance data from CRSP mutual fund database. For each mutual fund, I calculate compound returns of past and future returns over certain windows as followings: $R_{i,\tau to T} = \prod_{t=\tau}^{T}(1+R_{i,t})-1$; where, $R_{i,t}$ is fund *i*'s return over month t. For example, $R_{i,-24to-1}$ is compound return from month -24 to month -1 for fund *i*; that is, $R_{i,-24to-1} = \prod_{t=-24}^{-1}(1+R_{i,t})-1$.

Shown in table 1, the average yesteryear returns ($R_{,-12to-1}$) for advertised funds and control group funds are 14.90% and 14.83%, respectively. The back-test for the difference of yesteryear returns confirms that the advertised funds and the control group funds have statistically non-significant difference in variance with probability value of 0.9577 and non-significant difference in average with probability value of 0.9676. Thus, the control group funds are matched to the sample group funds on returns.

Similar to previous literature, this study assumes that existing investors reinvest their dividends and that the new money flows into the funds at the end of the time period. These assumptions are applicable with recently changed CRSP database. I define fund flow as $Flow_{,t} = [TNA_{,t} - TNA_{,t-1} \times (1+R_{,t})]$ where $R_{,t}$ is net-of-expense return during month *t*.[9] The defined $Flow_{,t}$ offers direct interpretations of money flowing into funds. I note that flow definition in existing literature does, in fact, refer to fund growth. Additionally, fund growth is not an ideal measure for the purpose of this research since the advertised and the control group funds are not specific to a certain size-group of all mutual funds and the same amount of money flow can possibly result in a severely different growth for small and big funds. For example, money flow of 100 million dollars turns into fund growth of 10% and 200% for funds with total net assets of one billion dollars and 50 million dollars, respectively.

Existing mutual fund advertising literature focuses on the period of one-year after advertising starts. However, I find that an average campaign lasts approximately one year. Therefore, I also include two-year pre- and post-advertising fund flows in the analyses. Consequently, flow measures become $Flow_{i,\tau\ toT} = \sum_{t=\tau}^{T} Flow_{i,t}$ where $Flow_{i,t} = TNA_{i,t} - [TNA_{i,t-1} \times (1+R_{i,t})]$, τ and T denote the beginning and ending month, respectively. Summary statistics in table 1 show that, on average, advertised funds are bigger in asset size than the matched funds. Similar to year-end total net assets of all the funds covered in CRSP database, the distribution of asset size as of month 0 ($TNA_{,0}$) for each group is highly skewed. Advertised funds have greater average dollar funds flow in one and two year period following the advertising ($Flow_{,0to11}$ and $Flow_{,0to23}$) than control group funds.

D. Mutual Fund Governance Data

Mutual fund governance data are available through the SEC's EDGAR database. The Statement of Additional Information (SAI) filed with prospectuses (form 485A or 485B) includes, among other information, director names, primary occupations during the past five years, compensation and share ownership. Due to inconsistent formats of

[9] Existing literature refers to flows as $[TNA_{,t} - TNA_{,t-1} \times (1+R_{,t})] \div TNA_{,t-1}$ where $R_{,t}$ is net-of-expense return during month t.

SAIs from different mutual fund companies, the information is parsed manually. I utilize ticker symbol, fund name, fund complex and advisor name to search for governance data in EDGAR database. The governance data are complete for all 115 advertised funds but are incomplete for seven non-advertised funds. This reduces the control sample of non-advertised funds to 885 funds in governance analyses.

The governance characteristics included into the analyses are: (1) the numbers of director on board; (2) percentage of disinterested directors on board; (3) average director share ownership; (4) average disinterested director compensation and (5) average disinterested director outside directorships. The number of directors on board is a count of individuals serving as a director for a mutual fund. This variable is a measure of the size of the board of directors as well. Percentage of disinterested directors is a count of directors who are disinterested persons divided by the board size. This variable is a measure of control influence from disinterested directors.

Director share ownership and compensation represent interest alignment of incentives. According to the SEC rules, mutual funds disclose directors share ownership for specific funds as well as for all funds within fund families in the following ranges: none; $1 to $10,000; $10,001 to $50,000; $50,001 to $100,000; and more than $100,001. Rather than quantifying true ownership which is subject to unavoidable measurement errors, this research accounts each director's share ownership by value 0 to 4 following the reported ranges in ascending order. Then, I take the average value of director share ownership for each mutual fund. The transformation that takes values between 0 and 4 sufficiently provides variation of share ownership for regression analyses. Hence, this transformation of director share ownership represents interest alignment and serves the purposes of governance analyses.

Following the SEC's disclosure requirements, director compensation data are available for only disinterested directors. Thus, the director compensation, representing director incentive to provide effective monitoring, is an average compensation for only disinterested directors. I scale the average compensation by 10,000 so as to adjust its coefficients in regression analyses. The average disinterested director outside directorships is an average of directorships outside mutual fund family held by disinterested directors. This variable represents reputations or credentials of the boards.

Table 2 reports Pearson correlation coefficients of advertising dummy and governance variables as well as provides summary statistics. In panel A, advertising dummy is strongly positively correlated with every governance variable. Additionally, each governance variable appears to strongly correlate to one another with exceptions of the pair of average disinterested director compensation and average share ownership, the pair of board size and share ownership, and the pair of board size and percentage of disinterested directors.

Panel B of table 2 shows that, on average, a mutual fund board has disinterested directors holding 1.08 outside directorships per disinterested director. In terms of compensation, a mutual fund pays $85,185 compensation to a disinterested director on average. An average board size is 7.87 directors and an average percentage of disinterested directors is 78%. The t-test of mean difference between advertised and non-advertised funds provides consistent results with the statistically significant correlation coefficients between advertising dummy and all governance variables shown in panel A.

IV. Post-advertising Returns and Flow

A. Post-advertising Returns

For the performance comparisons of advertising and control group funds during the post-advertising periods, I employ six different return measures, three of which are asset pricing model adjusted returns and the other three are simple excess returns. The first model-adjusted return measure is Jensen's alpha. The Jensen's alpha for 12-month pre-advertising period is the intercept from CAPM estimated over month -12 to month -1, where month 0 is the month when an advertised fund has a printed advertisement without any advertisement during the preceding three months. For each control group fund, month 0 is its counterpart's month 0. The other two model-adjusted returns are the intercept from Fama and French's (1993) three-factor model and the intercept from Carhart's (1997) four-factor model. Jensen's alpha, three-factor adjusted return and four-factor adjusted return are intercepts of the following asset pricing models, respectively.

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_{,i} (R_{i,t} - R_{m,t}) + \varepsilon_{i,t} \quad (1)$$

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_{1,i} (R_{i,t} - R_{m,t}) + \beta_{2,i} SMB_{,t} + \beta_{3,i} HML_{,t} + \varepsilon_{i,t} \quad (2)$$

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_{1,i} (R_{i,t} - R_{m,t}) + \beta_{2,i} SMB_{,t} + \beta_{3,i} HML_{,t} + \beta_{4,i} UMD_{,t} + \varepsilon_{i,t} \quad (3)$$

In (1) to (3), $R_{i,t}$ is fund i's monthly return. $R_{f,t}$ is monthly risk-free rate. $R_{m,t}$ is monthly S&P500 return. $SMB_{,t}$ is monthly factor mimicking small stocks returns minus big stocks returns. $HML_{,t}$ is monthly factor mimicking high value stocks returns minus low value stocks returns. UMD,t is monthly factor mimicking high (up) momentum stocks returns minus low (down) momentum stocks returns. For the longer pre-advertising period of 24-month, I estimate the intercepts from month -24 to month -1. Likewise, I estimate the intercepts for the post-advertising periods of 12-month and 24-month from month 0 to month 11 and from month 0 to month 23, respectively.

The last three adjusted returns are fund excess returns on market, on equally-weighted category average returns (EW Objective Adjusted Return) and on value-weighted category average returns (VW Objective Adjusted Return). Category returns are the weighted average returns of all funds in Lipper objective category of each advertised fund.[10] I account for the pre- and post-advertising periods of 12-month and 24-month for both advertised and control group funds in a similar fashion as in the estimations of model adjusted returns. Instead of using the fund's total net assets at the beginning or at the end of each respective period, I pin each fund's scaled total net assets at month 0 since I aim to assess the performance around month 0. The followings are the calculations for the three excess returns:

$$\text{Market adjusted return}_{i,\tau to T} = \left[\prod_{t=\tau}^{T}(1+R_{i,t})-1\right] - \left[\prod_{t=\tau}^{T}(1+R_{m,t})-1\right] \quad (4)$$

$$\text{EW objective adjusted return}_{i,\tau to T} = \left[\prod_{t=\tau}^{T}(1+R_{i,t})-1\right] - EWR_{obj,\pi oT} \quad (5)$$

$$\text{VW objective adjusted return}_{i,\tau to T} = \left[\prod_{t=\tau}^{T}(1+R_{i,t})-1\right] - VWR_{obj,\pi oT} \quad (6)$$

[10] I refer to category and objective interchangeably throughout the paper

In (4) to (6), $R_{i,t}$ is fund *i*'s monthly return. $R_{m,t}$ is monthly S&P500 returns. $EWR_{obj,\tau to T}$ = $\sum_{i=1}^{n}\left[\prod_{t=\tau}^{T}(1+R_{i,t})-1\right] \div n$. $VWR_{obj,\tau to T}$ = $\sum_{i=1}^{n}\left[\frac{TNA_{i,t=0}}{\sum_{i=1}^{n}TNA_{i,t=0}} \times \left[\prod_{t=\tau}^{T}(1+R_{i,t})-1\right]\right]$

Table 3 reports the raw and adjusted returns for one year and two year post-advertising period in panel A and B, respectively. Similar to the evidence in the existing literature, advertised funds do not exhibit superior performance in the aftermath. During the one year post-advertising period, the t-test of mean equal to null for advertised funds shows that all the adjusted returns are either negative or zero. However, all of these average adjusted returns are less negative in both magnitude and statistic significance for the advertised funds than for the control group funds. For example, Jensen $alpha_{,0to11}$ is -0.154% (t-statistics of -4.01) and is -0.173% (t-statistics of -10.50) for the advertised funds and the control funds, respectively.

In panel B of table 3, all of the adjusted returns measured over month 0 to month 23, except EW objective adjusted $return_{,0to23}$, follow the pattern of shorter aftermath adjusted returns in panel A. Both the advertised and the control funds exhibit either negative or insignificant positive average. However, the advertised funds exhibit less negative in magnitude and statistic significance than the control group funds. For the EW objective adjusted $returns_{,0to23}$, both groups exhibit statistically significant positive average, yet the advertised funds show more positive in magnitude and significance level than the control funds. The post-advertising adjusted returns suggest that the advertised funds do not underperform their counterparts in the aftermath. Rather, the advertised funds appear to consistently outperform the control group funds in every adjusted return measure, though with weak statistic significances.

B. Post-advertising Flow

To confirm the effect of advertising on fund flows, I utilize regression framework so as to control the effects of fund size, past returns and past flow measures. For 24-month sampling period, I combine year-two with year-one pre-advertising returns into one past returns variable. Doing so would reduce multi-collinearity that might arise from the inclusions of $Ret_{,-24to-13}$ and $Ret_{,-12to-1}$ as two independent variables. Likewise, I

separately combine year-two with year-one pre- and post-advertising flow measures into single variables. Similar to those of previous literature, the regression models include the natural logarithm of total net assets as of month 0 (LnTNA) as an independent variable in order to control for size effects on fund flows. In addition to sole dependent variables, I add two interaction terms of advertising dummy with past flow measure and past returns. The general form of regression models is following:

$$\begin{aligned}\text{Future flow} = \quad & \text{Advertising} + \text{LnTNA} + \text{Past flow} + \text{Past returns} + \\ & (\text{Advertising} \times \text{Past flow}) + (\text{Advertising} \times \text{Past returns}) \end{aligned} \tag{7}$$

In regression model (7), Advertising is a dummy variable taking value of unity for the advertised funds and zero otherwise. LnTNA is the natural logarithm of the funds' total net assets at the end of month 0 for advertised funds and of the end of the same calendar month for respective control group funds. Future and past flow measures are as described in the previous section. Past returns are fund raw returns compound monthly over the analysis period.

Results in table 4 show that advertising significantly brings in more money to the advertised funds vis-à-vis the control group funds. The selections of control group funds for this study do not restrict them to be of any comparable size to their counterparts. These selection processes are analogous to assuming that mutual funds of any asset size are eligible to advertise. Consequently, conclusions from the analyses using Flow are more generalized than those from the analyses using existing literature's version of flow which represent fund growth.

For all the regressions presented in table 4, coefficients for the advertising dummy reveal economically and statistically positive effects on Flow. In regression 1 and 3, advertising additionally attracts 47.7689 (t-statistic of 2.00) and 211.9355 (t-statistics of 3.31) million dollars to the advertised funds for the period of one-year and two-year after the funds start advertising, respectively. This finding confirms that advertising is an effective force that attracts new money into the advertised funds. Although $R_{,-12to-1}$ is negatively related to $Flow_{,0to11}$ in regression 1, I note that $R_{,-12to-1}$ is fitted in regression as decimal and that coefficient of -63.9097 means a 10% decrease in $R_{,-12to-1}$ would

associate with an increase of only 6.39 million dollars flows. One notable result shown in table 4 is that adjusted R-squares are as high as 59% and 32% for regression 1 and 3, respectively.

Advertising dummies in regressions that include interactions show more pronounced significance level and greater magnitude than those of regressions without interactions. In regression 2 and 4, coefficients on advertising dummy are 103.7835 (t-statistic of 3.54) and 279.8130 (t-statistics of 3.85), respectively. Although Flows show continuity from past to future and for both control and advertised funds, the interaction terms of advertising dummy and past Flows show that the continuity for advertised funds is economically smaller than that of control funds. That is, in regression 2 and 4, coefficient of Ads × $Flow_{,-12to-1}$ equals -0.2363 (t-statistic of -5.50) and coefficient of Ads × $Flow_{,-24to-1}$ equals -0.2459 (t-statistics of -3.82). Since coefficients of $Flow_{,-12to-1}$ and $Flow_{,-24to-1}$ are positively significant, the effects of past Flows on future Flows for advertised funds reduce to 0.6793 (0.9156-0.2363) and 0.5769 (0.8228-0.2459) for one year and two year period, respectively.

The only statistic significant coefficient of LnTNA is weakly positive in regression 1. This finding is complimentary to the validity of the models and results. That is, even with the presence of LnTNA as control variable in the models, advertising is largely significantly related to future Flows. In regression 2, the coefficient of Ads × $R_{,-12to-1}$ seems to be puzzling. On average, a decrease of 1% in $R_{,-12to-1}$ associates with an increase of 2.78 million dollars flows into advertised funds from month 0 to month 11. Although this effect is far lesser than the effect of advertising on future Flows, I note that the resulting negative coefficient might arise from non-linear relationship between return and flows and from sample and control funds that are largely top-performers in their fund categories. That is, the negative coefficient implies that investors choose to invest, among high-return funds, in the fund that exhibits slightly lower returns. An additional interpretation for the negative coefficient of Ads × $R_{,-12to-1}$ is that the advertised funds successfully attract more money even if their past returns are slightly lower than those of control funds.

V. Effectiveness of Governance

A. Effects of Governance on Future Flow

For governance analyses, I include advertising dummy, governance variables and their interactions with advertising dummy in the models. The interactions between the advertising dummy and other variables attempt to separate governance effects for advertised and non-advertised funds. Such regressions would provide in-depth conclusions for advertised funds governance as it might be significantly different from that of non-advertised funds in attracting future flows. The regression model takes the following general form:

$$\begin{aligned}\text{Future flow} &= \text{Advertising} + \text{Governance variables} \\ &\quad + \text{LnTNA} + \text{Past flows} + \text{Past returns} \\ &\quad + (\text{Advertising} \times \text{Governance variables})\end{aligned} \tag{8}$$

Governance variables in regression (8) include director share ownership, disinterested director compensation, disinterested director outside directorships, the number of directors on board and percent of disinterested directors on board. Other variables in regression (8) are as aforementioned. This regression specification offers opportunities to fully investigate the effects of advertising and governance on future fund flows. This specification would also provide evidence that answers whether investors value mutual fund governance. More interestingly, the interactions between advertising dummy and governance variables will provide insights into the governance effects on fund flows that are specific for advertised funds.

Regressing future fund flows onto governance characteristics shows that credentials of the boards represented by the average disinterested director outside directorships are positively related to future fund flows. This finding implies that the values of director reputations to mutual funds are substantial, since the reputations of directors attract new investments. The positive relation between board reputations and flows is greater in magnitude and prevails in both the one and two year post-advertising period for the advertised funds. In table 5, regression 1 and 3, which do not include

interactions between advertising dummy and governance variables, show that the average disinterested director outside directorships is positively related to future flows in the one and two year post-advertising period, respectively. Although the regressions in table 5 might be affected by multi-collinearity, I note that an unreported regression that drops other four governance variables and includes only average directorships provides consistent conclusions.

Regression 2 and 4 which include the interactions of all five governance attributes show that outside directorships are positively related to future flows for the advertised funds over the one year post-advertising period and for both advertised and non-advertised funds over the two year post-advertising period. For the advertised funds, an increase in one average outside directorships attracts an additional $61 million of flows and an additional $227 million of flows for one and two year period, respectively. Even though director share ownership results in a puzzling negative relation with future flows in the two year period, I note that average share ownership is an ambiguous governance variable following from the reported data. Hence, the share ownership might not yield an accurate conclusion.

The positive relation between director credentials and fund flows satisfies a good governance condition of the main hypothesis. A direct interpretation on the positive relation is that investors value boards of high credentials, especially among advertised funds. The analyses also provide that the effects of director reputations on future flows, which persist in both one and two year period for the advertised funds, surpass the effects of advertising. In conclusion, the evidence suggests that good governance represented by credentials of disinterested directors is an important factor in attracting new investment money.

B. Effects of Governance on Future Returns

I analyze effects of governance on future returns with similar specification as that used in governance and fund flow analyses. Regressing future returns on explanatory variables as those in model (8) would provide evidence whether governance is also related to future returns. Mutual fund literature does not specifically limit explanatory variables to only factors related to returns and might as well predict future returns from

factors other than returns. However, for the purpose of this research, I note that regressing future returns on governance variables does not serve the purpose of future return prediction. Rather, such regression provides evidence that answers whether governance is related to fund performance. This evidence, together with that from future flow regression, would justify whether governance of the advertised mutual funds is effective and whether investors value the correct governance aspects that are associated with good performance. The future return regression takes the following general form.

$$\begin{aligned}\text{Future returns} = {} & \text{Advertising dummy} + \text{Governance variables} \\ & + \text{LnSize} + \text{Past flow} + \text{Past return} \\ & + \text{Advertising dummy} \times \text{Governance variables} \qquad \ldots (9)\end{aligned}$$

All variables in model (9) are as aforementioned.

Regressions of future returns on governance variables offer opportunities to investigate whether governance attributes that affect future flows would respectively associate with future returns. The analyses show that the average of disinterested director outside directorships, which significantly attracts new investments, positively contributes to future returns for one and two year post-advertising period. Regression 2 and 4 in table 6 show that an increase in one average outside directorships adds 0.89% and 1.68% to future returns in one and two year post-advertising period, respectively. This effect is indifferent for advertised and non-advertised funds. The evidence suggests that credentials or reputations of the boards of directors, measured by average disinterested director outside directorships, contribute to higher future returns for both non-advertised and advertised funds.

Regressions in table 6 also show that the percent of disinterested directors on board is negatively related to future returns for both non-advertised and advertised funds. For both advertised and non-advertised funds, a 10% increase of disinterested directors is associated with a decrease of 0.80% and 1.57% returns over one and two year post-advertising period, respectively. Additionally, for the advertised funds, disinterested director compensation is negatively associated with future returns. However, this negative effect is economically small. That is, an increase of $10,000 in average

disinterested director compensation is associated with a decrease of 0.30% and a decrease of 0.77% for the advertised funds in the one and two year post-advertising period, respectively.

These results suggest that lower percent of disinterested director and lower director compensation are associated with better governance. Following from the results, interested directors appear to contribute to performance and disinterested directors appear to capture economic rents through compensation. Even though compensation and percent of disinterested directors affect future returns, the effects of governance on flow indicate that investors do not positively respond to these two governance aspects. Rather, investors choose to follow director reputations which in turn contribute to good performance.

The analyses of governance effects on future returns also reveal that mutual funds exhibit return reversal from pre-advertising to post-advertising period in both one and two year window. Although this evidence is inconsistent with that from much of the literature, it resembles the evidence from research of similar methodology, namely, Jain and Wu's (2000). Furthermore, the return reversal explains investor choices to invest in the funds of lower returns among the advertised funds sample. This interpretation arises from the resulting negative coefficient of interaction between advertising and past returns in the analyses of advertising effects on future flows reported in table 4.

The analyses of governance effects on future returns provide that a combination of governance characteristics that contribute to good performance is low percentage of disinterested directors, low director compensation and highly reputable disinterested directors. The analyses also confirm that the advertised funds neither underperform nor outperform their counterparts. The anecdotal evidence suggests that both non-advertised and advertised funds exhibit return reversal in the aftermath of advertising. In conjunction with the evidence that investors choose to invest more in the advertised funds of highly reputable boards of directors, the positive relations between director reputations and future returns justify the main hypothesis.

VI. Conclusion and Discussion

The initial analyses show that advertised mutual funds significantly attract more new investments than a group of control non-advertised funds. This result confirms the existing literature. While advertising is a proven force that attracts new money, it could very well be a misleading instrument, had the advertised funds fail to continue delivering good returns. Since the literature suggests that investors chase good returns and that they do not redeem their mutual fund shares in response to subsequently poor returns, protecting shareholder interests against misleading advertising largely rests upon governance.

The analyses of post-advertising performance show that the advertised funds do not underperform their counterparts in the aftermath. Rather, the advertised funds appear to consistently outperform the control group funds in every adjusted return measure as well as raw returns, though with weak statistic significance. The analyses of governance effects on future flows show that reputations of the board of directors, represented by the average disinterested director outside directorships, significantly attract new investments. Such effects of board reputations on future flows surpass the effects of advertising. This evidence partially supports the main hypothesis as well as gives rise to an additional assessment criterion for the main hypothesis. That is, director reputations must be positively associated with future returns in order to fully accept that governance of the advertised funds is effective.

The analyses of governance effects on future returns show that governance attributes are related to future returns. Characteristics of boards of directors that contribute to good performance are low percentage of disinterested directors, low director compensation and highly reputable disinterested directors. This result supports the view that director compensation adversely contributes to fund performance. Even though the boards of directors of advertised funds appear to capture economics rents through compensation and allow mutual funds to deliver decreasing future returns with respect to director compensation, investors do not increasingly invest in the advertised funds of highly compensated directors. The evidence from governance and future returns analyses,

in conjunction with that of governance and future flows analyses, validates the main hypothesis.

The positive relation between director credentials and future returns and flows also offer additional interpretations as to mutual fund advertising and investors. The evidence suggests that mutual funds cannot simply exploit investors through advertising. Rather, investors choose to invest in mutual funds of highly reputable boards of directors for both advertised and non-advertised funds but invest more in the advertised funds than in the non-advertised funds. As a result, mutual funds that advertise attract new investments the most when they have highly creditable directors. The director credentials are also positively associated with future returns. Following from the analyses, advertising *per se* does not signal superior future performance in comparison with the control group funds. However, credentials of the boards inherent in the advertised funds attract new investments as well as contribute to future performance. Hence, governance quality proxied by board credentials signals the good governance. The investors respond to this signal positively and are able to capture good performance in the subsequent periods. The results also suggest that the boards of advertised funds do not allow fund managers to exploit investors and are effective in monitoring fund performance. Investors are able to reduce search cost by investing in the advertised funds of good governance.

References

Barber, Brad M., Terrance Odean, and Lu Zheng, 2005, Out of sight, out of mind: The effects of expenses on mutual fund flows, *Journal of Business* 78, 2095-2119.

Berk, Jonathan B., and Richard C. Green, 2004, Mutual fund flows and performance in rational markets, *Journal of Political Economy* 112, 1269-1295.

Bollen, Nicolas P. B., and Jeffrey A. Busse, 2005, Short-term persistence in mutual fund performance, *Review of Financial Studies* 18, 569-597.

Brown, Stephen J., and William N. Goetzmann, 1995, Performance persistence, *Journal of Finance* 50, 679-698.

Carhart, Mark M., 1997, On persistence in mutual fund performance, *Journal of Finance* 52, 57-82.

Carhart, Mark M., Jennifer N. Carpenter, Anthony W. Lynch, and David K. Musto, 2002, Mutual fund survivorship, *Review of Financial Studies* 15, 1439-1463.

Chen, Qi, Itay Goldstein, and Wei Jiang, 2008, Directors' ownership in the U.S. mutual fund industry, *Journal of Finance* 63, 2629 – 2677.

Chevalier, Judith, and Glenn Ellison, 1997, Risk taking by mutual funds as response to incentives, *Journal of Political Economy* 105, 1167-1200.

Core, John E., Robert W. Holthausen, and David F. Larcker, 1999, Corporate governance, chief executive office compensation, and firm performance, *Journal of Financial Economics* 51, 371-406.

Cremers, Martijn, Joost Driessen, Pascal Maenhout, and David Weinbaum, 2006, Does skin in the game matter? Director incentives and governance in the mutual fund industry, Working Paper, Yale International Center for Finance.

Ding, Bill, and Russ Wermers, 2005, Mutual fund performance and governance structure: The role of portfolio managers and boards of directors, Working Paper, Robert H. Smith School of Business, University of Maryland

Fama, Eugene F., 1980, Agency problems and theory of the firm, *Journal of Political Economy* 88, 288-307.

Fama, Eugene F., and Kenneth R. French, 1993, Common risk factors in the returns on stocks and bonds, *Journal of Financial Economics* 33, 3-53.

Fama, Eugene F., and Michael C. Jensen, 1983, Separation of ownership and control, *Journal of Law and Economics* 26, 301-325.

Festinger, Leon, 1957, *A theory of cognitive dissonance*, Stanford: Stanford University Press.

Fich, Eliezer M., and Anil Shivdasani, 2006, Are busy boards effective monitor?, *Journal of Finance* 61, 689-724.

Goetzmann, William N., and Nadav Peles, 1997, Cognitive dissonance and mutual fund investors, *Journal of Financial Research* 20, 145-158.

Grinblatt, Mark, and Sheridan Titman, 1992, The persistence of mutual fund performance, *Journal of Finance* 47, 1977-1984.

Hendricks, Darryll, Jayendu Patel, and Richard Zeckhauser, 1993, Hot hands in mutual funds: Short-run persistence of relative performance, 1974-1988, *Journal of Finance* 48, 93-130.

Ippolito, Richard A., 1992, Consumer reaction to measure of poor quality: Evidence from the mutual fund industry, *Journal of Law and Economics* 35, 45-70.

Jain, Prem C., and Joanna Shuang Wu, 2000, Truth in mutual fund advertising: Evidence on future performance and fund flows, *Journal of Finance* 45, 937-958.

Jegadeesh, Narasimhan, and Sheridan Titman, 1993, Returns to buying winner and selling losers: Implications for stock market efficiency, *Journal of Finance* 48, 65-91.

Jensen, Michael C., and William H. Meckling, 1976, Theory of the firm: Managerial behavior, agency costs and ownership structure, *Journal of Financial Economics* 3, 305-360.

John, Kose, and Lemma W. Senbet, 1998, Corporate governance and board effectiveness, *Journal of Banking and Finance* 22, 371-403.

Johnson, Woodrow T., 2006, Who monitors the mutual fund manager, new or old shareholders?, Working Paper, University of Oregon.

Meschke, J. Felix, 2006, An empirical examination of mutual fund boards, PhD Dissertation, Arizona State University.

Khorana, Ajay, Henri Servaes, and Lei Wedge, 2007, Portfolio manager ownership and fund performance, *Journal of Financial Economics* 85, 179–204.

Khorana, Ajay, Peter Tufano, and Lei Wedge, 2007, Board structure, merger, and shareholder wealth: A study of the mutual fund industry, *Journal of Financial Economics* 85, 571-598.

Kuhnen, Camelia M., 2005, Dynamic contracting in the mutual fund industry, Working Paper, Stanford Graduate School of Business.

Kuhnen, Camelia M., 2007, Social networks, corporate governance and contracting in the mutual fund Industry, Working Paper, Kellogg School of Management, Northwestern University.

O'Neal, Edward S., 2004, Purchase and redemption patterns of US equity mutual funds, *Financial Management* 33, 63-90.

Sirri, Erik R., and Peter Tufano, 1998, Costly search and mutual fund flows, *Journal of Finance* 53, 1589-1622

Tufano, Peter, and Matthew Sevick, 1997, Board structure and fee-setting in the U.S. mutual fund industry, *Journal of Financial Economics* 46, 321-355.

Zhao, Linying, 2006, Director ownership and fund value: Evidence from open-end and closed-end funds, working paper, Department of Economics Columbia University.

Table1. Summary Statistics

Control group observations are funds within four higher and four lower ranking of $R_{i,\ -12to-1}$ for each advertised fund. Additionally, the control observations must not be under management of any advertised funds families in the sample and have not advertised during the sample period starting from January 2003 to June 2006. Flow is calculated as followings: $Flow_{i,0to11} = \sum_{t=0}^{11} Flow_{i,t}$; where, $Flow_{i,0} = TNA_{i,0} - [TNA_{i,-1} \times (1+R_{i,0})]$. $R_{i,-12to-1}$ is fund *i*'s compound return from month -12 to month -1; i.e., $R_{i,-12to-1} = \prod_{t=-12}^{-1} (1 + R_{i,t}) - 1$. $TNA_{i,0}$ is total net assets, reported by CRSP, of fund *i* as of the end of fund *i*'s first month of advertising appearance. LnTNA is the natural logarithm of $TNA_{,0}$.

Variables	Advertised Funds [N = 115]	Matched Funds [N = 892]
	Mean [Median]	
$TNA_{,0}$	3045.25	419.56
	[1106.10]	[61.10]
LnTNA	6.65	4.16
	[7.01]	[4.11]
$R_{,-12to-1}$	0.1490	0.1483
	[0.1525]	[0.1479]
$Flow_{,0to11}$	74.36	43.70
	[-0.45]	[0.74]
$R_{,-24to-1}$	0.1591	0.1234
	[0.1238]	[0.0976]
$Flow_{,0to23}$	189.20	65.16
	[0.46]	[-0.10]

Table 2: Correlation Matrix of Advertising Dummy and Governance Variables and Summary Statistics

Average disinterested director's directorships is the summation of outside directorships held by all disinterested directors divided by the number of disinterested directors. Average disinterested director compensation is a summation of total compensation from a fund family divided by the number of disinterested directors. Then, this average compensation is scaled by 10,000. Share ownership of each director takes value of 0 to 4 following the reported ranges of $0; $1 to $10,000; $10,001 to $50,000; $50,001 to $100,000; and more than $100,001. Then, average share ownership is the summation of such value divided by the number of directors. Percentage of disinterested directors is the number of disinterested directors divided by the number of all directors. ***, ** and * denote significant level of 1%, 5% and 10% respectively.

Variables	Advertising Dummy	Average Disinterested Director Directorships	Average Disinterested Director Compensation ÷ 10,000	Average Share Ownership	The Number of Directors	Percentage of Disinterested Directors
	Panel A: Correlation Matrix					
	Correlation Coefficient [p-value under H_0: Rho = 0]					
Advertising Dummy	1					
Average Disinterested Director Directorships	0.33379	1				
	[<.0001]					
Average Disinterested Director Compensation ÷ 10,000	0.35311	0.4254	1			
	[<.0001]	[<.0001]				
Average Share Ownership	0.10882	-0.00425	-0.11803	1		
	[0.0006]	[0.8932]	[0.0002]			
The Number of Directors	0.17646	0.29274	0.46181	-0.03207	1	
	[<.0001]	[<.0001]	[<.0001]	[0.3107]		
Percentage of Disinterested Directors	0.0932	0.17992	0.36699	-0.14852	0.00734	1
	[0.0032]	[<.0001]	[<.0001]	[<.0001]	[0.8166]	
Sample	**Panel B: Summary Statistics**					
	Mean [Median]					
All Funds	N/A	1.0796	8.5185	0.8469	7.8721	0.7801
[N = 1,000]	N/A	[0.8889]	[7.6393]	[0.5000]	[8.0000]	[0.7778]
Advertised Funds	N/A	1.9090	14.7831	1.1368	9.1217	0.8089
[N = 115]	N/A	[1.7500]	[15.2207]	[1.0000]	[9.0000]	[0.8000]
Non-Advertised Funds	N/A	0.9720	7.7054	0.8093	7.7099	0.7763
[N = 885]	N/A	[0.8333]	[7.2120]	[0.5000]	[8.0000]	[0.7778]
t-test of Mean Difference		***9.90******	***9.41******	***3.46******	***5.67******	***3.36******
[Advertised – Non-Advertised]						

Table 3. Post-advertising Raw and Adjusted Returns

Raw returns are fund returns compounded over month t to month T. Jensen's alpha is the intercept from CAPM model estimated over month τ to month T. Three-factor alpha is the intercept from Fama and French's (1993) three-factor model estimated over month τ to month T, i.e., $R_{i,t} - R_{f,t} = \alpha_i + \beta_{1,i}(R_{i,t} - R_{m,t}) + \beta_{2,i} SMB_{,t} + \beta_3 HML_{,t} + \varepsilon_{i,t}$ Four-factor alpha is the intercept from four-factor model, described in Carhart (1997), estimated over month τ to month T, i.e., $R_{i,t} - R_{f,t} = \alpha_i + \beta_{1,i}(R_{i,t} - R_{m,t}) + \beta_{2,i} SMB_{,t} + \beta_3 HML_{,t} + \beta_4 UMD_{,t} + \varepsilon_{i,t}$. Market adjusted returns are fund *i*'s returns compound monthly over month τ to month T minus S&P500 returns compound monthly over the same period. EW objective adjusted returns are fund *i*'s returns compound monthly over month τ to month T minus equally-weighted average returns of all funds in Lipper objective code of fund *i* compound monthly over the same period. VW objective adjusted returns are fund *i*'s returns compound monthly over month τ to month T minus value-weighted average returns of all funds in Lipper objective code of fund *i* compound monthly over the same period. T-statistics for each sample are for the null hypothesis that the mean is equal to zero. Tests of mean different are under the null hypothesis that means from the two samples are equal. The tests of mean different are for advertised fund returns minus control fund returns and t-statistics are reported for resulting equality of variance for each return measures. Panel A and panel B report return measures for one- and two- year window, respectively. ***, ** and * denote significant level of 1%, 5% and 10% respectively.

Adjusted Returns	Panel A: Month 0 to Month 11						
	t-statistics of mean difference test	Advertised Funds [N = 115]			Matched Funds [N = 892]		
		Mean [Median]	t-statistics	Minimum [Maximum]	Mean [Median]	t-statistics	Minimum [Maximum]
Raw Returns$_{,\ 0to11}$	0.40	0.15725	**16.13*** **	-0.01177	0.15299	**36.68*** **	-0.24120
		[0.13353]		[0.45774]	0.12537		[0.83146]
Jensen's Alpha$_{,0to11}$	0.47	-0.00154	**-4.01*** **	-0.01037	-0.00173	**-10.50*** **	-0.02756
		[-0.00137]		[0.00985]	-0.00144		[0.02248]
Three-Factor Alpha$_{,0to11}$	0.32	-0.00118	**-2.92*** **	-0.01367	-0.00132	**-8.73*** **	-0.01758
		[-0.00080]		[0.00900]	-0.00136		[0.01873]
Four-Factor Alpha$_{,0to11}$	0.14	-0.00095	**-2.23** **	-0.01687	-0.00102	**-6.43*** **	-0.02782
		[-0.00099]		[0.00989]	-0.00122		[0.02225]
Market Adjusted Returns$_{,0to11}$	0.77	-0.01534	**-2.91*** **	-0.17683	-0.01982	**-8.26*** **	-0.57247
		[-0.01962]		[0.12647]	-0.02186		[0.39303]
EW Objective Adjusted Returns$_{,0to11}$	0.79	0.00142	0.30	-0.13413	-0.00264	-1.24	-0.57449
		[-0.00100]		[0.13038]	-0.00328		[0.33490]
VW Objective Adjusted Returns$_{,0to11}$	0.79	-0.00265	-0.58	-0.12940	-0.00661	**-3.12*** **	-0.55390
		[-0.00667]		[0.12323]	-0.00890		[0.35548]

Table 3. (continued) Post-advertising Raw and Adjusted Returns

Adjusted Returns	Panel B: Month 0 to Month 23						
	t-statistics of mean difference test	Advertised Funds [N = 115]			Matched Funds [N = 892]		
		Mean [Median]	t-statistics	Minimum [Maximum]	Mean [Median]	t-statistics	Minimum [Maximum]
Raw Returns$_{,0to23}$	0.47	0.28509	**20.79*****	-0.07441	0.27749	**50.15*****	-0.31900
		[0.26244]		[0.90459]	0.24972		[1.62230]
Jensen's Alpha$_{,0to23}$	0.32	-0.00110	**-3.47*****	-0.01064	-0.00121	**-10.68*****	-0.01698
		[-0.00091]		[0.01207]	-0.00089		[0.02565]
Three-Factor Alpha$_{,0to23}$	0.32	-0.00059	**-2.14****	-0.00813	-0.00069	**-6.77*****	-0.01584
		[-0.00068]		[0.01187]	-0.00081		[0.02288]
Four-Factor Alpha$_{,0to23}$	0.28	-0.00058	**-2.09****	-0.00796	-0.00066	**-6.43*****	-0.01620
		[-0.00062]		[0.01130]	-0.00091		[0.02122]
Market Adjusted Returns$_{,0to23}$	0.86	-0.02152	**-2.20****	-0.25599	-0.03057	**-7.70*****	-0.82347
		[-0.03436]		[0.40012]	-0.03850		[1.11783]
EW Objective Adjusted Returns$_{,0to23}$	0.95	0.01450	**1.74***	-0.16960	0.00591	**1.66***	-0.80775
		[-0.00636]		[0.31836]	0.00247		[1.13355]
VW Objective Adjusted Returns$_{,0to23}$	0.96	0.00556	0.67	-0.16847	-0.00304	-0.85	-0.77425
		[-0.00548]		[0.30923]	-0.01050		[1.16705]

Table 4. Regression Analyses of Future Flow

Control group observations are funds within four higher and four lower ranking of $R_{i,\ -12to-1}$ for each advertised fund. Additionally, the control observations must not be under management of any advertised funds families in the sample and have not advertised during the sample period starting from January 2003 to June 2006. Dependent variables are; $Flow_{i,0to11} = \sum_{t=0}^{11} Flow_{i,t}$ and $Flow_{i,t} = TNA_{i,t} - [TNA_{i,t-1} \times (1+R_{i,t})]$. Flow as an independent variable is calculated in a similar fashion as $Flow_{i,0to11}$. Monthly returns include dividend reinvestment and are net of expenses as reported by CRSP. $R_{i,\ -12to-1}$ is fund *i*'s compound return from month -12 to month -1; that is, $R_{i,\ -12to-1} = \prod_{t=-12}^{-1} (1+R_{i,t}) - 1$. Other return measures over certain periods are calculated in a similar fashion as $Ret_{,\ -12to-1}$. Ads is dummy variable taking value of unity for the advertised funds and zero otherwise. LnTNA is the natural logarithm of $TNA_{,0}$. Panel A and panel B report the regression analyses for one- and two- year window, respectively. T-statistics are in parentheses underneath the corresponding parameter estimates. ***, ** and * denote significant level of 1%, 5% and 10% respectively.

	Panel A: Year +/- 1		**Panel B: Year +/- 2**	
	Dependent Variables			
	$Flow_{,0to11}$		**$Flow_{,0to23}$**	
Regressions	**1**	**2**	**3**	**4**
Variables				
Intercept	-6.3317	1.7459	-15.2045	8.51493
	(-0.37)	(0.10)	(-0.35)	(0.19)
Ads	***47.7689***	***103.7835***	***211.9355***	***279.8130***
	(2.00)**	***(3.54)******	***(3.31)******	***(3.85)******
LnTNA	***6.4188***	2.3381	6.44032	-2.0870
	(1.83)*	(0.66)	(0.68)	(-0.22)
$Flow_{,-12to-1}$	***0.8084***	***0.9156***		
	(37.49)***	***(32.08)******		
$R_{,-12to-1}$	***-63.9097***	-33.2201		
	(-1.77)*	(-0.88)		
$Flow_{,-24to-1}$			***0.6843***	***0.8228***
			(21.59)***	***(17.01)******
$R_{,-24to-1}$			73.3789	95.6716
			(1.02)	(1.25)
Ads × $Flow_{,-12to-1}$		***-0.2363***		
		(-5.50)***		
Ads × $R_{,-12to-1}$		***-278.7969***		
		(-2.47)**		
Ads × $Flow_{,-24to-1}$				***-0.2459***
				(-3.82)***
Ads × $R_{,-24to-1}$				-302.6759
				(-1.41)
F-Value	366.17	258.91	121.32	84.79
Adjusted R-Square	0.5912	0.6060	0.3236	0.3332

Table 5. Effects of Governance on Future Flow

Director share ownership takes value of 0 to 5 following the steps of fund holding reported in the SAIs. The average disinterested director compensation is scaled by $10,000. The average disinterested director directorships is carried out from director brief biography reported in the SAIs. The numbers of directors on board and percent of disinterested directors on board represent structure of the board of directors. The regressions also include interaction of advertising dummy and the governance variables so as to separate governance effects on fund flow for advertised funds from non-advertised funds. Ads is dummy variable taking value of unity for advertised funds and zero otherwise. All other variables are as aforementioned. Panel A and panel B report the regression analyses for one- and two- year windows, respectively. T-statistics are in parentheses underneath the corresponding parameter estimates. ***, ** and * denote significant level of 1%, 5% and 10% respectively.

	Panel A: Year +/- 1		**Panel B: Year +/- 2**	
	Dependent Variables			
	$Flow_{0to11}$		**$Flow_{0to23}$**	
Regressions	**1**	**2**	**3**	**4**
Variables				
Intercept	57.2390	40.7639	228.2336	216.1560
	(0.94)	(0.65)	(1.41)	(1.30)
Advertising Dummy	29.1291	133.3911	***154.1475***	-102.3642
	(1.15)	(0.42)	***(2.27)*****	(-0.12)
Average Director Share Ownership	-10.6333	-12.9036	***-43.4627***	***-41.4760***
	(-1.35)	(-1.57)	***(-2.06)*****	***(-1.88)****
Average Disinterested Director Compensation ÷ 10,000	0.2322	-1.0106	-2.1648	-2.7403
	(0.15)	(-0.61)	(-0.54)	(-0.62)
Average Disinterested Director Outside Directorships	***22.7818***	14.5160	***93.2774***	***73.9336***
	(2.53)**	(1.53)	***(3.89)******	***(2.92)******
The Number of Directors on Board	1.0394	0.7117	1.5633	-3.3229
	(0.32)	(0.21)	(0.18)	(-0.37)
Percent of Disinterested Directors on Board	-114.5136	-64.2440	***-402.6121***	-306.2124
	(-1.63)	(-0.87)	***(-2.14)****	(-1.55)
LnTNA	***6.8515***	***6.7311***	10.2396	9.0291
	(1.80)*	***(1.77)****	(1.01)	(0.89)
$Flow_{-12to-1}$	***0.8041***	***0.8024***		
	(37.14)***	***(36.52)******		
$R_{-12to-1}$	***-60.5082***	***-60.5439***		
	(-1.65)*	***(-1.65)****		
$Flow_{-24to-1}$			***0.6797***	***0.6690***
			(21.49)***	***(20.83)******
$R_{-24to-1}$			94.9151	113.1128
			(1.31)	(1.55)

Ads × Average Director Share Ownership		17.3276		-45.5292
		(0.64)		(-0.63)
Ads × Average Disinterested Director Compensation ÷ 10,000		2.6605		-10.6112
		(0.60)		(-0.9)
Ads × Average Disinterested Director Outside Directorships		***61.0556***		***152.7986***
		(1.82)*		***(1.71)****
Ads × The Number of Directors on Board		-3.5892		40.7758
		(-0.27)		(1.15)
Ads × Percent of Disinterested Directors on Board		-285.2748		-213.2140
		(-0.89)		(-0.25)
F-Value	164.12	106.70	57.16	37.53
Adjusted R-Square	0.5948	0.5968	0.3357	0.3384

Table 6. Effects of Governance on Future Returns

Director share ownership takes value of 0 to 5 following the steps of fund holding reported in the SAIs. The average disinterested director compensation is scaled by $10,000. The average disinterested director directorships is carried out from director brief biography reported in the SAIs. The numbers of directors on board and percent of disinterested directors on board represent structure of the board of directors. The regressions also include interaction of advertising dummy and the governance variables so as to separate governance effects on future returns for advertised funds from non-advertised funds. Ads is dummy variable taking value of unity for advertised funds and zero otherwise. All other variables are as aforementioned. Panel A and panel B report the regression analyses for one- and two- year windows, respectively. T-statistics are in parentheses underneath the corresponding parameter estimates. ***, ** and * denote significant level of 1%, 5% and 10% respectively.

	Panel A: Year +/- 1		**Panel B: Year +/- 2**	
	Dependent Variables			
	$R_{,0to11}$		**$R_{,0to23}$**	
Regressions	**1**	**2**	**3**	**4**
Variables				
Intercept	***0.2775***	***0.2866***	***0.4069***	***0.4279***
	(11.39)***	***(11.47)******	***(9.41)******	***(9.64)******
Advertising Dummy	0.0096	-0.0086	0.0235	-0.0969
	(0.94)	(-0.07)	(1.30)	(-0.42)
Average Director Share Ownership	-0.0002	-0.0006	0.0012	0.0001
	(-0.06)	(-0.17)	(0.20)	(0.02)
Average Disinterested Director Compensation ÷ 10,000	-0.0005	0.0002	***-0.0021***	-0.0008
	(-0.77)	(0.26)	***(-1.95)****	(-0.68)
Average Disinterested Director Outside Directorships	***0.0079***	***0.0089***	***0.0153***	***0.0168***
	(2.19)*	***(2.34)****	***(2.40)****	***(2.49)****
The Number of Directors on Board	-0.0017	-0.0016	-0.0022	-0.0022
	(-1.33)	(-1.14)	(-0.97)	(-0.9)
Percent of Disinterested Directors on Board	***-0.0589***	***-0.0796***	***-0.1168***	***-0.1568***
	(-2.09)*	***(-2.68)******	***(-2.33)****	***(-2.98)******
LnTNA	-0.0017	-0.0017	-0.0014	-0.0016
	(-1.09)	(-1.12)	(-0.52)	(-0.60)
$Flow_{,-12to-1}$ ÷ 1,000	***0.0164***	***0.0176***		
	(1.89)*	***(2.00)****		
$R_{,-12to-1}$	***-0.4255***	***-0.4237***		
	(-28.97)***	***(-28.81)******		
$Flow_{,-24to-1}$ ÷ 1,000			0.0067	0.0081
			(0.79)	(0.94)
$R_{,-24to-1}$			***-0.1271***	***-0.1267***
			(-6.60)***	***(-6.54)******

Ads × Average Director Share Ownership		0.0079		0.0193
		(0.73)		(1.00)
Ads × Average Disinterested Director Compensation ÷ 10,000		***-0.0032***		***-0.0069***
		(-1.81)*		***(-2.21)*** **
Ads × Average Disinterested Director Outside Directorships		0.0066		0.0160
		(0.49)		(0.67)
Ads × The Number of Directors on Board		-0.0026		-0.0015
		(-0.49)		(-0.16)
Ads × Percent of Disinterested Directors on Board		0.0779		0.2178
		(0.61)		(0.96)
F-Value	97.99	63.79	8.21	6.02
Adjusted R-Square	0.4661	0.4678	0.0609	0.0656