INSTITUTIONAL INVESTOR EXPECTATIONS, MANAGER PERFORMANCE, AND FUND FLOWS

Howard Jones and Jose Vicente Martinez[1]

Abstract

Using survey data we analyze institutional investors' expectations about the future performance of fund managers and the impact of those expectations on asset allocation decisions. We find that institutional investors allocate funds mainly on the basis of fund managers' past performance and of investment consultants' recommendations, but not because they extrapolate their expectations from these. This suggests that institutional investors base their investment decisions on the most defensible variables at their disposal, and supports the existence of agency considerations in their decision making.

Key words: Institutional asset management, asset flows, fund performance, service quality, investment consultants

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[1]Jones (howard.jones@sbs.ox.ac.uk) is at the Saïd Business School, University of Oxford, Oxford OX1 1HP (tel: (0)1865 288407; fax: (0)1865 288805); Martinez (jose.martinez@business.uconn.edu) is at the University of Connecticut, School of Business. We are grateful to Andrew Lo, Tarun Ramadorai and Peter Tufano for valuable comments, as well as to seminar participants at the Oxford-MAN Institute of Quantitative Finance. We should like to thank Greenwich Associates and eVestment for making available and explaining their databases, for assistance in building the combined dataset, and for valuable insights on the analysis. We also gratefully acknowledge the help of research assistants Edward Coe and Oliver Jones.

I. Introduction

Academic studies have traditionally found a strong relationship between past performance and investor-directed fund flows (see, for instance, Del Guercio and Tkac, 2002 and Goyal and Wahal, 2008, for institutional investors; or Ippolito, 1992, Chevalier and Ellison, 1997 and Sirri and Tufano, 1998, for individual investors).[2] Such studies have frequently attributed this relationship to an assumption by investors that past performance will persist (see Lynch and Musto, 2003). Berk and Green (2004) provide a slightly different account of this relationship: in their model, good past performance signals an asset manager's superior ability, but the combination of decreasing returns to size and investors rationally chasing past performance means that no differences in future performance are expected. An alternative explanation for the importance of past performance is that plan sponsors are hijacked by conflicts. Thus, Lakonishok et al. (1992) see the responsiveness of plan sponsors to past performance as possible evidence of agency problems within the sponsors' organizations. Plan sponsor officials, as fiduciaries, have reasons to value manager characteristics that are easily justified to superiors or a trustee committee. One of the most important of these characteristics is an asset manager's past performance, which is readily observable by the stakeholders of the plan to whom plan sponsor officials are answerable.

In this paper we provide evidence, for the first time, of the actual expectations of plan sponsors. Using thirteen years of survey data from Greenwich Associates covering plan sponsors with half of the institutional holdings of U.S. equities, we establish a measure of the future performance which plan sponsors expect from their asset managers. We then analyze these expectations as a function of three sets of possible determinants: first, the past performance of the asset managers; second, various non-performance attributes which plan sponsors identify in those asset managers; and third, the recommendations of asset managers by investment

[2] Institutional investors include retirement plans, foundations, and university and other endowments (see Section II). In this paper we refer to them as 'plan sponsors' to distinguish them clearly from asset managers.

consultants. Next we set plan sponsors' expectations, and the possible drivers of these expectations, against the actual future performance of the asset managers. Finally, we compare plan sponsors' expectations of asset manager performance, as well as their past performance, consultants' recommendations, and other factors, with the fund flows in and out of asset managers.

This analysis allows us to test whether the well documented correlation between fund flows and past performance results from investors extrapolating future performance from past performance, or from agency problems, or both. If the correlation between fund flows and past performance results from plan sponsors extrapolating future performance from past performance (as implied by Lynch and Musto, 2003 or Ippolito, 1992), then any influence of past performance on flows should be channeled through its effect on the expectation of future performance and, to the extent that these measures disagree, only expected future performance should matter. Money should not flow to funds with good past performance unless investors expect these funds to do well in the future as well, and as a result only expected future performance, not past performance should be significant in a multivariate regression. On the other hand, suppose that flows respond to past performance for agency reasons, as suggested by Lakonishok et al. (1992), with plan sponsors herding into these measures to avoid or deflect personal/career risk, rather than using past performance to form their expectations of future performance: in this case we should observe flows responding to past performance rather than to expected future performance (and to that extent only past performance should be significant in a multivariate analysis).[3]

Our analysis also allows us to extend recent work which has been done on investment consultants' recommendations. Jenkinson et al. (2014) find that consultants' recommendations have a very significant impact on funds flows, but they find no evidence that these

[3] In a more nuanced equilibrium, like that described by Berk and Greene (2004), one should expect to see money flows rationally chasing past performance even in the absence of performance persistence, but in that case one should also find expected future performance to be the same for all funds (Berk and Greene's equilibrium condition) which we clearly do not observe.

recommendations add value to those who follow them. In the present paper we examine the extent to which consultants' recommendations affect the formation of plan sponsors' expectations about the performance of their asset managers, and compare this with the effect of these recommendations on flows. As with past performance, we assess whether the impact of consultants' recommendations on flows is channeled entirely through expectations, or whether these recommendations have an influence on flows which is distinct from their effect on expectations. The latter finding would be consistent with an agency problem, in which plan sponsors follow consultants' recommendations to justify their investment decisions and shield themselves from responsibility.

We find that plan sponsors' expectations of performance are driven by past performance (consistent with the prevailing view of the early flow-performance literature), by investment consultants' recommendations, and by the soft factors which they identify in their asset managers, such as having a consistent investment philosophy, clear decision making processes and capable investment professionals. However, neither plan sponsors' expectations, nor past performance, nor the non-performance factor they evaluate in their asset managers, reliably predict the performance of those asset managers.

As for flows, we find that these are at best only marginally a function of plan sponsors' expectations, but they are driven significantly by past performance and by investment consultants' recommendations far beyond the effect that these have on expectations. This is true whether we measure asset managers' past performance using plan sponsors' survey responses or using past excess returns over fund benchmarks or factor model alphas.

These findings are consistent with a situation in which plan sponsors are not acting fully on their expectations when allocating assets, and points to both behavioral and agency effects. The partial dependency of expected performance on past performance and soft factors is not, in itself, irrational: investors could use such variables as signals of future performance. What does seem irrational is that past performance is relied upon when it is uninformative about future performance (except over periods too short for the plan sponsor to exploit); the same goes for soft factors, which are also poor predictors of future performance. The partial extrapolation of

expectations from past performance points to behavioral, rather than agency, effects: since investors' expressions of past and expected performance are private, there is no reason to suppose that agency factors are at work.[4] Our analysis therefore finds more direct evidence than in previous studies that institutional investors' expectations contain an irrational component.

On the other hand, the fact that investors do not act fully on their own expectations, but follow past performance and consultants recommendations when making investment decisions, is consistent with agency effects. According to this explanation, plan sponsors chase past performance and consultants' recommendations because they feel that, as a rationale for selecting asset managers, these indicators are more defensible to their superiors, stakeholders and, possibly, the courts than their own expectations are. Since past performance and consultants' recommendations are widely followed measures, plan sponsors also know that, if they fail, they 'fail conventionally' (Keynes 1936). To this extent our findings support the suggestions in Lakonishok et al. (1992) that plan sponsors implement scapegoat strategies and their decisions are affected by career considerations and their interest in deflecting responsibility.

Agency conflicts have been the subject of a number of recent papers on defined-benefit pensions. Rauh (2009) uses survey data to explore the allocation of assets in corporate pension funds as part of the wider risk management strategy of the sponsoring firm. Cocco and Volpin (2007) find that trustees appointed by the sponsoring company, as opposed to external trustees, are associated with lower returns to pension funds, while Phan and Hegde (2013) conclude that good corporate governance in general leads to higher investment returns. Our findings that plan sponsor officials are subject to conflicts in asset manager selection add to the body of empirical evidence of agency problems in institutional fund management. They highlight another type of conflict affecting this decision: plan directors making asset allocation decisions will likely have

[4] The GA survey responses are private, in contrast, for example, to analysts' corporate earnings forecasts whose incentive structure and very public disclosure may mean that that they represent a biased reflection of the analysts' expectations.

in mind not just the interests of plan participants, or of the shareholders of sponsoring firm, but their own interests and career concerns as well.

The rest of the paper is organized as follows. Section II summarizes the institutional background and sources of data, Section III outlines our methodology and documents the results of our analysis, and Section IV concludes.

II. Institutional background and data sources

Institutional background

'Plan sponsors' can be broken down into two broad categories: those responsible for retirement plans and those responsible for nonprofit assets. Retirement plans comprise corporate and public pension schemes, some managed for a single employer, others for more than one employer (Taft–Hartley multiemployer plans). Non-profit entities include foundations as well as university and other endowments. Based on Greenwich Associates data, U.S. plan sponsors' assets, at the end of 2011, amounted to some $7.6 trillion, broken down as follows: corporate pension funds 38%, public pension funds 47%, foundations and endowments 11% and unions 4%.

Once plan sponsors have determined the apportionment of assets between asset classes, they tend to delegate the management of the funds within each class to outside asset managers. Asset managers may be hired and fired for a number of reasons, and not only to reflect performance. Thus, plan sponsors may make a strategic switch between asset classes (e.g., from equities to fixed income), or between styles (e.g., from value to growth), which could lead to the termination of a manager which has performed well in its category. On the other hand, plan sponsors may increase or decrease the funds delegated to asset managers without hiring or firing them; for example, imbalances between contributions (from the employer and employees) and payments (to beneficiaries) may cause plan sponsors to vary the volume of funds delegated to existing managers.

In selecting asset managers, many plan sponsors take the advice of investment consultants. Plan sponsors use consultants' recommendations both when they first hire managers in an asset class, and when they replace managers within an asset class. As part of the hiring procedure, the consultant typically draws up a short list of its recommended fund managers, and the sponsor, advised by the consultant, chooses from among them. Estimates of the usage of investment consultants by plan sponsors vary, but they suggest that it is widespread. According to the *Pensions and Investments* survey of plan sponsors (2011), 94% of plan sponsors employ an investment consultant. Goyal and Wahal (2008) find that consultant usage varies by type of sponsors: for example, half of corporate pension plans in their sample use a consultant, while 82% of local public plans do so. However, although plan sponsors may take advice from investment consultants, the fiduciary responsibility to select fund managers lies with the plan sponsors themselves.

Data sources

In compiling our dataset we draw on two sources. The first source comprises two series of surveys conducted by Greenwich Associates between 1999 and 2011. In one of these series, plan sponsors are asked to rate their asset managers on various measures of performance and service. In the second series of surveys, investment consultants are asked to rate asset managers according to the same set of measures, and also to state the names of the asset managers they recommend for each of a number of investment styles. [5]

[5] Survey data play an important part in economics research in a number of fields, for example in the inflation expectations literature, where they are used as a means to access expectations directly rather than inferring them from other data (see e.g., Carroll, 2003; Leduc et al., 2007; Armantier et al., 2011; and Chernov and Mueller, 2012). The present paper attempts something similar: to analyze expectations without merely inferring them from actions (in this case asset flows) precisely in order to identify any mismatch between expectations and actions. For an example of the use of survey data to examine agency problems in corporate pension plans, see Rauh (2009). On the limitations of survey data, see Pesaran (2006).

The second source we use is a set of data provided by eVestment on the returns of institutional U.S. equity asset managers and their assets under management for the same period. We limit our analysis to U.S. long-only active equity asset managers. We provide further details below of each database, and of the way in which they are combined in our dataset.

The Greenwich surveys. Since 1972 Greenwich Associates (GA) have conducted an annual survey of the judgements of plan sponsors on their asset managers. We draw on the surveys between 1999 and 2011. For the period before 1999 the GA survey is less complete; for example, it does not include questions on respondents' perception of the performance of asset managers, which is central to our analysis. For each year in this period the survey was carried out over a two- to three-month period starting between late June and early September of the same year. According to GA, the fraction of the total universe of U.S. plan sponsors who responded to the survey was on average 54% for the period; coverage has fluctuated during that period, and stood at 62% (1484 respondents) in 1999 against 43.5% (987 respondents) in 2011. The fraction of total assets under management (AUM) invested by the respondent plan sponsors was calculated only for the end of the period: in 2011 it stood at 52%. Measured either by the number of respondents or by their AUM, the GA survey therefore offers wide coverage of plan sponsors. The breakdown of respondents by the main types of plan sponsor (for the first and last years in our dataset) are Corporate Funds (1999: 58% of all respondents, 2011: 53%), Public Funds (1999: 23%, 2011: 21%) and Endowments and Foundations (1999: 19%, 2011: 22%).

Respondents to the survey tend to express opinions on an entire asset class managed by each asset management group, (e.g., U.S. Domestic Equity managed by Firm ABC, International Fixed Income managed by Firm XYZ) rather than on products (i.e., groups of funds with essentially the same mandate) or individual funds within that class. For some of the larger firms, such as Fidelity, Goldman Sachs and Alliance Bernstein, the responses relate to groups of funds broken down by style, e.g., Value or Growth. Within each plan sponsor the GA questionnaire is answered by executives with a range of titles from Chairman of the Board to Assistant Treasurer. The most common title of the respondents is Chief Investment Officer. The incentive to answer

the questionnaire is that the respondent's firm has access for the following twelve months to the aggregate results both of that survey and of other GA surveys. Responses to the questionnaire are private, and respondents may keep their responses entirely anonymous. However, they are asked if they would like their judgements on individual asset management firms to be made available to those firms; during the sample period around 50-60% of respondents chose to do so.

The headings under which respondents are asked to rate asset managers are divided by GA into two sets: investment factors and service factors. Two of the investment factors are 'performance factors' and are quantitative in nature: one is the respondent's assessment of the performance of the asset manager over the previous 2-3 years (past performance), and the other is the performance the respondent expects from the asset manager (expected future performance). The other three investment factors, which we call 'soft investment factors', are clear decision making, capability of portfolio manager, and consistent investment philosophy. The other set of categories in which asset managers are rated, the service factors, are as follows: useful informal meetings, capable relationship manager, useful formal meetings, credibility with investment committee, understanding objectives, and useful written reports. For each factor the respondent is invited to rate an asset manager's performance in each asset class on a five-point scale. Under each factor GA then aggregates the responses into a single score for each asset manager in each asset class surveyed using the Rasch model (see Andrich, 1978). In this study we work with a modified version of these scores, the fractional rank, obtained by ranking the asset manager's scores for each variable into percentiles and dividing them by 100 to arrive at a factor for each manager between zero and one.

Table 1 provides summary statistics for the 2011 plan sponsors survey, the most recent survey used in our study, and one of two for which we have disaggregated data. On average, each question is evaluated by 781 respondents (plan sponsors), each of whom expresses opinions on multiple asset managers, resulting in an average of 3194 evaluations for each question in the survey.

Plan sponsors respond to survey questions about asset managers that they have appointed. This ensures that their responses on different managers are similarly well informed. As Table 1

shows, mean response scores in all categories lie towards the top of the 1-5 range, which is not especially surprising given that plan sponsors are evaluating managers which they presumably rated highly in the recent past. Negative views are less likely to make their way into the survey than if plan sponsors were rating managers they had not appointed. However, as we use relative rankings, this should not be a problem. What is important is that respondents should be able to discriminate between asset managers effectively on the various survey measures. As Table 1 shows, this is the case. The F-test of identical means and the Kruskal-Wallis test (a non-parametric alternative to the F-test more appropriate for ordinal data) show that the separation is effective across the question set; in particular, the responses are just as discriminating (and no more noisy) to questions on expected future performance as they are to those on past performance. These tests suggest that survey responses are informative about the variables of interest.

GA also conduct an annual survey of investment consultants, in which they ask consultants to recommend between four and six asset managers for each of a number of investment styles (e.g., Large Cap Growth, Small Cap Value, etc). We use these responses to create a single measure which reflects investment consultants' recommendations for each asset management firm for which we also have plan sponsor survey data. We combine the consultants' recommendations for the same asset manager's different investment styles, because the plan sponsors' responses are given at the level of the asset class and not broken down by style (see Figure I for details). The consultants' recommendation measure for each asset manager is expressed as a percentage of the highest possible number of recommendations which that asset manager could have received across all the style categories from all of the consultants combined. During the period under analysis, the survey of investment consultants was conducted between November of one year and March of the next. The consultants' recommendation measure for each asset manager is based on the survey of consultants conducted immediately before the plan sponsor survey.

The eVestment database. eVestment is a third party provider of analytic services for the institutional fund management industry. We draw data from two of their databases: one which tracks the monthly and quarterly returns of institutional asset managers, and one which tracks those funds' assets under management (at an annual, and sometimes quarterly, frequency). The returns we obtain for these products are "composite" returns. The individual returns earned by each client may deviate from these composite returns, but deviations are typically small.[6] Composite returns are net of trading costs, but gross of investment management fees.[7] The data are self-reported by the asset managers, but constant scrutiny from clients using this data guarantees a high degree of accuracy. The return data are free from survivorship bias. For each product, the databases also provide cross-sectional information on investment style and capitalization bracket, manager-designated benchmark, and the latest fees. The data on assets under management relate only to plan sponsors' assets. The eVestment databases were first compiled in 2000, but include data from before that date. As at the end of 2012, the eVestment database had data on 4,274 U.S. equity funds which were active, and around 2,500 which were inactive (i.e., no longer reporting). One limitation of the database (commented on below) is that, once an asset manager is acquired and absorbed by the acquirer (rather than retaining its distinct identity), eVestment may not report data separately for the acquired firm for the period before the acquisition.

Combining the databases. In order to make the eVestment data correspond to the GA asset class of Domestic U.S. Equity, we first eliminate index funds, hedge funds, REITs, and retail funds

[6] For example, some investors may require that their part of the overall portfolio is purged of, say, the influence of tobacco companies or arms manufacturers.

[7] Only in Section III C do actual return data (rather than survey responses) play a central role. Here fees could potentially alter the results between gross and net returns. However, as we note in that section, fees for institutional products are largely homogeneous within size/style categories, so that it does not make a difference whether we use net or gross returns.

from the eVestment database. We keep a small number of so-called enhanced index funds, which are active funds aiming to achieve performance close to, but in excess of, an index; we do so on the grounds that these are active funds whose risk adjusted performance we can evaluate like that of any other. There are 347 unique asset manager names in the GA database (with 2,485 lines of data for the whole period). We match these unique GA asset manager names with the eVestment database and, in the process, eliminate 115 of them. The names eliminated fall into three categories. First, there are fourteen names for which GA has data for only one year, which rules out any time series analysis. Second, there are twelve names for which there is more than one possible match in the eVestment database. Third, there are 89 GA names which do not appear in the eVestment database. We identify 20 of these as firms that were acquired and absorbed by the acquirer but, since their performance and flow data is consolidated with that of the acquirer in the eVestment database even for the period before the acquisition, we eliminate them from the dataset. After these eliminations we are left with 232 asset manager unique names (corresponding to 1,630 lines of data for the sample period).

The GA responses from each asset management group are for a size/style category, e.g. Large Cap Growth, whereas the performance and flow data from eVestment is by individual fund. We therefore group together in the eVestment database funds managed by a single asset management group which correspond to a given asset manager/asset class category in the GA survey. For example, if there are four individual funds in the eVestment database which fall into the category Large Cap Growth for Firm XYZ, we combine the performance and flow information data on these four funds in eVestment, allowing a like-for-like comparison with the GA survey responses; see Figure I for a description. In grouping fund-level data from eVestment in this way, we use a weighted average of the individual funds to measure performance, and we aggregate the flow information.

Table 2 provides descriptive statistics for the final sample. The table shows the total number of U.S. domestic equity asset managers in our sample each year. It also shows the number of asset managers which reported assets under management (AUM) data, as well as their mean and median assets under management (in millions of U.S. dollars). Average assets in the

U.S. domestic active equity asset class per asset manager during the sample period are $18.9 billion. End of year asset data are available for approximately 90% of the asset managers (although not necessarily for all their products). The availability of AUM data is high for the period with the exception of the first years.

III. Methodology and results

The first part of this section analyses plan sponsors' expectations of the future performance of asset managers. In particular, it explores the contribution to expectations of past performance, soft investment factors, service factors (see Section II for a list of these factors), and investment consultants' recommendations; it also examines the information content and biases in relative rankings of expected future performance. The second part examines how asset flows respond to plan sponsors' expectations of the future performance of asset managers, to their past investment performance, to soft investment factors and service factors, and to investment consultants' recommendations.

A. How are expectations of future performance formed?

In this section we try to shed light on what drives expectations of future performance, or more precisely, what drives the relative rankings of expected future performance. We also analyse the information content and biases in rankings of expected future performance.

There is little evidence in the literature about how plan sponsors form their expectations of asset manager performance. One possible parallel is the extensive research on financial analysts' earnings forecasts and expectations (see Ramnath, Rock and Shane, 2008, for a survey of this literature). However, there are important differences between the incentives under which analysts produce their earnings forecasts and those which apply to the respondents in the GA survey. Analysts' earnings forecasts are affected by an incentive structure liable to be inconsistent with conditionally unbiased forecasting, and many people argue that they cannot

therefore be used as valid proxies for true expectations.[8] By contrast, we work with forecasts by plan sponsors of asset manager performance which are anonymous, and therefore more likely to qualify as faithful revelations of true expectations.

Our emphasis is not on fully-fledged tests of rationality in (individual) expectations, but instead on an exploratory analysis of aggregate expectations: what they do and do not depend on, and whether these variables have any predictive power over actual future performance ranks.[9]

We explore what drives aggregate expectations of future performance by estimating the following model on yearly data:

$$Expected\ Perf_{i,t} = \alpha + \beta_1 Past\ Perf_{i,t} + \beta_2 Soft\ Inv. Factors_{i,t} + \beta_3 Service\ Factors_{i,t} + \beta_4 Consultants\ Recs_{i,t} + \delta' Controls_{i,t-1} + \epsilon_{i,t} \quad (1)$$

where *Expected Perf*$_{i,t}$ is the fractional rank at time *t* of the aggregate expected future performance of asset manager *i*'s U.S. equity products in coming years; *Past Perf*$_{i,t}$ is the fractional rank at time *t* of the aggregate performance of asset manager *i*'s U.S. equity products in the recent past (two to three years); *Soft Inv. Factors*$_{i,t}$ is the fractional rank at time *t* of a set of

[8] Examples of the complex incentive structure faced by financial analysts include: their desire to gain investment banking/underwriting business (Lin and McNichols, 1998; Dugar and Nathan, 1995); generate trading commissions (Dorfman (1991); please corporate managers (Francis and Philbrick, 1993); or follow career concerns (Hong, Kubik and Solomon, 2000).

[9] Like many other studies, we analyse mean survey responses, the data available to us. As pointed out by Figlewski and Wachtel (1983) and Keane and Runkle (1990), using average survey response data rather than individual data can be problematic if the objective is to assess the rationality of the underlying individual expectations. It can lead to the false rejection of rational expectations because average forecasts that are conditional on different information sets are not rational forecasts conditional on any particular information set. Conversely, it can also lead to the false acceptance of rational expectations by masking systematic individual bias that may be randomly distributed in the population. Basu and Markov (2004) argue, however, that, to the extent that individual investors' errors in processing information average out, the average responses are likely to be more accurate and closer to optimality than the individual survey responses.

soft investment factors of asset manager *i*'s U.S. equity team (see Section II for a list of these factors); *Service Factors*$_{i,t}$ is the fractional rank at time *t* of a set of service factors of asset manager *i*'s U.S. equity team (see Section II for a list of these factors); and *Consultants Recs*$_{i,t}$ is the number of recommendations asset manager *i* received at time *t*, as a fraction of the highest possible number of recommendations which that asset manager could have received across all the style categories from all of the consultants in our sample combined. Fractional ranks represent the asset manager's percentile rank relative to other asset managers in the same size/style category and period, and ranges from 0 to 1.

Table 3 reports the results of running this regression using pooled time-series cross-sectional data. In this table each column represents a separate regression corresponding to six alternative specifications of equation (1). In most of these specifications past performance is proxied using reported past performance (in the survey). For robustness we also report results using past excess return over benchmarks (selected by eVestment, the data provider) and past Fama and French (1993) three-factor alphas computed over the two-year period finishing at the end of the month preceding the survey as proxies.[10] Most of these specifications include a lagged measure of log assets under management, return volatility and a full set of time dummies as controls. All survey variables used in the regressions refer to the asset class of U.S. active equities only. Given that survey respondents are asked to evaluate past and future performance over multiple overlapping periods, *t*-statistics reported in the table are based on standard errors clustered at the asset manager level (White, 1980 and Rogers, 1993).

Results indicate that past performance is the key driver of plan sponsors' expectations of asset managers' future performance. Estimates in Table 3 indicate that moving from the 25th

[10] To generate aggregate past three-factor alphas and excess returns over benchmarks we create equal-weighted portfolio returns of all U.S. active equity products available from each asset manager in each month. With these returns, we estimate a three-factor model on monthly data, using market, size, and book-to-market factors, as in Fama and French (1993). We obtain these factors, as well as a monthly measure of the risk-free return, from the Center for Research in Security Prices (CRSP). Following convention in the asset management industry we also compute the average return of the portfolio of products in excess of a similarly defined portfolio of benchmarks.

percentile of reported past performance to the 75th percentile results in an increase of 24 percentiles in expected future performance. Using past excess returns over benchmarks, or three-factor alphas to proxy for past performance, results in somewhat lower, but equally significant, estimates for the effect of changes in past performance on expectations of future performance.[11] This result is consistent with the view, common in the flow performance literature, that investors form expectations of future performance by extrapolating past performance.[12] It also indicates that, in forming expectations, plan sponsors are ignoring the wealth of evidence that suggests that asset managers' past investment performance is of little help in predicting future performance over horizons long enough for plan sponsors to exploit (see, for instance, Carhart, 1997; and Busse et al. 2010).

Results in Table 3 also indicate that, in addition to past performance, soft investment factors, such as being perceived as having capable investment professionals or a clear decision making process, and, to a lesser but still significant extent, service factors, also drive expectations of future performance. The strong link between soft investment factors and investors' expectations of future performance is unsurprising, given that these factors reflect the

[11] The difference in results depending on whether we use reported or actual past performance could reflect two phenomena. First, the measures of actual past performance we use may not coincide with what plan sponsors consider when they report past performance: the period they have in mind, and the basis of performance measurement, may be different. Second, the higher coefficient on reported past performance than on actual past performance may be due to plan sponsors projecting expectations of future performance onto past performance. We discuss these two possibilities at greater length in section B.

[12] This view, coupled with evidence that individuals excessively extrapolate (past performance), is quite common in other related environments. For instance, De Bondt (1993), using classroom experiments and investors surveys, finds strong evidence that people extrapolate past trends; Lakonishok et al. (1994) argue that investors make judgement errors and extrapolate past growth rates. De Bondt and Thaler (1985) argue that people place too much emphasis in the latest news (large recent fund returns) and too little on base-rate information (e.g., whether past performance reliable leads to future performance). Placing excessive weight on recent past growth history, as opposed to a rational prior, is a common judgement error in psychological experiments related to the representativeness heuristic (see Kahneman et al. 1982).

quality of decision makers or decision making processes, which are characteristics typically thought to lead to investment success. However, service factors (such as meeting preparation/follow-up, useful informal meetings, and a capable relationship manager), which appear in principle unrelated to investment results, also seem to have a significant impact on expectations. This is perhaps because service factors are read by institutional investors as being informative about the general business practices of the asset manager, which might also be reflected in expected future performance.

Investment consultants' recommendations also seem to have an impact on expectations of future performance. Asset managers frequently short-listed by investment consultants are perceived as more likely to outperform other asset managers. This is true whether we look at the number of consultants' short lists on which an asset manager appears, or the change in this number.[13]

While past performance, soft investment factors and service factors, and consultants' recommendations all seem to drive expectations of future performance, it is unclear whether these factors have any predictive power over actual future performance. We explore whether that is the case by replacing the measures of expected future performance in equation (1) with alternative measures of actual future performance, to estimate the following model:

$$Perf_{i,t+1} = \alpha + \beta_1 Past\ Perf_{i,t} + \beta_2 Soft\ Inv.Factors_{i,t} + \beta_3 Service\ Factors_{i,t} + \beta_4 Consultants\ Recs_{i,t} + \delta' Controls_{i,t-1} + \epsilon_{i,t} \quad (2)$$

where $Perf_{i,t+1}$ is the actual excess return or three-factor alpha fractional rank of manager *i*'s U.S. active equity products over the next one or two years; and other variables are defined as before.

[13] It is worth noting that while consultants' recommendations are collected from a survey conducted immediately before the plan sponsors survey, recommendation information is not necessarily in all plan sponsors' information sets, as recommendations are typically private.

Excess returns and three-factor alphas are computed for the period commencing the month following the close of the survey and ending a full one or two years later. As before, to generate these aggregate measures of performance, we create equal-weighted portfolio returns of all U.S. active equity products available from each asset manager in each month. With these returns, we estimate a three-factor model on monthly data, using market, size, and book-to-market factors, and we also compute the average return of the portfolio of products in excess of a similarly defined portfolio of benchmarks.

The results, presented in Table 4, show that future performance is largely unpredictable from past performance, except perhaps at very short horizons (consistent with the findings of Bollen and Busse 2005 and Lou 2012), and also unpredictable from the assessments of plan sponsors about managers' various non-performance qualities. Consultants' recommendations, once aggregated at the manager level, also seem largely unrelated to performance. Similar results, not reported here, obtain whether we use three-year future excess returns and three-factor alphas, or one- or four-factor alphas (corresponding to the CAPM, see Sharpe, 1964; and Fama-French-Carhart four-factor model, Carhart, 1997).

Taken together, the results in Tables 3 and 4 suggest that plan sponsors' expectations of future performance are systematically biased in the direction of past performance, and also in the direction of managers who are perceived as having good soft investment and service qualities. While plan sponsors may infer that managers whom they perceive to have done well in the past, to have clear decision making processes, and capable and credible investment professionals, will display superior future performance, this is usually not the case.

We know that institutional investors' forecasts of future performance rely partly on variables with no predictive power over future performance and are therefore biased in their direction. They could, however, still be informative about actual future performance. To explore this possibility we regress actual future performance rankings on expected future performance rankings and other survey and non-survey variables:

$$Perf_{i,t+1} = \alpha + \beta_1 Past\ Perf_{i,t} + \beta_2 Expected\ Perf_{i,t} + \beta_3 Soft\ Inv.Factors_{i,t} + \beta_4 Service\ Factors_{i,t} + \beta_5 Consultants\ Recs_{i,t} + \delta' Controls_{i,t-1} + \epsilon_{i,t} \quad (3)$$

Like previous models, this model is also estimated using pooled time-series cross-sectional data, and restricting the variables to the asset class of U.S. active equities only (the largest, most significant and most widely studied market). As before, *t*-statistics reported in the table are based on standard errors clustered at the asset manager level (White, 1980 and Rogers, 1993).

Results, displayed in Table 5, indicate that expected future performance is a poor predictor of actual future excess returns and alpha rankings, suggesting that it does not contain any information about future performance. The same can be said of other variables included in the regression. Past performance is the only variable that seems to have some predictive power over one-year alpha rankings, but not over two-year alpha or excess returns rankings. Even if it proved to be robust, it would be virtually impossible for plan sponsors to exploit this type of short lived predictability because of the delays in their investment process and the costs that would be incurred by frequently switching asset managers (see Goyal and Wahal 2008).

To summarize, expectations of future performance are highly correlated with past performance, also correlated with other soft/intangible variables and are generally poor predictors of actual future performance. This evidence is consistent with plan sponsors extrapolating from past performance in forming their expectations of future performance.

B. Do asset flows respond to expected future, or past, performance and non-performance indicators?

The link between fund flows and past performance is the subject of an extensive literature; see, for instance, Ippolito (1992), Chevalier and Ellison (1997), Sirri and Tufano (1998) and Del Guercio and Reuter (2013) for the retail mutual fund industry; or Del Guercio and Tkac (2002) and Goyal and Wahal (2008) for institutional/fiduciary pension investors. The traditional view,

in this literature, is that the sensitivity of fund flows to past performance is the result of people investing on the assumption that past performance, for real or imagined reasons, will persist into the future (Lynch and Musto, 2002).[14]

In this study we not only use measures of past performance, as is standard in most of the literature, but we also have access to information on what investors expect the relative performance of their asset managers to be in the future. Arguably, the main - or sole - concern of plan sponsors should be the future performance of their investments. If so, we should expect to see asset flows responding to changes in expected future performance and, in principle, past performance should not matter. Agency problems, however, may lead trustees and other decision makers to base their decisions on past performance, even if they think that they know better. In this vein Lakonishok et al. (1992) argue that pension sponsor officials, as fiduciaries, have agency reasons to value manager characteristics that are easily justified to superiors or a trustee committee. One of the most obvious of these characteristics is the past performance of asset managers.[15]

Agency problems within the sponsor's organization may also reveal themselves in other ways. Plan sponsors, to shield themselves from adverse publicity associated with negative outcomes from their appointment of asset managers, may follow investment consultants' recommendations, even if they are unconvinced by their advice (see Lakonishok et al, 1992; and Goyal and Wahal, 2008). Similarly if, as Lakonishok et al. (1992) claim, asset managers provide a service to pension officers consisting of direct interaction and hand-holding, institutional asset

[14] In much of the flow-performance literature, past performance is interpreted as a (noisy) signal of quality, and in principle informative about future performance. See, however, Berk and Green (2004) for a theoretical model where past performance signals quality and attracts flows, but it does not predict future performance, owing to the diminution of returns as successful asset managers attract extra assets. In Berk and Green's (2004) model expected future performance is identical for all funds.

[15] For example, trustees may fire a poorly performing manager as part of a scapegoat strategy, or they may hire an outstanding past performer to avoid being second-guessed ex post.

flows may also respond to perceived changes in the level of service received from asset managers.

We explore these issues by measuring how flows respond to lagged past, and expected future, investment performance, to changes in investment consultants' recommendations, and to variables measuring soft service quality attributes. We estimate the response of flows to these variables using the following regression on yearly data:

$$Flow_{i,t} = \alpha_t + \beta_1 Expected\ Perf_{i,t-1} + \beta_2 Past\ Perf_{i,t-1} + \beta_3 Soft\ Inv.Factors_{i,t-1} + \beta_4 Service\ Factors_{i,t-1} + \beta_5 \Delta Consultants\ Recs_{i,t-1} + \delta' Controls_{i,t-1} + \epsilon_{i,t} \quad (4)$$

where $Flow_{i,t} = TNA_{i,t} - TNA_{i,t-1} * (1 + r_{i,t})/TNA_{i,t-1}$, $TNA_{i,t}$ is the total net assets for asset manager *i* at year *t* in the U.S. active equity asset class, $r_{i,t}$ is the asset weighted average return on asset manager *i*'s U.S. active equity products between years *t*-1 and *t*. This flow measure reflects the growth of a fund in excess of the growth that would have occurred if no new money had flowed in but dividends had been reinvested, and it is expressed in percentage terms relative to total assets at the beginning of the period. $\Delta Consultants\ Recs_{i,t-1}$ is the change in the number of recommendations asset manager *i* received, as a fraction of the highest possible number of recommendations which that asset manager could have received across all the style categories from all of the consultants in our sample, between time *t*-2 and *t*-1, and all other variables are defined as before.

Table 6 reports the results of estimating this regression using pooled time-series cross-sectional data and including a lagged measure of log assets under management, return volatility and a full set of time dummies as controls. In this table each column represents a separate regression. For each of the explanatory variables (expected future performance, reported past performance or past excess returns, soft investment factors and service factors) the coefficient indicates the percentage change in assets in the current year which occurs if one moves from the bottom percentile to the top percentile of that variable. GA plan sponsors' surveys are usually

conducted during the second part of the year (the last fielding date of the survey is between September and November depending on the year). Given that plan sponsors typically take time to implement investment decisions, it seems natural to use time *t*-1 and *t*-2 explanatory variables in the analysis. GA investment consultants' surveys, on the other hand, are usually conducted early in the year (the last fielding date of this survey is never later than May), so we only lag the recommendations variable one period (*t*-1*)* in our analysis. *t*-statistics are based on clustered standard errors, which are White heteroskedastic-consistent standard errors corrected for possible correlation across observations of a given asset manager in all of the regressions (White, 1980 and Rogers, 1993). This method seems to be the most sensible given the size of our panel (see Petersen 2009).[16]

In all six specifications the coefficients on lagged reported past performance or past excess returns over benchmarks (our measures of past performance) are positive and statistically significant. At the same time, the coefficient on lagged expected future performance is either not statistically different from zero or only mildly significant. The estimates in models I to VI indicate that moving from the bottom percentile of past performance to the top percentile is rewarded with a 31% increase in assets for the asset manager; but a similar change in expected future performance has only a minor impact on asset flows, or no impact at all. In models I, II, III and VI, where we proxy past performance using the reported measure of past performance in the GA survey, the effect of expected future performance on flows is never significant. In models IV and V, where we replace reported past performance with asset managers' actual past excess returns over benchmarks, lagged expected future performance becomes a significant predictor of future flows, but its importance is still much smaller than that of lagged excess returns, and it becomes almost negligible when we control for a more complete set of actual past performance measures (see Appendix Table I). The estimates in model III also indicate that the main response

[16] Similar results obtain if asset manager and time fixed effects are used or if data is clustered in two dimensions, time and manager, as in Cameron et al. (2011).

of flows to past performance occurs within an interval of a little over a year, with no visible effects beyond that.

The results in Table 6 were obtained using equally weighted measures of past performance but the same results hold when we use asset weighted measures of past performance. A robustness analysis conducted using alternative measures of past performance (past one or two-year 3-factor alphas or past one-year excess returns over benchmarks), shown in Appendix Table 1, paints a similar picture: on all the measures employed the analysis points to expected future performance having at best a second-order influence on flows.[17]

The reason why the influence of expected future performance on future flows is marginal is not that the expected future performance variable we use is noisy – a common source of concern with survey data on expected returns (see Lamont, 2003; and Greenwood and Shleifer, 2013). Although there is likely to be some noise in individual responses about future expected performance, the results of the two tests of no differences in scores among asset managers reported in Table 1, the F-test of identical means and the Kruskal-Wallis test, indicate that plan sponsors are as effective in separating asset managers in terms of their expected future performance as they are in terms of their past performance. That is, while there is some disparity in opinions, plan sponsors tend to agree about which asset managers will do well (and not) in an asset class, and they do so to a similar extent as they agree about asset managers' past performance. This suggests that there is no significant difference in quality between the expected future performance variable and reported past performance, also a survey variable; yet when both are included in a multivariate regression framework it is mostly, or even only, past performance that matters for flows.

[17] The past excess returns and alpha measures we use are calculated gross of fees. The evidence is that in institutional funds fees are largely homogeneous within size/style categories, so that it does not make a difference to use returns gross of fees. We have fee records from eVestment for 2012 which show that there is little cross-section variation in fees. This is consistent with Busse et al. (2010): "[I]ntrastyle variation in fees is extremely small; almost all of the cross-sectional variation in fees is generated by investment styles" (2010: 772).

At the same time, the strong significance of past performance in these regressions does not seem to be the result of plan sponsors projecting their expectations regarding future performance into the reported past performance measure either (even when psychological factors are known to affect an individual's perceptions or recollections of past events, see e.g., Goetzmann and Peles, 1997). When we replace reported past performance with non-survey measures of past performance (past excess returns and alphas) these past performance measures remain as significant as before.

Our results show that past performance is a much more important driver of flows than expected future performance. This suggests that institutional investors do not so much allocate funds to those asset managers they think will do well in the future but to those that they think did well in the recent past. This behavior contradicts the most frequent interpretation of the flow-performance relation that attributes the sensitivity of fund flows to past performance to a belief among investors that past performance will persist into the future. If extrapolative expectations were the main reason why plan sponsors chased past performance, the coefficient on expected future performance, but not that on past performance, would be highly significant when both are part of the regression estimation. That is not the case, however. That interpretation might be an accurate reflection of what happens in the retail mutual fund industry. Plan sponsors, however, are likely to be more sophisticated than retail mutual fund investors and also to have at their disposal advisors, notably investment consultants, to provide help.

One possible explanation for this result, consistent with Lakonishok et al.'s (1992) arguments, is that, for agency reasons, trustees decide to base their decisions on the most observable and verifiable variable at their disposal, past performance, even if they think they know better. Trustees may attach unwarranted weight to this tangible piece of information (or non-information) simply because it is observable by the people they are appointed by or answerable to. Such behavior is particularly to be expected of sponsors who are most sensitive to "headline risk" (i.e., negative publicity) - the same investors who, according to Goyal and Wahal (2008), are likely to chase investment styles with high recent returns and to terminate managers for poor performance - but it is perhaps not limited to them. This behavior is akin to that of

money managers said to window-dress their portfolios at year-end by getting rid of poorly performing stocks that the sponsors might take as further evidence of low ability (Lakonishok et al. 1991); or to that of institutional investors who prefer glamour stocks because they appear to be "prudent" investments, and hence easy to justify to sponsors (Lakonishok et al. 1994).[18] It is also consistent with the well-known, albeit perhaps outdated, market wisdom that "no one gets fired for buying IBM".[19]

A similar agency rationale may explain plan sponsors' reliance on consultants' recommendations. The estimates in models II to VI indicate that asset managers that go from not being short-listed at all by investment consultants to being short-listed by all the consultants in the survey for all their products experience a 68% increase in assets (model II), even after controlling for the effect these recommendations have on plan sponsors' expectations of future performance. This suggests that institutional investors not only follow consultants' recommendations, as we would expect, but that they follow them regardless of their belief in their value.[20]

Regarding service quality, results in Table 6 suggest that fund flows do not respond to measures of service quality, once we control for perceived past and expected future performance. Plan sponsors might use service factors, together with other variables, to infer future performance, but service quality does not seem to be valuable in itself. This is true when looking

[18] For evidence of how the prudent man rule affects fiduciaries' portfolio decisions see also Badrinath, Gay and Kale (1989) and Del Guercio (1996).

[19] See Scharfstein and Stein (1990) and Zwiebel (1995) for theoretical models providing examples of situations where agents may decide to act in ways that seem to ignore their own expectations or substantive private information.

[20] Given that the GA investment consultants' surveys take place several months ahead of their plan sponsors' surveys, it seems natural to believe that plan sponsors are aware of consultants' recommendations at the time of answering about their expectations of future performance. Consultants' recommendations are only available to plan sponsors who hire consultants, and it is through this channel that they affect both expectations of future performance and flows.

at service quality factors as a whole (models I to V), or individually (model VI); or even if we consider changes in service quality as the dependent variable instead of levels (not reported).

It could be, however, that service factors are important only if the investment performance of the asset manager is not good or if the quality of these service factors is very poor. To explore these possibilities we estimate the following model:

$$Flow_{i,t} = \alpha_t + \beta_1 Expected\ Perf_{i,t-1} + \beta_2\left[Past\ Perf_{i,t-1} * I^{PP}_{i,t-1}\right] + \beta_3\left[Past\ Perf_{i,t-1} * \left(1 - I^{PP}_{i,t-1}\right)\right] + \beta_4 Soft\ Inv.Factors_{i,t-1} + \beta_5\left[Service\ Factors_{i,t-1} * I^{M}_{i,t-1}\right] + \beta_6\left[Service\ Factors_{i,t-1} * \left(1 - I^{M}_{i,t-1}\right)\right] + \beta_7 \Delta Consultants\ Recs_{i,t-1} + \delta' Controls_{i,t-1} + \epsilon_{i,t} \quad (5)$$

where $M = PP$ (Past Performance) or SF (Service Factors), depending on the specification; $I^{PP}_{i,t-1}$ is an indicator variable equaling one if unscaled $Past\ Perf_{i,t-1}$ is lower than a given threshold and zero otherwise; and $I^{SF}_{i,t-1}$ is another indicator variable equaling one if unscaled $Service\ Factors_{i,t-1}$ is lower than a given threshold and zero otherwise. $Past\ Perf_{i,t-1}$ and $Service\ Factors_{i,t-1}$ are re-scaled by subtracting the threshold value to make this a continuous piecewise linear model. All other variables are defined as before.

The results of estimating this model are collected in Table 7. In addition to the usual statistics this table also reports the *p*-values of an F-test of equality of coefficients between the slopes of past performance and service quality above (+) and below (-) a given threshold. The threshold is defined by either the 33rd or 50th percentile of past performance or service quality. Together with the results of Table 6, these results indicate that, while asset flows are, in general, not very sensitive to past service quality, they become more sensitive when service quality is poor (models II and V). This is consistent with the view that when service quality is poor investors seem more likely to abandon an asset manager but that having good service quality is unlikely to attract funds by itself.[21] It is also consistent with the hypothesis that pension officers

[21] The same results obtain if we do not force intercepts (of the piecewise linear regression models) to coincide.

value direct interaction with asset managers and hand-holding, in line with Lakonishok et al. (1992);[22] indeed, it is consistent with any interpretation according to which plan sponsors would be expected to value a minimum level of service quality from their asset managers. Estimates in models III and VI, seem, however, to show that service quality is not necessarily more important when performance is bad; this suggests that service quality is valued in general, and not merely to help pension officers explain poor performance.

Estimates in models I and IV in Table 7 also suggest that the relation between flows and past performance is nearly linear. This is consistent with the findings of Del Guercio and Tkac (2002) who document a nearly linear relation for institutional investors, in contrast to studies of the retail mutual fund industry which typically find a convex relation between flows and performance. Evidence collected in this table also indicates that soft investment factors are not very important for asset flows.

To summarize, we find that plan sponsors allocate funds, not so much to those asset managers they think will do well in the future, but to those that they think did well in the recent past and to those recommended by investment consultants. This behavior points to agency problems in that it is consistent with trustees basing their decisions on the most defensible variables at their disposal, past performance and advice received from investment consultants, even if they think they know better. However, since expected future performance is not a good predictor of actual future performance, the observed tendency of plan sponsors not to act on their own expectations, or do so only modestly, and to base their decisions on more tangible variables instead, such as past performance or consultants' recommendations, does not necessarily have costly implications for ultimate investors. We further find that non-performance factors, that is, soft investment factors and service factors, have only a mild effect on flows: good service quality is unlikely to attract funds on its own, although asset flows do become more sensitive to service quality when it is poor, regardless of whether performance is good or bad.

[22] See also Gennaioli et al. (2015) for a similar hypothesis applied to the mutual fund market, according to which managers provide individual investors with 'peace of mind' in addition to investment performance.

IV. Conclusion

Using survey data for 1999-2011 we analyze the views of plan sponsors on their asset managers. These views include judgments about asset managers' past and future performance, as well as about non-performance factors including the business processes of their asset managers, the quality of their personnel and their service delivery. We explore how performance and non-performance factors interact in plan sponsors' survey responses, and how these relate to the flow of funds into the same asset managers.

Consistent with the view, common in the mutual fund literature, that investors extrapolate from past performance, we find that the future performance expected of asset managers is driven largely by past performance. However, to the extent that the two performance measures are distinct, it is past performance that is the main determinant of asset flows and, once we control for past performance, expected future performance has little explanatory power over them. We also find that flows are strongly influenced by investment consultants' recommendations, and that this influence goes beyond the impact those recommendations may have on plan sponsors' expectations. These two findings suggest that that investors are not acting fully on their own expectations when making their asset allocation decisions.

These results shed light on decision making by plan sponsors, in that they suggest separate roles for behavioral and agency effects. The apparent tendency for plan sponsors, when forming their expectations, to extrapolate from past performance and rely on soft factors when neither of these is informative about future performance (except, perhaps, over periods too short to exploit) appears irrational. It is doubtful that these findings can be explained by agency problems, since survey responses are private and likely to be a faithful reflection of respondents' beliefs.

By contrast, the fact plan sponsors do not act on their own expectations, or do so only marginally, when making investment decisions is consistent with agency rather than behavioral effects on the part of plan sponsors. A behavioral explanation for this would require us to believe

that plan sponsors take the trouble to form expectations about the future but then, unwittingly, fail to act on those expectations. It seems more likely that their actions are at variance with their own expectations because they feel that past performance and consultants' recommendations are a more defensible explanation for their decisions to their the superiors and other stakeholders. The policy implications of this are sobering. For, as long as sponsors consider that they will be judged by others who do believe that past performance and consultants' recommendations are informative about future performance, sponsors will behave as if they do so themselves, even if this is not the case.

Appendix – Robustness Analysis

In Appendix Table I, we extend the analysis of Table 6 (Section 2. B) by regressing asset flows on a wider set of past performance measures. The analysis confirms our findings: whatever benchmark of past performance is chosen (past one- or two-year 3-factor alphas or past one-year excess returns over benchmarks), expected future performance has at best a second-order influence on flows.

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Table 1

Greenwich Associates plan sponsors survey summary statistics

The table shows, for each variable included in the 2011 Greenwich Associates survey of plan sponsors: the number of respondents to the survey that provided answers about that variable; the number of evaluations (each plan sponsor typically evaluates more than one asset manager); the mean and standard deviation of the individual scores; and the p-values of two tests of no differences in scores among asset managers: the F-test of identical means and the Kruskal-Wallis test.

GA Variable	# Respondents	# Evaluations	Mean score	Std. dev.	Tests of no difference in scores among asset mgrs.	
					F test (p-value)	Kruskal-Wallis test (p-value)
Expected Future Performance	761	3000	4.00	0.75	0.0000***	0.0001***
Reported Past Performance	808	3143	3.81	0.88	0.0000***	0.0001***
Soft Investment Factors						
Consistent Inv. Philosophy	808	3155	4.24	0.70	0.0000***	0.0001***
Clear Decision Making	785	3048	4.18	0.71	0.0000***	0.0001***
Capable Inv. Professionals	797	3082	4.24	0.69	0.0000***	0.0001***
Service Factors						
Understanding of Objectives	824	3552	4.12	0.79	0.0109**	0.0090***
Relationship Manager	828	3508	4.11	0.78	0.0005***	0.0016***
Credibility	777	3326	4.12	0.79	0.0000***	0.0001***
Useful Written Reports	782	3337	3.90	0.74	0.0092***	0.0315**
Useful Formal Meetings	733	3094	4.02	0.75	0.0095***	0.032**
Useful Informal Meetings	691	2893	4.03	0.75	0.0133**	0.0235**

Table 2

Sample Statistics

The table shows the total number of U.S. domestic equity asset managers in our sample each year. It also shows the number of asset managers which reported assets under management (AUM) data, as well as their mean and median assets. Mean and median assets under management are in millions of U.S. dollars.

	# of Asset Managers in sample	Asset Managers with AUM data			
		#	% of Total	Mean AUM $Million	Median AUM $Million
1999	77	26	34%	10,687	6,516
2000	85	41	48%	12,387	3,805
2001	86	65	76%	17,169	8,983
2002	109	95	87%	16,324	7,223
2003	101	92	91%	15,089	7,829
2004	115	102	89%	19,264	9,848
2005	128	116	91%	21,014	10,130
2006	130	123	95%	23,567	11,041
2007	154	143	93%	23,909	9,421
2008	170	152	89%	22,914	10,051
2009	145	135	93%	14,791	7,157
2010	161	148	92%	16,719	7,312
2011	169	159	94%	18,085	8,259
Total	232	213	92%	18,891	4,232

Table 3

What drives expectations of future performance

This table reports the results of pooled time-series cross-sectional OLS regressions of expected future performance rankings on reported past performance (alternatively past excess return over benchmark or Fama-French 3-factor alpha), soft investment factor and service factor rankings. Expected future performance, reported past performance, past excess return over benchmark, 3-factor alpha, and soft investment factor and service factor rankings are expressed using the fractional rank of each asset manager in the sample. An asset manager's fractional rank, for a given variable, represents its percentile rank relative to other asset managers in the same period, and ranges from zero to one. Some regressions also include a measure of the number of investment consultants' recommendations received (over the total possible) by the asset manager, or its change, lagged log assets under management and return volatility. Each column represents a separate regression. t-statistics based on standard errors clustered at the asset manager level are included in parenthesis.

	I	II	III	IV	V	VI
Reported Past Performance (t)	0.49***	0.47***	0.47***	0.47***		
	(20.11)	(17.72)	(17.43)	(17.38)		
Past Excess Return (t)					0.18***	
					(6.38)	
Past 3-Factor Alpha (t)						0.15***
						(5.30)
Soft Investment Factors (t)	0.32***	0.32***	0.32***	0.32***	0.56***	0.57***
	(10.93)	(10.43)	(10.40)	(10.26)	(19.05)	(19.52)
Service Factors (t)	0.08***	0.10***	0.10***	0.09***	0.11***	0.11***
	(2.81)	(3.35)	(3.38)	(3.35)	(3.66)	(3.67)
Consultants' Recommendations (t)		0.20*		0.16	0.25*	0.24*
		(1.84)		(1.46)	(1.79)	(1.71)
Chg. in Consultants' Recommendations (t)			0.29*	0.21	0.44**	0.52**
			(1.66)	(1.15)	(2.09)	(2.44)
Total Net Assets (t-1)		-0.00	0.00	-0.00	-0.01	-0.01
		(-0.42)	(0.06)	(-0.35)	(-1.33)	(-1.46)
Return Volatility (t-1)		0.02	0.03	0.02	-0.07	-0.10
		(0.19)	(0.21)	(0.13)	(-0.51)	(-0.71)
Intercept	0.05***	0.06	0.05	0.06	0.15**	0.17***
	(5.62)	(1.29)	(1.02)	(1.27)	(2.57)	(2.82)
R-squared	0.62	0.62	0.63	0.63	0.51	0.50
Number of observations	1,623	1,390	1,364	1,364	1,339	1,339

***, **, * Statistically significant at 1%, 5%, and 10% levels, respectively

Table 4
The relation between future performance and past performance, soft investment factors and service factors

This table reports the results of pooled time-series cross-sectional OLS regressions of future excess returns or Fama-French 3-factor alpha rankings on reported past performance (alternatively past excess returns or Fama-French 3-factor alpha), soft investment factor and service factor rankings. Excess returns (t) and 3-factor alphas (t) are computed for the one-year and two-year periods starting one week after the last fielding date of the survey. Past excess returns (t) and past 3-factor alphas (t) are computed for the two-year periods finishing one week before the first fielding date of the survey. Excess returns, 3-factor alphas, reported past performance, and the soft investment factor and service factor rankings are expressed using the fractional rank of each asset manager in the sample. An asset manager's fractional rank, for a given variable, represents its percentile rank relative to other asset managers in the same period, and ranges from zero to one. All regressions also include a measure of the number of investment consultants' recommendations received (over the total possible) by the asset manager, lagged log assets under management and return volatility. Each column represents a separate regression. t-statistics based on standard errors clustered at the asset manager level are included in parenthesis.

	Excess Return Ranking				**3-Factor Alpha Ranking**			
	1-Year		**2-Year**		**1-Year**		**2-Year**	
Reported Past Performance (t)	0.03		-0.04		0.04		-0.03	
	(0.89)		(-1.19)		(1.43)		(-0.70)	
Past Excess Return (t)		0.05		-0.03				
		(1.64)		(-0.91)				
Past 3-Factor Alpha (t)						0.07**		0.05
						(2.27)		(1.35)
Soft Investment Factors (t)	-0.06	-0.06*	-0.03	-0.05	-0.03	-0.03	-0.03	-0.05
	(-1.64)	(-1.90)	(-0.60)	(-1.38)	(-0.85)	(-0.78)	(-0.61)	(-1.38)
Service Factors (t)	0.05	0.05	0.03	0.03	-0.01	-0.01	0.02	0.02
	(1.34)	(1.48)	(0.90)	(0.91)	(-0.30)	(-0.19)	(0.48)	(0.42)
Consultants' Recommendations (t)	-0.05	-0.04	-0.29	-0.28	0.02	0.03	-0.09	-0.08
	(-0.28)	(-0.24)	(-1.31)	(-1.25)	(0.10)	(0.19)	(-0.40)	(-0.36)
Total Net Assets (t-1)	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(-0.82)	(-0.83)	(-0.28)	(-0.23)	(-0.64)	(-0.82)	(-0.18)	(-0.12)
Return Volatility (t-1)	0.02	0.03	0.13	0.12	-0.13	-0.14	0.19	0.19
	(0.11)	(0.20)	(0.54)	(0.51)	(-0.74)	(-0.82)	(0.85)	(0.84)
Intercept	0.50***	0.48***	0.49***	0.49***	0.52***	0.51***	0.48***	0.45***
	(10.41)	(9.95)	(7.59)	(7.44)	(10.08)	(9.93)	(7.13)	(6.80)
R-squared	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.01
Number of observations	1,196	1,193	1,031	1,029	1,196	1,193	1,031	1,029

***, **, * Statistically significant at 1%, 5%, and 10% levels, respectively

Table 5

Is there any information in expected future performance rankings?

This table reports the results of pooled time-series cross-sectional OLS regressions of future excess returns or Fama-French 3-factor alpha rankings on expected future performance rankings and other variables. Excess returns (t) and 3-factor alphas (t) are computed for the one-year and two-year periods starting one week after the last fielding date of the survey. Past excess returns (t) and past 3-factor alphas (t) are computed for the two-year periods finishing at the end of the month preceding the first fielding date of the survey. Excess returns, 3-factor alphas, expected future performance, reported past performance, and soft investment factor and service factor rankings are expressed using the fractional rank of each asset manager in the sample. An asset manager's fractional rank, for a given variable, represents its percentile rank relative to other asset managers in the same period, and ranges from zero to one. All regressions also include a measure of the number of investment consultants' recommendations received (over the total possible) by the asset manager, lagged log assets under management and return volatility. Each column represents a separate regression. t-statistics based on standard errors clustered at the asset manager level are included in parenthesis.

	Excess Return Ranking				**3-Factor Alpha Ranking**			
	1-Year		**2-Year**		**1-Year**		**2-Year**	
Expected Future Performance (t)	-0.04	-0.03	0.01	-0.01	-0.07*	-0.04	0.02	-0.01
	(-0.98)	(-0.73)	(0.11)	(-0.32)	(-1.79)	(-1.18)	(0.43)	(-0.20)
Reported Past Performance (t)	0.05		-0.05		0.08**		-0.04	
	(1.33)		(-0.99)		(2.23)		(-0.79)	
Past Excess Return (t)		0.05*		-0.03				
		(1.80)		(-0.77)				
Past 3-Factor Alpha (t)						0.08**		0.05
						(2.45)		(1.37)
Soft Investment Factors (t)	-0.05	-0.05	-0.03	-0.04	-0.01	-0.00	-0.03	-0.05
	(-1.20)	(-1.20)	(-0.62)	(-1.03)	(-0.25)	(-0.06)	(-0.73)	(-1.12)
ServiceFactors (t)	0.05	0.05	0.03	0.03	-0.01	-0.00	0.02	0.02
	(1.40)	(1.53)	(0.89)	(0.93)	(-0.16)	(-0.08)	(0.45)	(0.44)
Consultants' Recommendations (t)	-0.04	-0.03	-0.30	-0.28	0.04	0.05	-0.09	-0.08
	(-0.22)	(-0.19)	(-1.31)	(-1.23)	(0.21)	(0.27)	(-0.42)	(-0.35)
Total Net Assets (t-1)	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(-0.85)	(-0.87)	(-0.28)	(-0.24)	(-0.69)	(-0.91)	(-0.17)	(-0.13)
Return Volatility (t-1)	0.02	0.03	0.13	0.12	-0.13	-0.14	0.19	0.19
	(0.12)	(0.21)	(0.54)	(0.51)	(-0.75)	(-0.83)	(0.85)	(0.84)
Intercept	0.50***	0.49***	0.49***	0.49***	0.53***	0.52***	0.48***	0.45***
	(10.44)	(9.98)	(7.56)	(7.48)	(10.16)	(10.08)	(7.08)	(6.79)
R-squared	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01
Number of observations	1,196	1,193	1,031	1,029	1,196	1,193	1,031	1,029

***, **, * Statistically significant at 1%, 5%, and 10% levels, respectively

Table 6

Effect of past and expected performance, soft investment factors, service factors and consultants' recommendations on asset flows

This table reports the results of pooled time-series cross-sectional regressions of asset managers' yearly asset flows on lagged past, and expected future, investment performance, variables measuring soft investment factors and service factors, and investment consultants' recommendations. The sample includes asset managers' U.S. active equity products only. These products are aggregated into a single observation for each asset manager-year. Asset flows are expressed as percentages of total assets under management at the end of the previous year. Past performance is proxied using reported past performance (in the survey) or the excess return computed over the two-year period finishing at the end of the month preceding the first fielding date of the previous year survey. Past and expected future performance, soft investment factors, and service factors are expressed using the fractional rank of each asset manager in the sample. An asset manager's fractional rank, for a given variable, represents its percentile rank relative to other asset managers in the same period, and ranges from zero to one. The change in consultants' recommendations is the change in the percentage of short list recommendations received over the total possible. All regressions also include a lagged measure of log assets under management, return volatility and a full set of time dummies (which are not reported in the table). Each column represents a separate regression. t-statistics based on standard errors clustered at the product level are included in parenthesis.

	I	II	III	IV	V	VI
Expected Future Performance (t-1)	-0.01	-0.01	-0.05	0.10***	0.06**	-0.03
	(-0.15)	(-0.25)	(-1.16)	(3.19)	(2.07)	(-0.70)
Expected Future Performance (t-2)			0.06		0.06*	
			(1.40)		(1.76)	
Reported Past Performance (t-1)	0.32***	0.31***	0.31***			0.31***
	(7.84)	(7.93)	(6.91)			(7.61)
Reported Past Performance (t-2)			0.02			
			(0.68)			
Past Excess Return (t-1)				0.31***	0.27***	
				(10.88)	(7.64)	
Past Excess Return (t-2)					0.04	
					(1.38)	
Soft Investment Factors (t-1)	-0.08*	-0.08*	-0.05	-0.01	0.01	
	(-1.75)	(-1.74)	(-1.20)	(-0.27)	(0.36)	
Soft Investment Factors (t-2)			-0.05		-0.03	
			(-0.82)		(-0.54)	
- Consistent Inv. Philosophy (t-1)						0.02
						(0.51)
- Clear Decision Making (t-1)						-0.09*
						(-1.76)
- Capable Inv. Professionals (t-1)						0.01
						(0.17)
Service Factors (t-1)	0.01	0.03	0.01	0.00	-0.01	
	(0.41)	(0.72)	(0.32)	(0.14)	(-0.45)	
Service Factors (t-2)			0.01		0.01	
			(0.30)		(0.34)	
- Understanding of Objectives (t-1)						0.00
						(0.04)
- Relationship Manager (t-1)						-0.03
						(-0.71)
- Credibility (t-1)						-0.01
						(-0.18)
- Useful Written Reports (t-1)						-0.06
						(-1.31)
- Useful Formal Meetings (t-1)						0.05
						(1.10)
- Useful Informal Meetings (t-1)						0.07
						(1.63)
Chg. in Consultants' Recommendations (t-1)		0.68***	0.54***	0.57***	0.47**	0.68***
		(3.79)	(2.73)	(3.17)	(2.57)	(3.76)
Total Net Assets (t-1)	-0.01	-0.01	-0.01	-0.00	-0.00	-0.01
	(-1.45)	(-1.46)	(-1.23)	(-0.72)	(-0.18)	(-1.51)
Return Volatility (t-1)	-0.37	-0.38	-0.86*	-0.72*	-1.15***	-0.43
	(-0.89)	(-0.89)	(-1.92)	(-1.75)	(-2.65)	(-0.98)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.15	0.15	0.17	0.18	0.19	0.16
Number of observations	1,207	1,169	1,044	1,157	1,035	1,169

***, **, * Statistically significant at 1%, 5%, and 10% levels, respectively

Table 7

The effect of investment performance and service quality on asset flows: nonlinearities

This table reports the results of pooled time-series cross-sectional regressions of asset managers' yearly asset flows on lagged past, and expected future, investment performance, variables measuring soft investment factors and service factors, and investment consultants' recommendations. Asset flows are expressed as percentages of total assets under management at the end of the previous year. Past and expected future performance, soft investment factors and service factors are expressed using the fractional rank of each asset manager in the sample. To test for nonlinearities in the flow-performance/service quality relation we estimate separate lagged performance and service factor coefficients for those asset managers ranked above and below a given threshold (defined, alternatively, by the 33rd and 50th percentile of service quality and past performance). PP and SF stand for past performance and service factors respectively. The change in consultants' recommendations is the change in the percentage of short list recommendations received over the total possible. All regressions also include a lagged measure of log assets under management, return volatility and a full set of time dummies (which are not reported in the table). Each column represents a separate regression. t-statistics based on standard errors clustered at the product level are included in parenthesis.

	Threshold 0.5			**Threshold 0.33**		
	I	**II**	**III**	**IV**	**V**	**VI**
Expected Future Performance (t-1)	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.27)	(-0.30)	(-0.27)	(-0.31)	(-0.32)	(-0.28)
Reported Past Performance (t-1)		0.32***	0.31***		0.32***	0.33***
		(7.95)	(7.92)		(7.99)	(7.94)
Rep. Past Perf. * I(PP<threshold) (t-1)	0.42***			0.49***		
	(4.76)			(3.83)		
Rep. Past Perf. * I(PP>threshold) (t-1)	0.22***			0.26***		
	(3.34)			(5.35)		
Soft Investment Factors (t-1)	-0.08*	-0.08*	-0.08*	-0.08*	-0.08*	-0.08*
	(-1.72)	(-1.76)	(-1.76)	(-1.74)	(-1.78)	(-1.76)
Service Factors (t-1)	0.02			0.02		
	(0.65)			(0.67)		
Service Factors * I(SF<threshold) (t-1)		0.13*			0.26**	
		(1.92)			(2.15)	
Service Factors * I(SF>threshold) (t-1)		-0.07			-0.04	
		(-1.12)			(-0.97)	
Service Factors * I(PP<threshold) (t-1)			0.05			0.09*
			(1.03)			(1.67)
Service Factors * I(PP>threshold) (t-1)			0.01			0.00
			(0.16)			(0.05)
Chg in Consultants' Recommendations (t-1)	0.68***	0.70***	0.67***	0.69***	0.70***	0.69***
	(3.80)	(3.88)	(3.69)	(3.82)	(3.91)	(3.82)
Total Net Assets (t-1)	-0.02	-0.02	-0.01	-0.02	-0.02	-0.01
	(-1.56)	(-1.60)	(-1.46)	(-1.56)	(-1.64)	(-1.43)
Return Volatility (t-1)	-0.36	-0.41	-0.39	-0.38	-0.44	-0.40
	(-0.84)	(-0.95)	(-0.90)	(-0.89)	(-1.03)	(-0.92)
Test Past Perf (+) = Past Perf (-)	0.13			0.12		
Test Serv. Fact. (+) = Serv. Fact. (-)		0.07*	0.63		0.03**	0.13
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.15	0.16	0.15	0.16	0.16	0.15
Number of observations	1,169	1,169	1,169	1,169	1,169	1,169

***, **, * Statistically significant at 1%, 5%, and 10% levels, respectively

Figure I

Combined Sample: Level of Analysis

Greenwich Associates' (GA) plan sponsors' survey is at the asset manager/asset class level containing one score for each asset manager in each asset class (e.g. Fidelity U.S. Active Equities, Fidelity U.S. Active Fixed Income, Fidelity U.K. Active Equities, etc.). The GA consultants' recommendations survey is at the level of each asset manager/size/style category (e.g. Fidelity Large Cap Growth, Fidelity Mid Cap Value, etc.). The eVestment database has performance and assets under management data for individual funds (e.g. Fidelity Mid Cap Value Fund, Fidelity Small Cap Growth Fund, etc.) within a complex. In the majority of cases, there is only one individual fund per manager/size/style category.

Level of analysis	**Source of data**	**Stylized example**						
Asset manager/asset class level	GA survey of plan sponsors' views on asset managers' non-performance factors	Firm XYZ Active U.S. Equities						
Size/style level	GA survey of consultants' recommendations of funds by size/style category	XYZ Large Cap Growth	XYZ Large Cap Value	XYZ Mid Cap Growth	XYZ Mid Cap Value	XYZ Small Cap Growth	XYZ Small Cap Value	XYZ Core Equity
Fund level	eVestment flows and performance database by individual fund	Fund 1	Fund 1 Fund 2 etc…	Fund 1	Fund 1 Fund 2	Fund 1	Fund 1	Fund 1 Fund 2

Appendix Table 1

Effect of past and expected performance, soft investment factors, service factors and consultants' recommendations on asset flows - Additional past performance measures

This table reports the results of pooled time-series cross-sectional regressions of asset managers' yearly asset flows on lagged past, and expected future, investment performance, variables measuring soft investment factors and service factors, and investment consultants' recommendations. The sample includes asset managers' U.S. active equity products only. These products are aggregated into a single observation for each asset manager-year. Asset flows are expressed as percentages of total assets under management at the end of the previous year. Past performance is proxied using several measures: the excess return and 3-factor alphas (also the one-year excess return and 3-factor alphas) computed over the two-year (one-year) period finishing at the end of the month preceding the first fielding date of the previous year survey. Past and expected future performance, soft investment factors, and service factors are expressed using the fractional rank of each asset manager in the sample. An asset manager's fractional rank, for a given variable, represents its percentile rank relative to other asset managers in the same period, and ranges from zero to one. The change in consultants' recommendations is the change in the percentage of short list recommendations received over the total possible. All regressions also include a lagged measure of log assets under management, return volatility and a full set of time dummies (which are not reported in the table). Each column represents a separate regression. t-statistics based on standard errors clustered at the product level are included in parenthesis.

	I	II	III	IV	V	VI
Expected Future Performance (t-1)	0.12***	0.09**	0.10***	0.07**	0.10***	0.05
	(3.58)	(2.59)	(3.17)	(2.14)	(3.09)	(1.54)
Expected Future Performance (t-2)		0.05		0.05		0.06*
		(1.56)		(1.52)		(1.87)
Excess Return (t-1)			0.20***	0.15***	0.11**	-0.09
			(4.05)	(2.61)	(2.30)	(-1.06)
Excess Return (t-2)				0.05		0.13**
				(1.03)		(2.33)
One-Year Excess Return (t-1)					0.15***	0.26***
					(2.95)	(3.87)
One-Year Excess Return (t-2)						0.05
						(0.69)
3-Factor Alpha (t-1)	0.30***	0.27***	0.16***	0.17***	0.16***	0.19**
	(9.24)	(7.76)	(2.91)	(2.89)	(2.99)	(2.51)
3-Factor Alpha (t-2)		0.03		-0.01		0.01
		(0.92)		(-0.20)		(0.10)
One-Year 3-Factor Alpha (t-1)					-0.03	-0.03
					(-0.54)	(-0.45)
One-Year 3-Factor Alpha (t-2)						-0.04
						(-0.69)
Soft Investment Factors (t-1)	-0.00	0.02	-0.01	0.02	-0.01	0.02
	(-0.01)	(0.51)	(-0.17)	(0.41)	(-0.15)	(0.39)
Soft Investment Factors (t-2)		-0.02		-0.02		-0.01
		(-0.30)		(-0.33)		(-0.28)
Service Factors (t-1)	-0.00	-0.02	-0.00	-0.02	-0.00	-0.02
	(-0.06)	(-0.62)	(-0.03)	(-0.63)	(-0.05)	(-0.65)
Service Factors (t-2)		0.01		0.01		0.01
		(0.30)		(0.28)		(0.21)
Chg. in Consultants' Recommendations (t-1)	0.66***	0.55***	0.58***	0.48**	0.64***	0.50***
	(3.54)	(2.88)	(3.21)	(2.60)	(3.46)	(2.68)
Total Net Assets (t-1)	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00
	(-1.17)	(-0.58)	(-1.00)	(-0.42)	(-1.06)	(-0.65)
Return Volatility (t-1)	-1.23***	-1.68***	-1.02**	-1.46***	-1.15***	-1.69***
	(-2.78)	(-3.50)	(-2.46)	(-3.29)	(-2.78)	(-3.84)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.18	0.19	0.19	0.20	0.20	0.22
Number of observations	1,157	1,035	1,157	1,035	1,157	1,035

***, **, * Statistically significant at 1%, 5%, and 10% levels, respectively