

Internet Appendix to “Institutional Investor Expectations, Manager Performance, and Fund Flows”

I. Further Details on the Greenwich Associates (GA) Survey

A. The GA Survey of Plan Sponsors: Aggregation of Responses

The value assigned to each GA factor (service or investment) in our dataset is a statistical combination of the plan sponsors’ evaluations of their asset managers. GA arrives at these values by organizing all plan sponsors’ responses for each program into a matrix where each column contains a question and each row contains a plan sponsor’s responses to all questions about one of his asset managers. GA summarizes the scores for each individual plan sponsor-to-asset manager relationship using the Rasch model and the maximum likelihood method.¹ This statistical method computes a scaled score for each relationship based upon the entire set of the plan sponsor’s responses to the questions for each asset manager. Scores are then normalized, by subtracting the mean of the score distribution from each scaled score and dividing by the standard deviation of that score distribution. These normalized scores are constrained within the (-3 to +3) range. The constrained normal scores are transformed to the GA index scale by multiplying them by the standard deviation and then adding the GA scale mean.

¹ The Rasch model, a special case of item response theory, is a psychometric model for analyzing categorical data. For a detailed description of this model we refer the reader to the extensive literature on the topic (e.g., Andrich, David. Rasch Models for Measurement: SAGE Publications. Vol. 68. Sage Publications (1988); or Fischer, Gerhard H., and Ivo W. Molenaar, eds. Rasch models: Foundations, Recent Developments, and Applications. Springer Science & Business Media (2012)).

B. The GA Survey of Investment Consultants

In this GA survey, investment consultants are asked to rate active fund managers on various measures of performance and service, and also to state the names of the fund managers they recommend to their clients in each of a number of investment size-style categories. As with the survey of plan sponsors, we draw on the investment consultant surveys between 1999 and 2011. Consultants respond to the questionnaires in confidence, and the responses by individual investment consultants to the GA questionnaires are not disclosed in the survey results, but rather the aggregate responses.

The main information we obtain from the surveys of investment consultants is an annual list of fund managers showing, in each size-style category, the percentage of the consultants surveyed who recommended that fund manager. According to GA, consultants are asked to recommend between four and six fund managers for each of seven different size-style categories: Large Cap Growth, Large Cap Value, Small Cap Growth, Small Cap Value, Mid Cap Growth, Mid Cap Value and Domestic Equity Core. If a fund manager manages more than one product in a given size-style category we aggregate those products into a single one, to make it correspond to the GA classification. We combine consultants' recommendations for the same asset manager's different investment size-styles to match them with plan sponsors' responses, which are given at the level of the asset class and not broken down by size-style category (see Appendix Figure I). Since we obtain our data from original documents we are confident that all recommendations are included in the database even if a product ceases to exist, or if returns are no longer reported, and so the recommendations data are free from survivorship and backfill bias. For more details see Jenkinson et al. (forthcoming).

C. Further Details on Combining the GA Survey and eVestment Data

The GA plan sponsors survey, the GA investment consultants survey, and the eVestment database each provide different levels of detail. In the GA plan sponsors survey the plan sponsors evaluate each asset manager in a whole asset class; thus the responses would be in respect of, for example, Firm XYZ Active U.S. Equities. In the GA investment consultants survey the consultants list their recommendations of asset managers by size-style category, that is, at one more level of detail than in the plan sponsors survey. Thus in our sample the recommendations of investment consultants relate to sub-categories within the asset class of U.S. Active Equities, e.g. Firm XYZ U.S. Active Equities Large Cap Growth, Firm XYZ U.S. Equities Small Cap Value, etc. Finally, the eVestment database provides AUM and performance data at a more detailed level still, namely at the level of the individual fund; for example, if Firm XYZ manages three funds in the size-style category U.S. Active Equities Large Cap growth, the data for these funds is shown separately in the eVestment database. To match the eVestment data with investment consultants' recommendations in the GA survey, we aggregate the eVestment data for all funds within a size-style category. To match the eVestment data with plan sponsors' survey responses, we aggregate the eVestment data for all funds in an asset class. The various levels of detail in the GA surveys and in the eVestment database are depicted in Appendix Figure 1.

It should be noted that the flows data which we derive from the eVestment database reflects the total flows into and out of the funds recorded in those databases, and not merely the flows originating with the plan sponsors responding to the GA survey.

II. Appendix Tables and Figures

In Appendix Tables 1 to 5 we extend the analysis of Tables 3 to 5 in the paper by considering a wider set of past performance measures (Fama-French 3-factor alphas as well as excess returns over benchmarks) and performance measurement horizons (one, two, and three year horizons). The analysis confirms our main findings: whatever benchmark of past performance is chosen, past performance is a significant driver of expectations of future performance, but those expectations have at best a second-order influence on flows.²

Appendix Table 1 What drives expectations of future performance. This extends the analysis of Table 3 in the paper by using Fama-French three factors alphas to proxy for past performance.

Appendix Table 2 The relation between future performance and past performance, soft investment factors and service factors.

Appendix Table 3 Is there any information in expected future performance rankings?
These tables extend the analysis of Table 4 in the paper by showing results using one- and two-year excess returns and 3-factor alphas.

Appendix Table 4 Effect of past and expected performance, soft investment factors, service factors and consultants' recommendations on asset flows.

Appendix Table 5 Effect of past and expected performance, soft investment factors,

² Although not reported, similar results also obtain if we use 1-factor (CAPM) alphas or 4-factor (Fama-French-Carhart) alphas. The same happens if we remove 1999 to 2001 observations from the sample.

**service factors and consultants' recommendations on asset flows –
Additional past performance measures.**

These tables expand on the analysis of Table 5 of the paper by providing a finer breakdown of service quality factors (Appendix Table 4) and controlling for a more complete set of actual past performance measures (past one or two-year 3-factor alphas or past one-year excess returns over benchmarks) (Appendix Table 5).

Appendix Table 6

The effect of investment performance and service quality on asset flows: non-linearities. In Appendix Table 6 we extend the analysis of Table 6 of the paper by evaluating the slopes of past performance and service quality above (+) and below (-) the 50th percentile of past performance or service quality, in addition to the 33rd percentile threshold reported in the paper.

Appendix Table 7

Actual versus reported past performance and asset flows.

In Appendix Table 7 we include together measures of reported past performance (survey) and past excess returns over selected benchmarks and 3-factor alphas (variables built from eVestment data) as regressors. Although there is a high degree of correlation between these variables (as we would expect), they are still different: not everybody thinks of performance as being equivalent to excess returns or 3-factor alphas (over the horizons that we measure them). It is, however, reassuring to see that even when used together in a regression framework to explain

flows, reported past performance (from the survey) is still a highly significant predictor of future flows.

Appendix Figure 1

Combined Sample: Level of Analysis

In Appendix Figure 1 we describe the level at which each of the variables used in our analysis is available: plan sponsors' responses about past and expected future performance as well as service and investment factors, investment consultants' recommendations, and returns and assets under management.

Appendix Table 1
Determinants of Expectations of Future Performance

Appendix Table 1 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. * and ** indicate statistical significance at the 5% and 1% levels, respectively.

	1	2	3	4	5	6
REPORTED_PAST_PERF _{<i>i,t</i>}	0.49** (20.11)	0.47** (17.72)	0.47** (17.43)	0.47** (17.38)		
PAST_EX_RET _{<i>i,t</i>}					0.18** (6.38)	
PAST_3F_ALPHA _{<i>i,t</i>}						0.15** (5.30)
SOFT_INV_FACTORS _{<i>i,t</i>}	0.32** (10.93)	0.32** (10.43)	0.32** (10.40)	0.32** (10.26)	0.56** (19.05)	0.57** (19.52)
SERVICE_FACTORS _{<i>i,t</i>}	0.08** (2.81)	0.10** (3.35)	0.10** (3.38)	0.09** (3.35)	0.11** (3.66)	0.11** (3.67)
CONSULTANTS_RECS _{<i>i,t</i>}		0.20 (1.84)		0.16 (1.46)	0.25 (1.79)	0.24 (1.71)
ΔCONSULTANTS_RECS _{<i>i,t</i>}			0.29 (1.66)	0.21 (1.15)	0.44* (2.09)	0.52* (2.44)
TNA _{<i>i,t-1</i>}		-0.00 (-0.42)	0.00 (0.06)	-0.00 (-0.35)	-0.01 (-1.33)	-0.01 (-1.46)
RETURN_VOL _{<i>i,t-1</i>}		0.02 (0.19)	0.03 (0.21)	0.02 (0.13)	-0.07 (-0.51)	-0.10 (-0.71)
INTERCEPT	0.05** (5.62)	0.06 (1.29)	0.05 (1.02)	0.06 (1.27)	0.15* (2.57)	0.17** (2.82)
<i>R</i> ²	0.62	0.62	0.63	0.63	0.51	0.50
No. of obs.	1,623	1,390	1,364	1,364	1,339	1,339

Appendix Table 2

The Relation between Future Performance and Past Performance, Soft Investment Factors and Service Factors

Appendix Table 2 reports the results of pooled time-series cross-sectional OLS regressions of future excess returns ($PERF_{i,t+1}$) or Fama-French 3-factor alpha ($3F_ALPHA_{i,t+1}$) rankings on reported past performance (alternatively past excess returns or Fama-French 3-factor alpha), soft investment factor and service factor rankings. $PERF_{i,t+1}$ and $3F_ALPHA_{i,t+1}$ are computed for the one-year and two-year periods starting one week after the last fielding date of the survey. $PAST_EX_RET_{i,t}$ and $PAST_3F_ALPHA_{i,t}$ 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. * and ** indicate statistical significance at the 5% and 1% levels, respectively.

	Excess Return Ranking				3-Factor Alpha Ranking			
	1-Year		2-Year		1-Year		2-Year	
REPORTED_PAST_PERF _{<i>i,t</i>}	0.03 (0.89)		-0.04 (-1.19)		0.04 (1.43)		-0.03 (-0.70)	
PAST_EX_RET _{<i>i,t</i>}		0.05 (1.64)		-0.03 (-0.91)				
PAST_3F_ALPHA _{<i>i,t</i>}						0.07* (2.27)		0.05 (1.35)
SOFT_INV_FACTORS _{<i>i,t</i>}	-0.06 (-1.64)	-0.06 (-1.90)	-0.03 (-0.60)	-0.05 (-1.38)	-0.03 (-0.85)	-0.03 (-0.78)	-0.03 (-0.61)	-0.05 (-1.38)
SERVICE_FACTORS _{<i>i,t</i>}	0.05 (1.34)	0.05 (1.48)	0.03 (0.90)	0.03 (0.91)	-0.01 (-0.30)	-0.01 (-0.19)	0.02 (0.48)	0.02 (0.42)
CONSULTANTS_RECS _{<i>i,t</i>}	-0.05 (-0.28)	-0.04 (-0.24)	-0.29 (-1.31)	-0.28 (-1.25)	0.02 (0.10)	0.03 (0.19)	-0.09 (-0.40)	-0.08 (-0.36)
TNA _{<i>i,t-1</i>}	-0.00 (-0.82)	-0.00 (-0.83)	-0.00 (-0.28)	-0.00 (-0.23)	-0.00 (-0.64)	-0.00 (-0.82)	-0.00 (-0.18)	-0.00 (-0.12)
RETURN_VOL _{<i>i,t-1</i>}	0.02 (0.11)	0.03 (0.20)	0.13 (0.54)	0.12 (0.51)	-0.13 (-0.74)	-0.14 (-0.82)	0.19 (0.85)	0.19 (0.84)
INTERCEPT	0.50** (10.41)	0.48** (9.95)	0.49** (7.59)	0.49** (7.44)	0.52** (10.08)	0.51** (9.93)	0.48** (7.13)	0.45** (6.80)
R^2	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.01
No. of obs.	1,196	1,193	1,031	1,029	1,196	1,193	1,031	1,029

Appendix Table 3
Information Content of Expected Future Performance Rankings

Appendix Table 3 reports the results of pooled time-series cross-sectional OLS regressions of future excess returns ($PERF_{i,t+1}$) or Fama-French 3-factor alpha ($3F_ALPHA_{i,t+1}$) rankings on expected future performance rankings and other variables. $PERF_{i,t+1}$ and $3F_ALPHA_{i,t+1}$ are computed for the one-year and two-year periods starting one week after the last fielding date of the survey. $PAST_EX_RET_{i,t}$ and $PAST_3F_ALPHA_{i,t}$ 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. * and ** indicate statistical significance at the 5% and 1% levels, respectively.

	Excess Return Ranking				3-Factor Alpha Ranking			
	1-Year		2-Year		1-Year		2-Year	
EXPECTED_PERF _{<i>i,t</i>}	-0.04 (-0.98)	-0.03 (-0.73)	0.01 (0.11)	-0.01 (-0.32)	-0.07 (-1.79)	-0.04 (-1.18)	0.02 (0.43)	-0.01 (-0.20)
REPORTED_PAST_PERF _{<i>i,t</i>}	0.05 (1.33)		-0.05 (-0.99)		0.08* (2.23)		-0.04 (-0.79)	
PAST_EX_RET _{<i>i,t</i>}		0.05 (1.80)		-0.03 (-0.77)				
PAST_3F_ALPHA _{<i>i,t</i>}						0.08* (2.45)		0.05 (1.37)
SOFT_INV_FACTORS _{<i>i,t</i>}	-0.05 (-1.20)	-0.05 (-1.20)	-0.03 (-0.62)	-0.04 (-1.03)	-0.01 (-0.25)	-0.00 (-0.06)	-0.03 (-0.73)	-0.05 (-1.12)
SERVICE_FACTORS _{<i>i,t</i>}	0.05 (1.40)	0.05 (1.53)	0.03 (0.89)	0.03 (0.93)	-0.01 (-0.16)	-0.00 (-0.08)	0.02 (0.45)	0.02 (0.44)
CONSULTANTS_RECS _{<i>i,t</i>}	-0.04 (-0.22)	-0.03 (-0.19)	-0.30 (-1.31)	-0.28 (-1.23)	0.04 (0.21)	0.05 (0.27)	-0.09 (-0.42)	-0.08 (-0.35)
TNA _{<i>i,t-1</i>}	-0.00 (-0.85)	-0.00 (-0.87)	-0.00 (-0.28)	-0.00 (-0.24)	-0.00 (-0.69)	-0.00 (-0.91)	-0.00 (-0.17)	-0.00 (-0.13)
RETURN_VOL _{<i>i,t-1</i>}	0.02 (0.12)	0.03 (0.21)	0.13 (0.54)	0.12 (0.51)	-0.13 (-0.75)	-0.14 (-0.83)	0.19 (0.85)	0.19 (0.84)
INTERCEPT	0.50** (10.44)	0.49** (9.98)	0.49** (7.56)	0.49** (7.48)	0.53** (10.16)	0.52** (10.08)	0.48** (7.08)	0.45** (6.79)
R^2	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01
No. of obs.	1,196	1,193	1,031	1,029	1,196	1,193	1,031	1,029

Appendix Table 4
Effect of Past and Expected Performance, Soft Investment Factors, Service Factors, and Consultants' Recommendations on Asset Flows

Appendix Table 4 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. * and ** indicate statistical significance at the 5% and 1% levels, respectively.

	1	2	3	4	5	6
EXPECTED_PERF _{<i>i,t-1</i>}	-0.01 (-0.15)	-0.01 (-0.25)	-0.05 (-1.16)	0.10** (3.19)	0.06* (2.07)	-0.03 (-0.70)
EXPECTED_PERF _{<i>i,t-2</i>}			0.06 (1.40)		0.06 (1.76)	
REPORTED_PAST_PERF _{<i>i,t-1</i>}	0.32** (7.84)	0.31** (7.93)	0.31** (6.91)			0.31** (7.61)
REPORTED_PAST_PERF _{<i>i,t-2</i>}			0.02 (0.68)			
PAST_EX_RET _{<i>i,t-1</i>}				0.31** (10.88)	0.27** (7.64)	
PAST_EX_RET _{<i>i,t-2</i>}					0.04 (1.38)	
SOFT_INV_FACTORS _{<i>i,t-1</i>}	-0.08 (-1.75)	-0.08 (-1.74)	-0.05 (-1.20)	-0.01 (-0.27)	0.01 (0.36)	
SOFT_INV_FACTORS _{<i>i,t-2</i>}			-0.05 (-0.82)		-0.03 (-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 _{<i>i,t-1</i>}	0.01 (0.41)	0.03 (0.72)	0.01 (0.32)	0.00 (0.14)	-0.01 (-0.45)	
SERVICE_FACTORS _{<i>i,t-2</i>}			0.01 (0.30)		0.01 (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)
ΔCONSULTANTS_RECS _{<i>i,t-1</i>}		0.68** (3.79)	0.54** (2.73)	0.57** (3.17)	0.47* (2.57)	0.68** (3.76)
TNA _{<i>i,t-1</i>}	-0.01 (-1.45)	-0.01 (-1.46)	-0.01 (-1.23)	-0.00 (-0.72)	-0.00 (-0.18)	-0.01 (-1.51)
RETURN_VOL _{<i>i,t-1</i>}	-0.37 (-0.89)	-0.38 (-0.89)	-0.86 (-1.92)	-0.72 (-1.75)	-1.15** (-2.65)	-0.43 (-0.98)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.15	0.15	0.17	0.18	0.19	0.16
No. of obs.	1,207	1,169	1,044	1,157	1,035	1,169

Appendix Table 5

Effect of Past and Expected Performance, Soft Investment Factors, Service Factors, and Consultants' Recommendations on Asset Flows - Additional Past Performance Measures

Appendix Table 5 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. * and ** indicate statistical significance at the 5% and 1% levels, respectively.

	1	2	3	4	5	6
EXPECTED_PERF _{<i>i,t-1</i>}	0.12** (3.58)	0.09* (2.59)	0.10** (3.17)	0.07* (2.14)	0.10** (3.09)	0.05 (1.54)
EXPECTED_PERF _{<i>i,t-2</i>}		0.05 (1.56)		0.05 (1.52)		0.06 (1.87)
PAST_EX_RET _{<i>i,t-1</i>}			0.20** (4.05)	0.15** (2.61)	0.11* (2.30)	-0.09 (-1.06)
PAST_EX_RET _{<i>i,t-2</i>}				0.05 (1.03)		0.13* (2.33)
1Y_PAST_EX_RET _{<i>i,t-1</i>}					0.15** (2.95)	0.26** (3.87)
1Y_PAST_EX_RET _{<i>i,t-2</i>}						0.05 (0.69)
PAST_3F_ALPHA _{<i>i,t-1</i>}	0.30** (9.24)	0.27** (7.76)	0.16** (2.91)	0.17** (2.89)	0.16** (2.99)	0.19* (2.51)
PAST_3F_ALPHA _{<i>i,t-2</i>}		0.03 (0.92)		-0.01 (-0.20)		0.01 (0.10)
1Y_PAST_3F_ALPHA _{<i>i,t-1</i>}					-0.03 (-0.54)	-0.03 (-0.45)
1Y_PAST_3F_ALPHA _{<i>i,t-2</i>}						-0.04 (-0.69)
SOFT_INV_FACTORS _{<i>i,t-1</i>}	-0.00 (-0.01)	0.02 (0.51)	-0.01 (-0.17)	0.02 (0.41)	-0.01 (-0.15)	0.02 (0.39)
SOFT_INV_FACTORS _{<i>i,t-2</i>}		-0.02 (-0.30)		-0.02 (-0.33)		-0.01 (-0.28)
SERVICE_FACTORS _{<i>i,t-1</i>}	-0.00 (-0.06)	-0.02 (-0.62)	-0.00 (-0.03)	-0.02 (-0.63)	-0.00 (-0.05)	-0.02 (-0.65)
SERVICE_FACTORS _{<i>i,t-2</i>}		0.01 (0.30)		0.01 (0.28)		0.01 (0.21)
ΔCONSULTANTS_RECS _{<i>i,t-1</i>}	0.66** (3.54)	0.55** (2.88)	0.58** (3.21)	0.48* (2.60)	0.64** (3.46)	0.50** (2.68)
TNA _{<i>i,t-1</i>}	-0.01 (-1.17)	-0.00 (-0.58)	-0.01 (-1.00)	-0.00 (-0.42)	-0.01 (-1.06)	-0.00 (-0.65)
RETURN_VOL _{<i>i,t-1</i>}	-1.23** (-2.78)	-1.68** (-3.50)	-1.02* (-2.46)	-1.46** (-3.29)	-1.15** (-2.78)	-1.69** (-3.84)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.18	0.19	0.19	0.20	0.20	0.22
No. of obs.	1,157	1,035	1,157	1,035	1,157	1,035

Appendix Table 6

The Effect of Investment Performance and Service Quality on Asset Flows: Nonlinearities

Appendix Table 6 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. * and ** indicate statistical significance at the 5% and 1% levels, respectively.

	Threshold 0.5			Threshold 0.33		
	1	2	3	4	5	6
EXPECTED_PERF _{<i>i,t-1</i>}	-0.01 (-0.27)	-0.01 (-0.30)	-0.01 (-0.27)	-0.01 (-0.31)	-0.01 (-0.32)	-0.01 (-0.28)
EXPECTED_PERF _{<i>i,t-2</i>}		0.32** (7.95)	0.31** (7.92)		0.32** (7.99)	0.33** (7.94)
REPORTED_PAST_PERF×I(PP<thr.) _{<i>i,t-1</i>}	0.42** (4.76)			0.49** (3.83)		
REPORTED_PAST_PERF×I(PP>thr.) _{<i>i,t-1</i>}	0.22** (3.34)			0.26** (5.35)		
SOFT_INV_FACTORS _{<i>i,t-1</i>}	-0.08 (-1.72)	-0.08 (-1.76)	-0.08 (-1.76)	-0.08 (-1.74)	-0.08 (-1.78)	-0.08 (-1.76)
SERVICE_FACTORS _{<i>i,t-1</i>}	0.02 (0.65)			0.02 (0.67)		
SERVICE_FACTORS×I(SF<thr.) _{<i>i,t-1</i>}		0.13 (1.92)			0.26* (2.15)	
SERVICE_FACTORS×I(SF>thr.) _{<i>i,t-1</i>}		-0.07 (-1.12)			-0.04 (-0.97)	
SERVICE_FACTORS×I(PP<thr.) _{<i>i,t-1</i>}			0.05 (1.03)			0.09 (1.67)
SERVICE_FACTORS×I(PP>thr.) _{<i>i,t-1</i>}			0.01 (0.16)			0.00 (0.05)
ΔCONSULTANTS_RECS _{<i>i,t-1</i>}	0.68** (3.80)	0.70** (3.88)	0.67** (3.69)	0.69** (3.82)	0.70** (3.91)	0.69** (3.82)
TNA _{<i>i,t-1</i>}	-0.02 (-1.56)	-0.02 (-1.60)	-0.01 (-1.46)	-0.02 (-1.56)	-0.02 (-1.64)	-0.01 (-1.43)
RETURN_VOL _{<i>i,t-1</i>}	-0.36 (-0.84)	-0.41 (-0.95)	-0.39 (-0.90)	-0.38 (-0.89)	-0.44 (-1.03)	-0.40 (-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
<i>R</i> ²	0.15	0.16	0.15	0.16	0.16	0.15
No. of obs.	1,169	1,169	1,169	1,169	1,169	1,169

Appendix Table 7

Actual Versus Reported Past Performance and Asset Flows

Appendix Table 7 reports the coefficients of lagged reported past performance (survey) and past excess return or 3-factor alpha rankings on a regressions of asset managers' yearly asset flows on these and additional variables. In these regressions asset flows are expressed as percentages of total assets under management at the end of the previous year. Past excess return and 3-factor alpha performance rankings are computed using one-, two- and three-year fund returns for the periods ending at the end of the month preceding the first fielding date of the survey. Past excess returns, 3-factor alphas, reported past performance, and the rest of the variables included in the regression are expressed using the fractional percentiles. Although not reported, all regressions also include lagged expected future investment performance, soft service and investment quality rankings, consultants' recommendations, log assets under management, return volatility and a full set of time dummies. Each column reports the coefficients of a separate regression. t -statistics based on standard errors clustered at the product level are included in parenthesis. * and ** indicate statistical significance at the 5% and 1% levels, respectively.

	Excess Return			3-Factor Alpha		
	1-Year	2-Year	3-Year	1-Year	2-Year	3-Year
REPORTED_PAST_PERF _{$i,t-1$}	0.22** (6.00)	0.16** (4.18)	0.18** (4.42)	0.25** (6.81)	0.20** (5.49)	0.21** (5.98)
PAST_EX_RET _{$i,t-1$} / PAST_3F_ALPHA _{$i,t-1$}	0.22** (6.99)	0.24** (7.58)	0.21** (6.84)	0.18** (5.26)	0.24** (6.93)	0.19** (6.13)
R^2	0.19	0.19	0.20	0.18	0.20	0.20
No. of obs.	1,160	1,157	1,152	1,160	1,157	1,152

Appendix Figure 1

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