Internet Appendix for

"Does Herding Behavior Reveal Skill? An Analysis of Mutual Fund Performance"

HAO JIANG and MICHELA VERARDO*

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I. Introduction

In this Internet Appendix we provide supplementary material and robustness tests on the relation between herding behavior and mutual fund skill. This document is organized as follows. Section II examines the link between herding and performance using the LSV measure; the results of this analysis highlight the value of developing a dynamic measure to capture the tendency of individual funds to follow past institutional trading decisions. Section III presents results on the herding-performance relation when we use a narrower definition for the crowd that mutual funds imitate; in particular, we restrict the crowd to include: (i) only mutual funds, (ii) the subset of mutual funds with relatively high past performance, and (iii) the subset of peer mutual funds based on investment style. Section IV contains a set of robustness tests that use alternative approaches to measuring fund herding. For example, we consider: fund trades that include initiations and deletions; trades defined as changes in portfolio weights; estimating a fund's herding tendency with no controls, controlling for industry momentum, and controlling for contemporaneous institutional trades; defining herding as a fund's tendency to follow longer-horizon institutional trades. Section V presents results on buy herding and sell herding. Section VI presents a number of further tests on the robustness of the relation between fund herding and future performance.

II. Comparison with the LSV Measure

The popular stock-level measure of herding proposed by Lakonishok, Shleifer, and Vishny (1992, LSV) captures the tendency of investors to buy and sell the same stocks at the same time. Our measure of fund herding differs from this measure in that it captures the intertemporal correlation between a fund's trades and past aggregate institutional trades. To better understand the importance of this intertemporal focus, we follow Grinblatt, Titman, and Wermers (1995) and create a fund-level measure of herding by aggregating the stock-level LSV measure of each stock i traded by each fund j:

$$FH_{j,t}^{LSV} = \sum_{i=1}^{N_{i,t}} \left[\Delta w_{i,t}^{j} \times HM_{i,t} \times I(p_{i,t} > \overline{p}_{i,t}) \right],$$

where $w_{i,t}^{j}$ is the weight of stock i in fund j at the end of quarter t; $p_{i,t}$ is the fraction of mutual funds trading stock i in quarter t that are buyers; $HM_{i,t}$ is the LSV herding measure for stock i in quarter t: $HM_{i,t} = |p_{i,t} - \overline{p}_{i,t}| - E(|p_{i,t} - \overline{p}_{i,t}|)$; and $I(p_{i,t} > \overline{p}_{i,t}) = 1$ if $p_{i,t-1} > \overline{p}_{i,t-1}$, $I(p_{i,t} > \overline{p}_{i,t}) = -1$ if

$p_{i,t-1} < \overline{p}_{i,t-1}$.

We next test the ability of $FH_{j,t}^{LSV}$ to predict mutual fund performance by sorting funds into decile portfolios based on this new measure of herding and estimating their subsequent returns. The results, reported in Table IA.I, show that this measure of herding is not significantly related to future performance. This evidence suggests that our intertemporal measure of fund herding reveals a dimension of mutual fund skill that is not detectable with a traditional, more static measure of trade clustering, and this highlights the importance of focusing on the dynamic tendency of individual funds to follow past institutional trading decisions.

III. Following a Smaller Crowd

In our baseline analysis we measure herding as the tendency of a mutual fund to follow the trades of the institutional crowd, defined as the aggregate trades of all institutional investors. In this section we consider a number of narrower definitions for the crowd that mutual funds imitate. In particular, we restrict the crowd to include: (i) only mutual funds, (ii) the subset of mutual funds with relatively high past performance (past winners), and (iii) the subset of peer mutual funds, that is, mutual funds that follow the same investment style or have the same investment objective as the fund that we are analyzing. We estimate regressions of fund trades on the past trades of the crowd, as in our baseline analysis, to construct new measures of fund herding and assess their ability to predict performance.

Overall, our investigation of herding as imitation of a selected group of institutions suggests that the predictability of herding for mutual fund performance is clear and strong when we measure herding as imitation of the broad crowd of investors. When we use a narrower definition of the set of institutions that mutual funds might imitate, the link between herding and future performance is not as important in magnitude or statistical significance. Taken together, our results suggest that our measure of imitation, based on "following the crowd," is better able to detect skill in the cross-section of mutual funds.

A. Following Mutual Funds

We first consider a fund's tendency to follow the past trading decisions of mutual funds as a group. We replace aggregate institutional trades with aggregate mutual fund trades in our trade

regression:

$$Trade_{i,j,t} = \alpha_{j,t} + \beta_{j,t}\Delta MF_{i,t-1} + \gamma_{1j,t}Mom_{i,t-1} + \gamma_{2j,t}MC_{i,t-1} + \gamma_{3j,t}BM_{i,t-1} + \varepsilon_{i,j,t}.$$

We then use these quarterly coefficients to construct a new measure of herding, as in our baseline case, and relate it to future fund performance. The results, reported in Table IA.II, indicate that the tendency to follow aggregate mutual fund trades is a useful measure to forecast future fund performance, although it is less powerful than a measure based on the tendency to follow the crowd.

B. Following Successful Mutual Funds

We next consider a fund's tendency to follow the past trading decisions of successful mutual funds only. Each quarter, we define successful mutual funds as those funds with prior-year three-factor alphas in the top 20% of the cross-fund distribution. We then estimate the trade regressions after replacing aggregate institutional trades with the trades of these successful funds and, as before, we use the estimated quarterly coefficients to construct a new measure of herding and predict fund performance.

Table IA.III shows that the performance gap between herding and antiherding funds is not significant. Compared to our baseline case scenario, these results indicate that differences in the tendency to follow past winners, which we can loosely term as copycatting star mutual funds, might not be a highly effective signal to identify skill. This result is consistent with the copycat literature, which finds little evidence that imitating successful managers can systematically lead to superior performance (Frank et al. (2004), Verbeek and Wang (2013), Phillips, Pukthuanthong, and Rau (2014)). Our findings highlight the importance of using the tendency to follow the crowd as a signal to separate skilled and unskilled mutual funds.

C. Following Style Peers

To measure herding on style peers, we modify the definition of crowd to include only those mutual funds that can be viewed as peers based on their investment style or investment objective. We define style peers in three ways:

i. Using the 12 styles as defined in the Equity Fund Classification Matrix of Lipper: Large-Cap Value, Large-Cap Core, Large-Cap Growth, Multi-Cap Value, Multi-Cap Core, Multi-Cap

Growth, Mid-Cap Value, Mid-Cap Core, Mid-Cap Growth, Small-Cap Value, Small-Cap Core, and Small-Cap Growth;

ii. Focusing on the four non-overlapping extreme styles: Large-Cap Value, Large-Cap Growth, Small-Cap Value, and Small-Cap Growth;

iii. Using the Thomson-Reuters mutual fund investment objective code to group funds into three styles: Aggressive Growth, Growth, and Growth and Income.

We reestimate fund herding based on these new proxies for the trades of the crowd, and measure subsequent fund performance. We present the results in Table IA.IV (Panels A, B, and C). The average spread in returns (gross and net) between herding and antiherding funds is negative, ranging from –10bps to –13bps, and is significant at the 10% level. However, the spread in Carhart alphas, although similar in magnitude, is not statistically significant. The results from these tests suggest that the tendency of mutual funds to imitate their style peers does not reliably capture the heterogeneity in skill across mutual funds.

IV. Robustness of the Fund Herding Measure

In this section we check the robustness of our fund herding measure with a number of different empirical tests. First, we consider different approaches to measuring mutual fund trades. Second, we consider different control variables in the baseline regressions of fund trades on past aggregate institutional trades. Third, we estimate mutual fund herding with respect to past long-horizon institutional trades. Finally, we examine different ways of averaging the quarterly coefficients used to construct a fund's average tendency to herd.

A. Trades with Initiations and Deletions

Our baseline measure of trade is the percentage change in holdings of stock i in the portfolio of mutual fund j during quarter t, where holdings are measured as the number of split-adjusted shares. This measure of trade captures all purchases and sales by a mutual fund, excluding initiations and deletions of positions in a given stock. In this subsection we test the link between fund herding and performance when herding is computed from trades that also include initiations and deletions. Table IA.V shows that the performance of funds sorted on fund herding is very similar to our

baseline results. For example, the Carhart alpha differential between herding and antiherding funds is –14bps, similar to the baseline case of –16bps. We conclude that initiations and deletions do not affect our results significantly.

B. Trades as Changes in Portfolio Weights

We next recompute fund herding after measuring a fund's trades as the change in portfolio weight in a given stock in a given quarter. Table IA.VI reports the performance of portfolios of funds that are sorted by this measure of fund herding. The results are very similar, and if anything slightly stronger, than our baseline results. For example, the difference in raw returns between herding and antiherding funds is –20bps (compared to –19bps in our baseline case), and the difference in Carhart alphas is now –21bps (compared to –16bps in our baseline case). We conclude that our results are robust to the method of fund trade measurement.

C. Controlling for Industry Momentum

Prior work presents evidence of gradual diffusion of industry-level information into stock prices, which could have implications for the tendency of mutual funds to herd (Hou (2007)). To assess the importance of industry momentum in prices, we reestimate fund herding using a trade regression that includes $Mom_{Ind_i,t-1}$, the industry-level return measured in the previous quarter. We use the Fama and French (1997) 10-industry classification. The trade regressions are modified as follows:

$$Trade_{i,j,t} = \alpha_{j,t} + \beta_{j,t}\Delta IO_{i,t-1} + \gamma_{1j,t}Mom_{i,t-1} + \gamma_{2j,t}MC_{i,t-1} + \gamma_{3j,t}BM_{i,t-1} + \gamma_{4j,t}Mom_{Ind_i,t-1} + \varepsilon_{i,j,t}.$$

As with our baseline analysis, we average the quarterly coefficients on ΔIO to construct a new measure of fund herding. We then assess its ability to predict performance for the cross-section of mutual funds. The results, reported in Table IA.VII, confirm that the return spread between herding and antiherding funds remains large and statistically significant after controlling for industry momentum.

D. Controlling for Contemporaneous Institutional Trades

If aggregate institutional trades are persistent over time, they might play a role in driving the correlation between the current trades of a mutual fund and past institutional trades. To control

for this possibility, we reconstruct our measure of herding from a trade regression that includes the current change in institutional ownership for stock i, $\Delta IO_{i,t}$:

$$Trade_{i,j,t} = \alpha_{j,t} + \beta_{j,t}\Delta IO_{i,t-1} + \gamma_{1j,t}Mom_{i,t-1} + \gamma_{2j,t}MC_{i,t-1} + \gamma_{3j,t}BM_{i,t-1} + \gamma_{4j,t}\Delta IO_{i,t} + \varepsilon_{i,j,t}.$$

The results are reported in Table IA.VIII. We find that even after controlling for the influence of contemporaneous institutional trades, fund herding is negatively and significantly associated with future performance.

E. No Controls

We next investigate the link between fund herding and future fund performance when herding is estimated without controlling for investment styles (size, value, momentum). The main rationale for our style controls is to capture a fund's tendency to imitate the crowd for reasons other than following the same investment style as the crowd. For example, if we didn't control for value, we might attribute herding behavior to a manager who appears to follow the crowd but is really implementing value strategies, possibly together with a fraction of institutional investors. With the controls we hope to separate deliberate imitating behavior from apparent imitation that might be due to commonalities in investing styles.

In this subsection we rerun our portfolio analysis by sorting funds on a measure of herding that is obtained from our baseline regression of fund trades on ΔIO without including any controls. The results are presented in Table IA.IX. They are similar to our baseline results, albeit less strong. For example, the difference in Carhart alphas between herding and antiherding funds is now –12bps for net returns and –13bps for gross returns, significant at the 10% level (compared to –16bps in the baseline case). These results suggest that the measure of herding obtained without style controls is a less clean measure of imitation; as with measures previously used in the literature (e.g., Grinblatt, Titman, and Wermers (1995)), this measure may not capture pure imitating behavior, since the estimated correlation between fund trades and institutional trades is potentially confounded by trading decisions that are based on common preferences for investing styles and feedback trading. This evidence emphasizes the importance of filtering out information on stock characteristics to obtain a cleaner estimate of herding behavior, which can reveal cross-sectional differences in mutual fund skill.

F. Following Longer-Horizon Institutional Trades

In our baseline analysis we define fund herding as the average correlation between a fund's trades and past aggregate institutional trades, measured over two adjacent quarters. We now modify our measure of fund herding to capture the behavior of mutual funds following institutional herds that have developed over longer periods of time. Specifically, for any given stock, we construct three measures of long-horizon institutional trades: aggregate institutional trades over the past two quarters, $\Delta IO_{i,t-2:t-1}$; aggregate institutional trades over the past four quarters, $\Delta IO_{i,t-4:t-1}$; and a measure of persistence in past institutional trades, which counts the number of consecutive quarters in which the stock is bought or sold by institutional investors and attributes positive values to buy decisions and negative values to sell decisions, $Pers_{i,t-1}$.[1]

At the end of each quarter t, we reestimate our basic trade regression using each of the longer-horizon measures of past institutional trades measured up to the end of quarter $t-1$, with the usual stock characteristics to control for style. For example, with $Pers_{i,t-1}$ we estimate the following regression:

$$Trade_{i,j,t} = \alpha_{j,t} + \beta_{j,t} Pers_{i,t-1} + \gamma_{1j,t} Mom_{i,t-1} + \gamma_{2j,t} MC_{i,t-1} + \gamma_{3j,t} BM_{i,t-1} + \varepsilon_{i,j,t}.$$

The coefficient $\beta_{j,t}$ now represents the responsiveness of the trades of mutual fund j to different degrees of persistence in buying or selling by institutional investors, measured over horizons of several quarters in the past. We then use these quarterly coefficients to construct a new measure of herding, as in our baseline case.

Table IA.X (Panels A, B, and C) presents results from panel regressions of fund performance on these new measures of herding. The findings indicate that the tendency of mutual funds to follow past institutional trades negatively predicts their future performance, especially when past aggregate trades are persistent or are measured in the more recent past.

[1] A stock is bought (sold) if the change in institutional ownership in a given quarter is above (below) the cross-sectional median. For example, for a stock bought in quarter t and sold in quarter $t-1$ trade persistence equals +1, while for a stock bought in quarters t and $t-1$ and sold in $t-2$, trade persistence equals +2. Stocks that are bought or sold for at least four consecutive quarters have a trade persistence value of +4 and -4, respectively. Dasgupta, Prat, and Verardo (2011) document empirically that stocks persistently bought or sold by institutional investors experience return reversals in the long run.

G. Alternative Approaches to Constructing Fund Herding

In this subsection we further consider alternative approaches to constructing our measure of fund herding. First, we compute a fund's average tendency to herd using the equally weighted time-series average of the quarterly herding coefficients from the trade regressions (Table IA.XI). Second, we simply use the quarterly coefficients from the trade regressions as proxies for mutual fund herding (Table IA.XII). Third, we estimate the fund trade regressions without standardizing the dependent and independent variables (Table IA.XIII). The results indicate that the relation between fund herding and future performance is robust to these alternative estimates of fund herding. In particular, this investigation highlights the importance of measuring fund herding using all information available on a fund's trading behavior up to quarter t, rather than truncating the information set to the most recent past. At the same time, our findings emphasize the importance of allowing for time-varying changes in funds' trading behavior, rather than attributing the same weight to both recent and past actions.

V. Buy Herding and Sell Herding

In our baseline analysis, we construct fund herding using all available information on funds' behavior with respect to the past decisions of the institutional crowd. In this section, we separate out buys and sells to check for asymmetries in the strength of the performance signal coming from imitating aggregate buys and aggregate sells. Specifically, we sort past aggregate trades (ΔIO) into buys and sells based on their sign and estimate regressions of funds' trades on these measures. Using the beta coefficients from these regressions, we construct each fund's average tendency to follow past buys (FH/buys) and past sells (FH/sells). We then form decile portfolios of funds based on buy herding and sell herding and estimate their future performance. The results from these univariate sorts are reported in Table IA.XIV (Panels A and B). The evidence indicates that there is no clear difference in the ability of fund herding and sell herding to predict mutual fund performance. The difference in raw returns between herding and antiherding funds (deciles 10 and 1) is slightly larger for buy herding (17bps versus 13bps), but the difference in Carhart alphas varies between 9bps and 10bps. Overall, these return differentials are somewhat weaker than those reported for our pooled sample of trades. However, this test does not account for the degree to which any given fund might engage in both buy herding behavior and sell herding behavior.

For a more powerful test of potential asymmetries between buy herding and sell herding, we consider funds that are double-sorted based on their propensity to imitate past aggregate buys or sells. This test allows us to analyze the incremental value of buy herding and sell herding for predicting fund performance. We sort all funds independently into quartiles based on FH/buys and FH/sells, and we estimate their future performance. Table IA.XV reports the raw returns and the four-factor alphas of the portfolios. The table shows that, conditional on sell herding, the difference in future performance between funds that herd and funds that antiherd on past buys (High–Low/buys) is both large and significant for low and medium sell herding. In particular, the performance differentials are –13bps and –12bps when measured in raw returns (significant at the 5% level), and –10bps when measured using the four-factor alphas (with t-statistics around 1.80). This evidence suggests that, controlling for a fund's tendency to imitate past institutional selling activity, the tendency to follow aggregate buys contains incremental information for a fund's future performance. In contrast, we do not observe significant return differentials between herding and antiherding funds following aggregate sells. These results are consistent with the intuition that herding behavior can reveal differences in skill more clearly when considering buy herding than when considering sell herding.

VI. Other Robustness Tests

A. Price Pressure from Institutional Trades

One possible driver of the link between herding and future performance might be the price impact of aggregate institutional trades. If institutional trades exert destabilizing pressure on prices, then fund managers who follow these trades may "buy high and sell low," thus achieving on average inferior performance. This hypothesis relies crucially on the premise that aggregate institutional trades predict reversals in stock returns, and that such return reversals occur in the period in which we evaluate mutual fund performance.

To examine this conjecture, we investigate the relation between aggregate institutional trades and future stock returns. In particular, for each month from January 1990 to December 2009, we estimate the ability of changes in aggregate institutional ownership to predict monthly stock returns measured in the subsequent four quarters, after controlling for a variety of stock characteristics. Table IA.XVI presents the results. In the first specification we include firm size, book-to-market,

stock returns in the previous quarter, and stock returns in the previous year. In the second specification we add stock turnover, idiosyncratic volatility, share issuance, and analyst earnings forecast revisions. We use the Fama and MacBeth (1973) procedure to conduct statistical inference.

Aggregate institutional trades are measured in quarter t. The results from the predictive regressions show that the slope coefficients on institutional trades are statistically indistinguishable from zero for all forecasting horizons $t+1$ to $t+4$ and for both regression specifications. To map the forecasting horizon of this regression to our investigation of mutual fund herding and performance, we note that if quarter t is the period in which we measure aggregate institutional trades, then individual mutual fund trades are measured in quarter $t+1$ and mutual fund performance is measured over quarter $t+2$. The results suggest that, at least for the sample period we consider, aggregate institutional trades have no predictive power for the cross-section of stock returns. Based on this evidence, we can rule out the possibility that the underperformance of herding funds arises mainly from price pressure caused by aggregate institutional trades.

B. Excluding Funds with Highest and Lowest Fund Herding

We examine the robustness of the predictive power of herding for mutual fund performance by estimating multivariate regressions that exclude funds in the top and bottom deciles of fund herding. Our measure of performance is the monthly four-factor alpha of Carhart (1997), estimated in the months of quarter $t+1$ as the difference between the realized fund return in excess of the risk-free rate and the expected excess fund return from a four-factor model that includes the market, size, value, and momentum factors. The factor loadings are estimated from rolling-window time-series regressions of fund returns over the previous three years. Herding and fund characteristics are measured using information available at the end of quarter t.

Table IA.XVII presents the results from the predictive panel regressions. The results provide further evidence of a significant link between fund herding and future performance, even after we remove the funds in the extreme deciles of fund herding.

C. Value-Weighted Fund Portfolios

We next reestimate the herding-performance relation using value-weighted deciles of funds rather than equally weighted portfolios. The weights for individual funds are based on the funds'

total net assets. We measure the future returns of these portfolios and estimate their risk-adjusted returns from time-series regressions using the capital asset pricing model (CAPM), the three-factor model of Fama and French (1993), the four-factor model of Carhart (1997), and the five-factor model of Pástor and Stambaugh (2003). Table IA.XVIII presents the results. Herding funds in decile 10 strongly underperform their antiherding peers in decile 1. The magnitude of the return differentials is larger than that based on equally weighted fund portfolio returns, suggesting that the performance implications of mutual fund herding are not confined to small funds.

D. Fund Herding and Stock Characteristics

In our main analysis, as a robustness check, we estimate fund herding from trade regressions that control for a large number of stock characteristics: size, book-to-market, momentum, stock turnover, idiosyncratic volatility, revisions in analyst earnings forecasts, past share issuance, bid-ask spread, Amihud illiquidity, and 10 industry dummies. When we estimate the future performance of mutual funds sorted on this new measure of herding, we find that the performance differential between herding and antiherding funds is remarkably similar to our baseline case (Carhart alphas are –15bps per month when using all controls, indistinguishable from the benchmark value of –16bps).

In this subsection, we perform another test to investigate whether funds with different propensity to herd might hold stocks with different characteristics, thus driving the return differential across funds. In particular, we compute the average decile rank of the distribution of a given stock characteristic for each decile of fund herding. We consider stock size, book-to-market, momentum, and institutional ownership. Table IA.XIX reports the results. There is clearly no discernible variation in stock characteristics across fund herding deciles, which confirms that stock characteristics are not important drivers of the herding-performance relation that we uncover in our study.

E. Reliance on Information from Past Institutional Trades

In this subsection we estimate the herding-performance relation while controlling for the degree to which mutual fund managers rely on information contained in past institutional trades. We use the R^2 from the regressions of individual funds' trades on past changes in institutional ownership (ΔIO) as a proxy for funds' reliance on past institutional trades. If skilled funds disregard the

information contained in ΔIO and unskilled funds heavily rely on this information, we would expect this proxy to have a negative and significant impact on future performance; at the same time, our fund herding measure would become redundant in the performance regressions. Table IA.XX presents the results. The estimates show that R^2 does not have significant power to predict mutual fund performance, whereas fund herding retains its economic and statistical significance. These results confirm that the tendency of a fund to imitate or anti-imitate past aggregate trading decisions contains information that is useful to detect skill.

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Table IA.I
Fund Herding Measured from LSV Stock Herding

This table presents the performance of decile portfolios of funds formed on the basis of their herding measure. A fund's herding measure is computed by aggregating the stock-level LSV herding measure of its holdings using its portfolio weights. The decile portfolios are formed at the end of each quarter from 1989Q4 to 2009Q3 and held for one quarter. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.75	0.73	0.75	0.71	0.71	0.73	0.74	0.76	0.83	0.87	0.12
	(2.73)	(2.74)	(2.82)	(2.60)	(2.54)	(2.59)	(2.54)	(2.42)	(2.41)	(2.17)	(0.52)
CAPM α	0.01	0.00	0.02	-0.03	-0.05	-0.03	-0.03	-0.04	0.00	-0.01	-0.02
	(0.15)	(0.05)	(0.38)	(-0.54)	(-0.9)	(-0.47)	(-0.52)	(-0.49)	(0.02)	(-0.03)	(-0.08)
FF α	-0.07	-0.08	-0.06	-0.10	-0.11	-0.08	-0.07	-0.06	0.00	0.02	0.10
	(-1.21)	(-1.57)	(-1.08)	(-1.99)	(-2.53)	(-1.64)	(-1.53)	(-1.08)	(0.05)	(0.25)	(0.89)
Carhart α	-0.04	-0.04	-0.01	-0.07	-0.09	-0.07	-0.07	-0.09	-0.06	-0.09	-0.05
	(-0.63)	(-0.68)	(-0.13)	(-1.32)	(-1.96)	(-1.35)	(-1.45)	(-1.55)	(-0.91)	(-0.95)	(-0.47)
PS α	-0.06	-0.06	-0.03	-0.10	-0.10	-0.09	-0.08	-0.10	-0.05	-0.08	-0.02
	(-1)	(-1.06)	(-0.53)	(-1.92)	(-2.36)	(-1.77)	(-1.77)	(-1.78)	(-0.81)	(-0.87)	(-0.17)
						Gross Return					
Average	0.87	0.83	0.85	0.81	0.81	0.83	0.85	0.86	0.94	1.00	0.13
	(3.16)	(3.14)	(3.20)	(2.97)	(2.90)	(2.94)	(2.89)	(2.76)	(2.75)	(2.51)	(0.58)
CAPM α	0.13	0.11	0.12	0.07	0.05	0.07	0.07	0.07	0.12	0.13	0.00
	(1.81)	(1.60)	(1.88)	(1.19)	(1.07)	(1.36)	(1.25)	(0.83)	(0.97)	(0.68)	(-0.02)
FF α	0.08	0.07	0.09	0.03	0.01	0.03	0.04	0.02	0.05	0.05	-0.03
	(1.27)	(1.27)	(1.71)	(0.65)	(0.25)	(0.63)	(0.75)	(0.29)	(0.82)	(0.52)	(-0.34)
Carhart α	0.05	0.02	0.04	0.00	-0.01	0.02	0.03	0.05	0.12	0.16	0.11
	(0.73)	(0.38)	(0.75)	0.00	(-0.22)	(0.48)	(0.76)	(0.85)	(1.78)	(1.65)	(1.01)
PS α	0.06	0.05	0.07	0.01	0.00	0.01	0.02	0.00	0.06	0.05	0.00
	(0.90)	(0.91)	(1.32)	(0.12)	(-0.1)	(0.21)	(0.42)	(0.05)	(0.89)	(0.58)	(-0.04)

Table IA.II
Fund Herding Following a Smaller Crowd: Mutual Funds

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past mutual fund trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on aggregate mutual fund trades measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.79	0.8	0.75	0.77	0.77	0.76	0.77	0.69	0.71	0.68	-0.11**
	(3.04)	(3.11)	(2.94)	(2.92)	(2.93)	(2.90)	(2.91)	(2.59)	(2.58)	(2.57)	(-2.42)
CAPM α	-0.02	-0.01	-0.05	-0.05	-0.04	-0.05	-0.05	-0.13	-0.13	-0.14	-0.12***
	(-0.33)	(-0.1)	(-0.93)	(-0.9)	(-0.86)	(-0.99)	(-0.98)	(-2.73)	(-2.45)	(-2.75)	(-2.66)
FF α	-0.03	-0.04	-0.09	-0.07	-0.06	-0.06	-0.06	-0.13	-0.11	-0.12	-0.09**
	(-0.68)	(-0.74)	(-1.87)	(-1.66)	(-1.56)	(-1.42)	(-1.47)	(-2.94)	(-2.58)	(-2.71)	(-2.06)
Carhart α	-0.04	-0.02	-0.07	-0.06	-0.07	-0.08	-0.07	-0.12	-0.12	-0.12	-0.08*
	(-0.87)	(-0.44)	(-1.46)	(-1.41)	(-1.58)	(-1.85)	(-1.49)	(-2.7)	(-2.65)	(-2.52)	(-1.91)
PS α	-0.05	-0.03	-0.07	-0.06	-0.07	-0.09	-0.07	-0.12	-0.11	-0.12	-0.07*
	(-0.99)	(-0.51)	(-1.5)	(-1.43)	(-1.68)	(-1.84)	(-1.48)	(-2.48)	(-2.33)	(-2.53)	(-1.82)
						Gross Return					
Average	0.90	0.90	0.85	0.86	0.86	0.86	0.86	0.78	0.81	0.79	-0.11**
	(3.45)	(3.50)	(3.33)	(3.28)	(3.29)	(3.25)	(3.27)	(2.95)	(2.93)	(2.96)	(-2.51)
CAPM α	0.09	0.10	0.05	0.05	0.05	0.04	0.05	-0.04	-0.03	-0.03	-0.12***
	(1.56)	(1.73)	(0.90)	(0.91)	(0.96)	(0.78)	(0.93)	(-0.77)	(-0.56)	(-0.66)	(-2.75)
FF α	0.08	0.07	0.01	0.03	0.03	0.03	0.04	-0.03	-0.02	-0.02	-0.09**
	(1.61)	(1.34)	(0.23)	(0.60)	(0.73)	(0.71)	(0.91)	(-0.79)	(-0.37)	(-0.35)	(-2.16)
Carhart α	0.06	0.08	0.03	0.03	0.02	0.01	0.03	-0.03	-0.03	-0.02	-0.08**
	(1.27)	(1.47)	(0.53)	(0.78)	(0.57)	(0.19)	(0.59)	(-0.61)	(-0.56)	(-0.37)	(-2.01)
PS α	0.06	0.07	0.02	0.03	0.02	0.01	0.02	-0.02	-0.02	-0.02	-0.08*
	(1.12)	(1.35)	(0.47)	(0.71)	(0.44)	(0.11)	(0.51)	(-0.48)	(-0.36)	(-0.43)	(-1.91)

Table IA.III
Fund Herding Following a Smaller Crowd: Successful Mutual Funds

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow successful mutual fund trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past trades by successful mutual funds (funds with prior-year alpha in the top 20% of all active funds) measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.80	0.77	0.77	0.76	0.78	0.76	0.75	0.75	0.73	0.77	-0.03
	(2.79)	(2.68)	(2.68)	(2.60)	(2.69)	(2.61)	(2.53)	(2.52)	(2.43)	(2.53)	(-0.54)
CAPM α	0.04	0.01	0.01	-0.01	0.01	-0.01	-0.03	-0.03	-0.06	-0.02	-0.06
	(0.56)	(0.10)	(0.10)	(-0.17)	(0.24)	(-0.21)	(-0.41)	(-0.57)	(-0.98)	(-0.37)	(-1.08)
FF α	-0.03	-0.05	-0.06	-0.07	-0.05	-0.06	-0.07	-0.06	-0.08	-0.03	0.00
	(-0.48)	(-0.94)	(-1.17)	(-1.4)	(-0.97)	(-1.19)	(-1.35)	(-1.4)	(-1.68)	(-0.64)	(-0.07)
Carhart α	-0.02	-0.03	-0.05	-0.05	-0.05	-0.05	-0.08	-0.07	-0.08	-0.05	-0.03
	(-0.33)	(-0.58)	(-0.95)	(-1.02)	(-0.85)	(-0.95)	(-1.48)	(-1.46)	(-1.64)	(-0.99)	(-0.65)
PS α	-0.03	-0.05	-0.07	-0.07	-0.07	-0.07	-0.09	-0.08	-0.09	-0.05	-0.02
	(-0.57)	(-0.88)	(-1.37)	(-1.22)	(-1.21)	(-1.28)	(-1.68)	(-1.74)	(-1.71)	(-1.00)	(-0.37)
						Gross Return					
Average	0.91	0.87	0.87	0.86	0.88	0.85	0.85	0.85	0.83	0.88	-0.03
	(3.16)	(3.04)	(3.02)	(2.94)	(3.03)	(2.95)	(2.87)	(2.86)	(2.77)	(2.89)	(-0.54)
CAPM α	0.15	0.11	0.10	0.09	0.11	0.09	0.07	0.07	0.05	0.09	-0.06
	(2.18)	(1.77)	(1.68)	(1.39)	(1.81)	(1.50)	(1.20)	(1.26)	(0.83)	(1.49)	(-1.08)
FF α	0.08	0.05	0.04	0.03	0.05	0.04	0.03	0.04	0.03	0.08	0.00
	(1.37)	(0.93)	(0.79)	(0.55)	(0.98)	(0.77)	(0.67)	(0.80)	(0.55)	(1.57)	(-0.06)
Carhart α	0.09	0.07	0.05	0.04	0.05	0.05	0.02	0.03	0.02	0.06	-0.03
	(1.43)	(1.22)	(0.88)	(0.84)	(0.91)	(0.91)	(0.40)	(0.63)	(0.42)	(1.10)	(-0.65)
PS α	0.07	0.05	0.03	0.03	0.03	0.03	0.01	0.02	0.02	0.06	-0.02
	(1.23)	(0.91)	(0.50)	(0.59)	(0.56)	(0.51)	(0.19)	(0.34)	(0.33)	(1.07)	(-0.37)

Table IA.IV (A)
Fund Herding Following a Smaller Crowd: Style Peers (I)

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate trades by their peer funds measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. Peer funds are defined following the 12-style Lipper mutual fund classification. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest average herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.77	0.69	0.62	0.73	0.65	0.7	0.68	0.66	0.67	0.65	-0.11*
	(2.46)	(2.21)	(2.00)	(2.30)	(2.10)	(2.28)	(2.19)	(2.10)	(2.02)	(1.96)	(-1.74)
CAPM α	0.05	-0.03	-0.10	0.00	-0.07	-0.02	-0.04	-0.06	-0.08	-0.10	-0.15**
	(0.74)	(-0.52)	(-1.83)	(0.04)	(-1.4)	(-0.32)	(-0.72)	(-1.14)	(-1.4)	(-1.49)	(-2.22)
FF α	0.01	-0.05	-0.12	-0.02	-0.08	-0.04	-0.06	-0.07	-0.07	-0.07	-0.08
	(0.20)	(-0.95)	(-2.08)	(-0.35)	(-1.66)	(-0.74)	(-1.07)	(-1.41)	(-1.15)	(-1.29)	(-1.54)
Carhart α	0.02	-0.06	-0.11	-0.04	-0.08	-0.04	-0.06	-0.09	-0.08	-0.07	-0.08
	(0.25)	(-1.04)	(-1.94)	(-0.67)	(-1.43)	(-0.69)	(-1.07)	(-1.6)	(-1.28)	(-1.16)	(-1.53)
PS α	-0.01	-0.08	-0.15	-0.05	-0.09	-0.06	-0.09	-0.10	-0.08	-0.07	-0.06
	(-0.09)	(-1.31)	(-2.78)	(-0.93)	(-1.77)	(-1.06)	(-1.58)	(-1.81)	(-1.31)	(-1.2)	(-1.16)
						Gross Return					
Average	0.87	0.79	0.72	0.83	0.75	0.79	0.78	0.76	0.76	0.76	-0.11*
	(2.78)	(2.51)	(2.30)	(2.60)	(2.41)	(2.60)	(2.50)	(2.41)	(2.32)	(2.27)	(-1.70)
CAPM α	0.15	0.07	0.00	0.10	0.03	0.08	0.06	0.03	0.02	0.01	-0.14**
	(2.27)	(1.09)	(-0.08)	(1.69)	(0.53)	(1.63)	(1.06)	(0.60)	(0.33)	(0.11)	(-2.18)
FF α	0.11	0.04	-0.02	0.08	0.01	0.06	0.04	0.02	0.03	0.03	-0.08
	(1.82)	(0.77)	(-0.36)	(1.46)	(0.25)	(1.18)	(0.77)	(0.43)	(0.57)	(0.59)	(-1.48)
Carhart α	0.12	0.04	-0.02	0.06	0.02	0.06	0.04	0.01	0.02	0.04	-0.08
	(1.87)	(0.61)	(-0.28)	(1.10)	(0.37)	(1.11)	(0.73)	(0.12)	(0.40)	(0.67)	(-1.48)
PS α	0.09	0.02	-0.05	0.04	0.00	0.04	0.01	-0.01	0.02	0.03	-0.06
	(1.45)	(0.35)	(-1)	(0.83)	(0.03)	(0.74)	(0.18)	(-0.13)	(0.32)	(0.56)	(-1.11)

Table IA.IV (B)
Fund Herding Following a Smaller Crowd: Style Peers (II)

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate trades by their peer funds measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. Peer funds are identified by four styles from the Lipper mutual fund classification: Large-Cap Value, Large-Cap growth, Small-Cap Value, and Small-Cap Growth. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest average herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.79	0.69	0.63	0.78	0.66	0.72	0.7	0.69	0.64	0.66	-0.13*
	(2.43)	(2.12)	(1.95)	(2.38)	(2.03)	(2.29)	(2.15)	(2.10)	(1.88)	(1.87)	(-1.68)
CAPM α	0.06	-0.05	-0.10	0.04	-0.08	-0.01	-0.04	-0.05	-0.12	-0.12	-0.17**
	(0.74)	(-0.66)	(-1.61)	(0.64)	(-1.4)	(-0.11)	(-0.64)	(-0.79)	(-1.77)	(-1.45)	(-2.15)
FF α	0.02	-0.06	-0.11	0.02	-0.09	-0.02	-0.05	-0.05	-0.1	-0.08	-0.09
	(0.28)	(-0.93)	(-1.77)	(0.39)	(-1.57)	(-0.35)	(-0.85)	(-0.88)	(-1.5)	(-1.15)	(-1.47)
Carhart α	0.03	-0.07	-0.11	0.00	-0.10	-0.02	-0.05	-0.08	-0.11	-0.06	-0.09
	(0.38)	(-0.96)	(-1.64)	(0.07)	(-1.63)	(-0.32)	(-0.78)	(-1.2)	(-1.57)	(-0.91)	(-1.41)
PS α	0.01	-0.09	-0.15	-0.01	-0.12	-0.06	-0.08	-0.10	-0.11	-0.06	-0.07
	(0.13)	(-1.35)	(-2.35)	(-0.21)	(-2.12)	(-0.98)	(-1.25)	(-1.44)	(-1.68)	(-0.88)	(-1.09)
						Gross Return					
Average	0.89	0.79	0.73	0.87	0.76	0.81	0.79	0.79	0.74	0.76	-0.13*
	(2.75)	(2.42)	(2.25)	(2.67)	(2.33)	(2.59)	(2.45)	(2.40)	(2.17)	(2.16)	(-1.65)
CAPM α	0.16	0.05	-0.01	0.13	0.02	0.09	0.06	0.05	-0.02	-0.01	-0.17**
	(2.10)	(0.69)	(-0.12)	(2.22)	(0.29)	(1.55)	(0.89)	(0.70)	(-0.29)	(-0.15)	(-2.12)
FF α	0.12	0.03	-0.01	0.12	0.01	0.08	0.04	0.04	0	0.03	-0.09
	(1.75)	(0.51)	(-0.23)	(2.14)	(0.09)	(1.25)	(0.72)	(0.74)	(0.01)	(0.43)	(-1.44)
Carhart α	0.13	0.03	-0.01	0.10	0.00	0.08	0.05	0.02	-0.01	0.04	-0.09
	(1.83)	(0.43)	(-0.18)	(1.79)	(-0.07)	(1.18)	(0.71)	(0.32)	(-0.11)	(0.63)	(-1.38)
PS α	0.11	0.00	-0.05	0.08	-0.03	0.04	0.02	0.00	-0.01	0.04	-0.07
	(1.52)	(0.05)	(-0.81)	(1.49)	(-0.49)	(0.63)	(0.27)	(0.04)	(-0.22)	(0.62)	(-1.06)

Table IA.IV (C)
Fund Herding Following a Smaller Crowd: Style Peers (III)

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate trades by their peer funds measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. Peer funds are defined by three styles following the Thomson Reuters mutual fund investment objective code: Aggressive Growth, Growth, and Growth and Income. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest average herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.82	0.77	0.82	0.8	0.73	0.75	0.79	0.71	0.73	0.72	-0.10
	(2.83)	(2.65)	(2.90)	(2.82)	(2.53)	(2.62)	(2.69)	(2.43)	(2.42)	(2.39)	(-1.61)
CAPM α	0.06	0.00	0.07	0.05	-0.03	-0.01	0.02	-0.06	-0.06	-0.06	-0.12*
	(0.83)	(0.05)	(1.02)	(0.72)	(-0.52)	(-0.2)	(0.31)	(-1.14)	(-1.06)	(-1.09)	(-1.89)
FF α	0.00	-0.05	0.01	-0.01	-0.09	-0.06	-0.02	-0.09	-0.07	-0.07	-0.06
	(-0.06)	(-0.96)	(0.11)	(-0.28)	(-1.74)	(-1.28)	(-0.37)	(-1.69)	(-1.47)	(-1.27)	(-1.12)
Carhart α	0.01	-0.05	0.01	-0.01	-0.08	-0.06	-0.02	-0.09	-0.09	-0.08	-0.09
	(0.18)	(-0.87)	(0.16)	(-0.1)	(-1.41)	(-1.11)	(-0.36)	(-1.64)	(-1.71)	(-1.41)	(-1.60)
PS α	-0.01	-0.08	-0.01	-0.02	-0.10	-0.08	-0.03	-0.11	-0.1	-0.08	-0.07
	(-0.24)	(-1.36)	(-0.22)	(-0.37)	(-1.78)	(-1.48)	(-0.63)	(-1.98)	(-1.85)	(-1.42)	(-1.21)
						Gross Return					
Average	0.93	0.87	0.93	0.9	0.83	0.85	0.89	0.81	0.83	0.83	-0.10*
	(3.20)	(3.01)	(3.25)	(3.17)	(2.87)	(2.96)	(3.02)	(2.76)	(2.76)	(2.74)	(-1.67)
CAPM α	0.17	0.11	0.17	0.14	0.06	0.09	0.11	0.04	0.04	0.04	-0.13*
	(2.39)	(1.70)	(2.53)	(2.29)	(0.99)	(1.48)	(2.03)	(0.68)	(0.78)	(0.68)	(-1.95)
FF α	0.10	0.05	0.11	0.09	0.01	0.03	0.08	0.01	0.03	0.04	-0.07
	(1.82)	(1.01)	(2.13)	(1.70)	(0.12)	(0.68)	(1.58)	(0.24)	(0.52)	(0.69)	(-1.19)
Carhart α	0.12	0.05	0.11	0.09	0.02	0.04	0.08	0.01	0.01	0.03	-0.09*
	(2.00)	(1.00)	(2.09)	(1.79)	(0.29)	(0.76)	(1.41)	(0.16)	(0.17)	(0.47)	(-1.66)
PS α	0.09	0.03	0.09	0.08	0.00	0.02	0.06	-0.01	0.00	0.02	-0.07
	(1.65)	(0.50)	(1.69)	(1.50)	(-0.04)	(0.35)	(1.14)	(-0.17)	(0.07)	(0.40)	(-1.27)

Table IA.V
Fund Herding from Trades Including Initiations and Deletions

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. All trades, including deletions and initiations, are used in the calculation of a fund's herding tendency. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.91	0.87	0.89	0.91	0.88	0.81	0.83	0.86	0.81	0.76	-0.15***
	(3.59)	(3.37)	(3.37)	(3.55)	(3.39)	(3.11)	(3.23)	(3.25)	(3.03)	(2.89)	(-3.18)
CAPM α	0.02	-0.03	-0.03	0.01	-0.03	-0.10	-0.07	-0.06	-0.11	-0.15	-0.17***
	(0.33)	(-0.55)	(-0.45)	(0.22)	(-0.65)	(-2.05)	(-1.58)	(-1.12)	(-2.11)	(-2.97)	(-3.73)
FF α	0.00	-0.05	-0.05	-0.02	-0.05	-0.12	-0.09	-0.06	-0.10	-0.15	-0.15***
	(-0.09)	(-1.13)	(-1.2)	(-0.43)	(-1.46)	(-2.98)	(-2.24)	(-1.43)	(-2.09)	(-3.1)	(-3.34)
Carhart α	0.00	-0.05	-0.06	-0.02	-0.06	-0.10	-0.08	-0.06	-0.10	-0.14	-0.14***
	(0.02)	(-1.02)	(-1.3)	(-0.5)	(-1.51)	(-2.59)	(-1.72)	(-1.16)	(-1.92)	(-2.46)	(-3.02)
PS α	-0.01	-0.06	-0.07	-0.03	-0.06	-0.10	-0.08	-0.05	-0.10	-0.14	-0.13***
	(-0.23)	(-1.19)	(-1.35)	(-0.63)	(-1.41)	(-2.48)	(-1.71)	(-1.09)	(-1.89)	(-2.51)	(-2.73)
						Gross Return					
Average	1.02	0.97	0.98	1.01	0.97	0.91	0.93	0.96	0.91	0.87	-0.15***
	(4.02)	(3.76)	(3.74)	(3.91)	(3.74)	(3.47)	(3.59)	(3.62)	(3.40)	(3.28)	(-3.26)
CAPM α	0.13	0.07	0.07	0.11	0.06	-0.01	0.02	0.04	-0.01	-0.05	-0.18***
	(2.13)	(1.18)	(1.25)	(1.88)	(1.30)	(-0.11)	(0.43)	(0.78)	(-0.22)	(-0.95)	(-3.82)
FF α	0.10	0.05	0.04	0.07	0.04	-0.02	0.00	0.03	0.00	-0.05	-0.15***
	(2.02)	(0.94)	(0.92)	(1.68)	(1.00)	(-0.59)	(-0.02)	(0.74)	(-0.01)	(-0.95)	(-3.43)
Carhart α	0.11	0.05	0.03	0.07	0.03	-0.01	0.02	0.04	0.00	-0.03	-0.14***
	(1.97)	(0.99)	(0.69)	(1.51)	(0.84)	(-0.27)	(0.38)	(0.86)	(0.08)	(-0.58)	(-3.11)
PS α	0.10	0.04	0.03	0.06	0.03	-0.01	0.02	0.04	0.00	-0.03	-0.13***
	(1.72)	(0.78)	(0.63)	(1.36)	(0.83)	(-0.25)	(0.36)	(0.89)	(0.03)	(-0.62)	(-2.81)

Table IA.VI
Fund Herding from Trades Measured as Changes in Portfolio Weights

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades (measured as changes in portfolio weights) on past aggregate institutional trades measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest average herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10–D1
						Net Return					
Average	0.88	0.81	0.79	0.75	0.79	0.75	0.73	0.76	0.70	0.68	-0.20***
	(3.01)	(2.83)	(2.73)	(2.61)	(2.72)	(2.56)	(2.50)	(2.55)	(2.34)	(2.28)	(-4.65)
CAPM α	0.11	0.05	0.03	-0.01	0.02	-0.02	-0.04	-0.02	-0.08	-0.10	-0.21***
	(1.69)	(0.88)	(0.44)	(-0.23)	(0.38)	(-0.39)	(-0.8)	(-0.34)	(-1.32)	(-1.41)	(-4.82)
FF α	0.06	0.00	-0.03	-0.07	-0.02	-0.06	-0.09	-0.07	-0.12	-0.15	-0.21***
	(1.16)	(0.08)	(-0.52)	(-1.44)	(-0.4)	(-1.33)	(-2.08)	(-1.43)	(-2.39)	(-2.56)	(-4.65)
Carhart α	0.06	0.02	-0.02	-0.06	-0.02	-0.06	-0.10	-0.07	-0.12	-0.14	-0.21***
	(1.11)	(0.29)	(-0.37)	(-1.09)	(-0.4)	(-1.19)	(-2.21)	(-1.46)	(-2.27)	(-2.36)	(-4.42)
PS α	0.04	-0.01	-0.04	-0.08	-0.03	-0.07	-0.11	-0.09	-0.12	-0.15	-0.19***
	(0.70)	(-0.11)	(-0.78)	(-1.5)	(-0.67)	(-1.38)	(-2.39)	(-1.72)	(-2.3)	(-2.47)	(-4.08)
						Gross Return					
Average	0.99	0.91	0.89	0.85	0.88	0.85	0.83	0.85	0.80	0.79	-0.20***
	(3.39)	(3.20)	(3.08)	(2.95)	(3.06)	(2.89)	(2.83)	(2.89)	(2.67)	(2.65)	(-4.69)
CAPM α	0.22	0.15	0.13	0.09	0.12	0.07	0.06	0.08	0.02	0.01	-0.21***
	(3.43)	(2.71)	(2.01)	(1.42)	(2.18)	(1.30)	(1.06)	(1.30)	(0.33)	(0.19)	(-4.85)
FF α	0.17	0.11	0.07	0.03	0.08	0.03	0.01	0.03	-0.02	-0.04	-0.21***
	(3.33)	(2.12)	(1.36)	(0.54)	(1.65)	(0.70)	(0.16)	(0.62)	(-0.41)	(-0.62)	(-4.68)
Carhart α	0.17	0.12	0.08	0.04	0.08	0.04	0.00	0.02	-0.02	-0.03	-0.21***
	(3.17)	(2.24)	(1.44)	(0.76)	(1.49)	(0.71)	(-0.09)	(0.49)	(-0.37)	(-0.56)	(-4.45)
PS α	0.15	0.10	0.06	0.02	0.06	0.02	-0.02	0.01	-0.02	-0.04	-0.19***
	(2.81)	(1.87)	(1.01)	(0.37)	(1.19)	(0.46)	(-0.33)	(0.18)	(-0.42)	(-0.68)	(-4.10)

Table IA.VII
Fund Herding Controlling for Industry Momentum

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. FH is constructed from cross-sectional regressions of mutual fund trades on past aggregate institutional trades, controlling for past stock returns, firm size, book-to-market, and industry momentum. The portfolios are formed at the end of each quarter from 1989Q4 to 2009Q3 and held for one quarter. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally-weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.83	0.82	0.80	0.77	0.80	0.74	0.76	0.76	0.71	0.64	-0.19***
	(2.88)	(2.84)	(2.77)	(2.67)	(2.80)	(2.53)	(2.61)	(2.53)	(2.34)	(2.13)	(-3.41)
CAPM α	0.07	0.06	0.04	0.01	0.04	-0.03	-0.01	-0.03	-0.08	-0.15	-0.22***
	(0.98)	(0.84)	(0.59)	(0.08)	(0.68)	(-0.62)	(-0.22)	(-0.46)	(-1.33)	(-2.54)	(-3.78)
FF α	0.01	-0.01	-0.02	-0.05	-0.02	-0.08	-0.05	-0.06	-0.11	-0.17	-0.17***
	(0.12)	(-0.12)	(-0.35)	(-1.06)	(-0.41)	(-1.81)	(-1.19)	(-1.29)	(-1.97)	(-3.13)	(-3.27)
Carhart α	0.01	-0.01	-0.03	-0.05	-0.02	-0.08	-0.05	-0.05	-0.11	-0.16	-0.17***
	(0.15)	(-0.1)	(-0.66)	(-0.92)	(-0.4)	(-1.65)	(-0.97)	(-0.97)	(-1.88)	(-2.74)	(-3.04)
PS α	-0.01	-0.03	-0.05	-0.07	-0.03	-0.08	-0.05	-0.06	-0.12	-0.17	-0.15***
	(-0.2)	(-0.47)	(-1.11)	(-1.34)	(-0.62)	(-1.8)	(-1.05)	(-1.03)	(-1.99)	(-2.89)	(-2.71)
						Gross Return					
Average	0.94	0.92	0.91	0.87	0.90	0.83	0.85	0.86	0.81	0.75	-0.19***
	(3.26)	(3.19)	(3.12)	(3.01)	(3.14)	(2.87)	(2.95)	(2.87)	(2.68)	(2.49)	(-3.44)
CAPM α	0.18	0.16	0.14	0.10	0.14	0.06	0.09	0.07	0.02	-0.04	-0.22***
	(2.54)	(2.36)	(2.13)	(1.68)	(2.34)	(1.15)	(1.58)	(1.34)	(0.39)	(-0.65)	(-3.81)
FF α	0.12	0.10	0.08	0.05	0.08	0.01	0.04	0.04	0.00	-0.06	-0.17***
	(2.01)	(1.71)	(1.70)	(0.93)	(1.69)	(0.32)	(0.96)	(0.71)	(-0.07)	(-1.08)	(-3.30)
Carhart α	0.12	0.10	0.07	0.05	0.08	0.02	0.05	0.05	-0.01	-0.05	-0.17***
	(1.89)	(1.62)	(1.32)	(0.95)	(1.57)	(0.43)	(1.07)	(0.96)	(-0.11)	(-0.87)	(-3.06)
PS α	0.10	0.07	0.05	0.03	0.07	0.01	0.05	0.04	-0.01	-0.06	-0.16***
	(1.60)	(1.25)	(0.92)	(0.56)	(1.28)	(0.25)	(0.93)	(0.83)	(-0.24)	(-1.02)	(-2.73)

Table IA.VIII
Fund Herding Controlling for Contemporaneous Institutional Trades

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on aggregate institutional trades measured in the previous quarter, controlling for past stock returns, firm size, the book-to-market ratio, and contemporaneous aggregate institutional trades. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally-weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.81	0.75	0.77	0.76	0.78	0.76	0.81	0.73	0.75	0.66	-0.16**
	(2.88)	(2.60)	(2.68)	(2.66)	(2.71)	(2.58)	(2.70)	(2.41)	(2.46)	(2.18)	(-2.39)
CAPM α	0.06	-0.01	0.01	0.00	0.02	-0.01	0.03	-0.05	-0.04	-0.13	-0.19***
	(0.91)	(-0.22)	(0.17)	(0.06)	(0.27)	(-0.24)	(0.45)	(-0.74)	(-0.65)	(-2.08)	(-2.98)
FF α	0.00	-0.07	-0.04	-0.05	-0.04	-0.06	-0.01	-0.09	-0.07	-0.15	-0.15**
	(-0.02)	(-1.27)	(-0.74)	(-0.97)	(-0.91)	(-1.24)	(-0.27)	(-1.63)	(-1.15)	(-2.52)	(-2.43)
Carhart α	0.01	-0.06	-0.05	-0.05	-0.04	-0.08	-0.03	-0.10	-0.05	-0.15	-0.16***
	(0.17)	(-1.05)	(-0.80)	(-0.87)	(-0.86)	(-1.52)	(-0.50)	(-1.70)	(-0.80)	(-2.36)	(-2.70)
PS α	-0.01	-0.09	-0.07	-0.06	-0.06	-0.10	-0.03	-0.11	-0.05	-0.15	-0.14**
	(-0.17)	(-1.61)	(-1.21)	(-1.11)	(-1.12)	(-1.94)	(-0.66)	(-1.85)	(-0.85)	(-2.39)	(-2.31)
						Gross Return					
Average	0.92	0.85	0.87	0.86	0.88	0.85	0.91	0.83	0.85	0.76	-0.16**
	(3.25)	(2.95)	(3.03)	(3.00)	(3.05)	(2.91)	(3.02)	(2.73)	(2.80)	(2.53)	(-2.37)
CAPM α	0.17	0.09	0.11	0.10	0.11	0.08	0.12	0.05	0.06	-0.02	-0.19***
	(2.47)	(1.37)	(1.58)	(1.59)	(1.85)	(1.34)	(2.02)	(0.66)	(0.98)	(-0.35)	(-2.97)
FF α	0.10	0.03	0.06	0.05	0.05	0.04	0.08	0.01	0.04	-0.04	-0.14**
	(1.70)	(0.54)	(1.00)	(0.91)	(1.06)	(0.75)	(1.67)	(0.12)	(0.62)	(-0.7)	(-2.41)
Carhart α	0.12	0.04	0.05	0.05	0.05	0.02	0.07	0.00	0.05	-0.04	-0.16***
	(1.82)	(0.75)	(0.88)	(0.98)	(1.03)	(0.44)	(1.39)	(-0.02)	(0.80)	(-0.66)	(-2.68)
PS α	0.09	0.01	0.03	0.04	0.04	0.00	0.06	-0.01	0.05	-0.04	-0.14**
	(1.50)	(0.27)	(0.45)	(0.68)	(0.78)	(-0.01)	(1.18)	(-0.22)	(0.73)	(-0.68)	(-2.30)

Table IA.IX
Fund Herding from Trade Regressions without Control Variables

This table presents the performance of decile portfolios formed on the basis of Fund Herding (*FH*), the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured in the previous quarter, without controlling for stock characteristics. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest average herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.79	0.81	0.78	0.78	0.78	0.72	0.80	0.69	0.73	0.64	-0.14**
	(2.82)	(2.87)	(2.74)	(2.75)	(2.72)	(2.48)	(2.71)	(2.31)	(2.37)	(2.18)	(-1.98)
CAPM α	0.05	0.06	0.02	0.02	0.02	-0.05	0.02	-0.09	-0.06	-0.13	-0.17**
	(0.55)	(0.85)	(0.36)	(0.35)	(0.30)	(-0.8)	(0.37)	(-1.49)	(-0.92)	(-1.69)	(-2.39)
FF α	-0.04	-0.03	-0.05	-0.05	-0.04	-0.10	-0.02	-0.11	-0.06	-0.14	-0.10
	(-0.57)	(-0.52)	(-0.82)	(-0.97)	(-0.85)	(-2.14)	(-0.33)	(-2.24)	(-1.09)	(-2.04)	(-1.61)
Carhart α	-0.03	-0.02	-0.04	-0.04	-0.04	-0.10	-0.01	-0.12	-0.07	-0.15	-0.12*
	(-0.37)	(-0.35)	(-0.6)	(-0.81)	(-0.81)	(-2.09)	(-0.13)	(-2.22)	(-1.18)	(-1.92)	(-1.80)
PS α	-0.06	-0.04	-0.05	-0.07	-0.06	-0.12	-0.02	-0.13	-0.07	-0.17	-0.11*
	(-0.89)	(-0.8)	(-0.86)	(-1.29)	(-1.1)	(-2.4)	(-0.35)	(-2.44)	(-1.19)	(-2.22)	(-1.66)
						Gross Return					
Average	0.91	0.92	0.88	0.88	0.88	0.82	0.90	0.79	0.84	0.76	-0.15**
	(3.25)	(3.25)	(3.11)	(3.11)	(3.08)	(2.83)	(3.05)	(2.66)	(2.72)	(2.56)	(-2.06)
CAPM α	0.17	0.17	0.13	0.13	0.12	0.05	0.12	0.01	0.04	-0.01	-0.18**
	(1.97)	(2.42)	(1.95)	(1.98)	(1.95)	(0.85)	(1.97)	(0.20)	(0.63)	(-0.17)	(-2.47)
FF α	0.08	0.08	0.06	0.05	0.06	0.00	0.08	-0.01	0.04	-0.03	-0.11*
	(1.11)	(1.57)	(1.02)	(1.01)	(1.20)	(-0.03)	(1.53)	(-0.22)	(0.77)	(-0.43)	(-1.71)
Carhart α	0.09	0.09	0.07	0.06	0.06	0.00	0.09	-0.02	0.04	-0.03	-0.13*
	(1.26)	(1.65)	(1.17)	(1.07)	(1.15)	(-0.06)	(1.63)	(-0.3)	(0.59)	(-0.43)	(-1.89)
PS α	0.06	0.07	0.05	0.03	0.04	-0.02	0.08	-0.03	0.03	-0.06	-0.11*
	(0.79)	(1.25)	(0.86)	(0.66)	(0.84)	(-0.38)	(1.36)	(-0.54)	(0.55)	(-0.75)	(-1.75)

Table IA.X

Fund Herding as the Tendency to Follow Longer-Horizon Institutional Trades

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured over various horizons, controlling for past stock returns, firm size, and book-to-market. Panels A and B use aggregate institutional trades measured in the past two and four quarters, respectively. Panel C uses the persistence in past institutional trades as defined in Dasgupta, Prat, and Verardo (2011). The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally-weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

Panel A: Following Institutional Trades from the Previous Two Quarters											
FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
Net Return											
Average	0.85	0.78	0.83	0.72	0.77	0.81	0.73	0.69	0.74	0.69	-0.16***
	(2.94)	(2.74)	(2.90)	(2.48)	(2.68)	(2.76)	(2.48)	(2.35)	(2.47)	(2.29)	(-2.64)
CAPM α	0.09	0.02	0.07	-0.05	0.01	0.04	-0.04	-0.08	-0.04	-0.09	-0.18***
	(1.20)	(0.34)	(1.06)	(-0.71)	(0.15)	(0.64)	(-0.8)	(-1.49)	(-0.74)	(-1.57)	(-3.02)
FF α	0.02	-0.05	0.00	-0.11	-0.05	0.00	-0.08	-0.11	-0.05	-0.11	-0.13**
	(0.30)	(-0.94)	(-0.09)	(-2.15)	(-1.08)	(-0.01)	(-1.72)	(-2.41)	(-1.09)	(-1.96)	(-2.35)
Carhart α	0.03	-0.03	0.00	-0.10	-0.05	0.00	-0.08	-0.11	-0.06	-0.12	-0.15***
	(0.43)	(-0.53)	(0.03)	(-1.92)	(-1.01)	(0.10)	(-1.64)	(-2.07)	(-1.2)	(-2.00)	(-2.64)
PS α	0.00	-0.05	-0.02	-0.12	-0.07	-0.01	-0.09	-0.12	-0.07	-0.13	-0.13**
	(-0.04)	(-0.89)	(-0.31)	(-2.32)	(-1.39)	(-0.1)	(-1.78)	(-2.27)	(-1.31)	(-2.14)	(-2.29)
Gross Return											
Average	0.96	0.88	0.93	0.82	0.87	0.91	0.83	0.79	0.84	0.80	-0.16***
	(3.33)	(3.12)	(3.26)	(2.82)	(3.02)	(3.10)	(2.82)	(2.69)	(2.81)	(2.65)	(-2.70)
CAPM α	0.20	0.13	0.17	0.05	0.11	0.14	0.06	0.02	0.06	0.02	-0.19***
	(2.73)	(1.88)	(2.61)	(0.82)	(1.88)	(2.38)	(0.99)	(0.32)	(1.07)	(0.26)	(-3.08)
FF α	0.13	0.05	0.10	-0.01	0.05	0.10	0.02	-0.01	0.05	0.00	-0.13**
	(2.26)	(0.99)	(1.82)	(-0.24)	(1.03)	(2.08)	(0.43)	(-0.29)	(1.00)	(0.01)	(-2.42)
Carhart α	0.14	0.08	0.10	0.00	0.05	0.10	0.02	-0.01	0.04	-0.01	-0.15***
	(2.31)	(1.32)	(1.82)	(-0.06)	(1.01)	(2.07)	(0.35)	(-0.13)	(0.76)	(-0.23)	(-2.70)
PS α	0.11	0.05	0.08	-0.02	0.03	0.09	0.01	-0.02	0.03	-0.02	-0.13**
	(1.92)	(0.94)	(1.50)	(-0.43)	(0.69)	(1.81)	(0.10)	(-0.34)	(0.62)	(-0.37)	(-2.36)

Panel B: Following Institutional Trades from the Previous Year											
FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
					Net Return						
Average	0.79	0.78	0.85	0.75	0.74	0.81	0.75	0.73	0.73	0.66	-0.13**
	(2.66)	(2.71)	(2.97)	(2.61)	(2.54)	(2.84)	(2.60)	(2.47)	(2.46)	(2.20)	(-2.26)
CAPM α	0.02	0.02	0.09	-0.01	-0.03	0.05	-0.01	-0.05	-0.05	-0.12	-0.14**
	(0.24)	(0.30)	(1.49)	(-0.23)	(-0.52)	(0.92)	(-0.25)	(-0.9)	(-0.85)	(-2.02)	(-2.44)
FF α	-0.05	-0.04	0.03	-0.07	-0.08	0.01	-0.06	-0.08	-0.08	-0.14	-0.09*
	(-0.78)	(-0.83)	(0.70)	(-1.6)	(-1.71)	(0.13)	(-1.20)	(-1.68)	(-1.56)	(-2.51)	(-1.77)
Carhart α	-0.05	-0.03	0.02	-0.08	-0.07	0.00	-0.05	-0.07	-0.06	-0.14	-0.09
	(-0.75)	(-0.63)	(0.47)	(-1.52)	(-1.44)	(-0.03)	(-0.99)	(-1.48)	(-1.24)	(-2.23)	(-1.63)
PS α	-0.06	-0.05	0.00	-0.09	-0.08	-0.02	-0.07	-0.09	-0.07	-0.16	-0.10*
	(-0.86)	(-0.93)	(-0.06)	(-1.85)	(-1.67)	(-0.38)	(-1.41)	(-1.73)	(-1.39)	(-2.58)	(-1.77)
					Gross Return						
Average	0.90	0.88	0.95	0.84	0.84	0.91	0.85	0.83	0.84	0.77	-0.13**
	(3.03)	(3.08)	(3.31)	(2.96)	(2.88)	(3.18)	(2.95)	(2.80)	(2.80)	(2.55)	(-2.34)
CAPM α	0.13	0.12	0.19	0.08	0.07	0.15	0.09	0.05	0.05	-0.02	-0.15**
	(1.63)	(1.94)	(3.12)	(1.42)	(1.19)	(2.69)	(1.58)	(0.92)	(0.97)	(-0.25)	(-2.52)
FF α	0.06	0.06	0.13	0.02	0.02	0.10	0.04	0.02	0.03	-0.03	-0.09*
	(0.93)	(1.21)	(2.71)	(0.54)	(0.40)	(2.27)	(0.81)	(0.43)	(0.55)	(-0.6)	(-1.86)
Carhart α	0.06	0.07	0.12	0.02	0.03	0.10	0.04	0.03	0.04	-0.03	-0.09*
	(0.87)	(1.29)	(2.37)	(0.43)	(0.67)	(1.96)	(0.82)	(0.53)	(0.74)	(-0.52)	(-1.72)
PS α	0.05	0.05	0.10	0.00	0.02	0.08	0.02	0.01	0.03	-0.05	-0.10*
	(0.74)	(1.00)	(1.94)	(0.07)	(0.36)	(1.57)	(0.45)	(0.23)	(0.59)	(-0.82)	(-1.86)

Panel C: Following Persistent Past Institutional Trades											
FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
Net Return											
Average	0.82	0.75	0.74	0.75	0.78	0.79	0.81	0.76	0.72	0.68	-0.14***
	(2.85)	(2.61)	(2.59)	(2.65)	(2.70)	(2.70)	(2.76)	(2.56)	(2.41)	(2.25)	(-2.81)
CAPM α	0.06	-0.01	-0.02	-0.01	0.01	0.02	0.04	-0.02	-0.06	-0.11	-0.17***
	(0.92)	(-0.16)	(-0.29)	(-0.1)	(0.27)	(0.31)	(0.58)	(-0.33)	(-1.01)	(-1.7)	(-3.36)
FF α	0.01	-0.07	-0.08	-0.06	-0.03	-0.04	0.00	-0.06	-0.08	-0.13	-0.14***
	(0.12)	(-1.44)	(-1.52)	(-1.21)	(-0.73)	(-0.78)	(-0.09)	(-1.26)	(-1.61)	(-2.32)	(-2.88)
Carhart α	0.01	-0.07	-0.07	-0.05	-0.04	-0.03	-0.01	-0.06	-0.08	-0.13	-0.14***
	(0.14)	(-1.32)	(-1.17)	(-0.92)	(-0.73)	(-0.67)	(-0.14)	(-1.25)	(-1.52)	(-2.23)	(-3.02)
PS α	-0.01	-0.10	-0.09	-0.07	-0.05	-0.05	-0.01	-0.07	-0.09	-0.15	-0.13***
	(-0.23)	(-1.99)	(-1.63)	(-1.23)	(-1.11)	(-0.95)	(-0.25)	(-1.35)	(-1.7)	(-2.49)	(-2.78)
Gross Return											
Average	0.93	0.86	0.84	0.85	0.88	0.89	0.90	0.86	0.83	0.79	-0.15***
	(3.23)	(2.97)	(2.93)	(2.99)	(3.04)	(3.04)	(3.09)	(2.90)	(2.76)	(2.61)	(-2.86)
CAPM α	0.17	0.09	0.08	0.09	0.11	0.12	0.13	0.08	0.04	0.00	-0.17***
	(2.63)	(1.50)	(1.31)	(1.58)	(2.05)	(1.98)	(2.19)	(1.38)	(0.74)	(0.05)	(-3.41)
FF α	0.12	0.03	0.02	0.04	0.06	0.06	0.09	0.04	0.02	-0.02	-0.14***
	(2.13)	(0.66)	(0.33)	(0.78)	(1.39)	(1.36)	(1.81)	(0.86)	(0.37)	(-0.37)	(-2.92)
Carhart α	0.12	0.03	0.03	0.05	0.06	0.07	0.09	0.04	0.02	-0.03	-0.14***
	(2.02)	(0.63)	(0.63)	(0.95)	(1.24)	(1.35)	(1.64)	(0.73)	(0.40)	(-0.42)	(-3.07)
PS α	0.10	0.00	0.01	0.03	0.04	0.05	0.08	0.03	0.01	-0.04	-0.14***
	(1.67)	(0.06)	(0.24)	(0.61)	(0.89)	(1.02)	(1.47)	(0.55)	(0.19)	(-0.65)	(-2.82)

Table IA.XI
Fund Herding Measured by the Equally Weighted Average of Quarterly Betas

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. The quarterly slope coefficients are equally weighted over the lifetime of a fund. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.88	0.89	0.90	0.84	0.84	0.89	0.88	0.83	0.84	0.76	-0.12***
	(3.46)	(3.49)	(3.53)	(3.21)	(3.17)	(3.4)	(3.37)	(3.17)	(3.15)	(2.86)	(-2.67)
CAPM α	-0.01	-0.00	0.01	-0.07	-0.08	-0.02	-0.03	-0.08	-0.08	-0.16	-0.15***
	(-0.19)	(-0.09)	(0.12)	(-1.37)	(-1.51)	(-0.44)	(-0.63)	(-1.85)	(-1.71)	(-3.42)	(-3.29)
FF α	-0.05	-0.05	-0.04	-0.09	-0.09	-0.01	-0.01	-0.06	-0.06	-0.15	-0.10**
	(-1.09)	(-1.17)	(-0.94)	(-2.27)	(-2.27)	(-0.31)	(-0.24)	(-1.62)	(-1.45)	(-3.64)	(-2.57)
Carhart α	-0.04	-0.05	-0.03	-0.10	-0.10	-0.03	-0.01	-0.06	-0.05	-0.15	-0.11**
	(-0.77)	(-1.05)	(-0.69)	(-2.42)	(-2.5)	(-0.62)	(-0.34)	(-1.56)	(-1.23)	(-3.28)	(-2.53)
PS α	-0.05	-0.05	-0.03	-0.10	-0.09	-0.02	-0.01	-0.06	-0.04	-0.13	-0.09**
	(-0.93)	(-1.09)	(-0.72)	(-2.27)	(-2.16)	(-0.39)	(-0.18)	(-1.33)	(-0.97)	(-2.88)	(-2.00)
						Gross Return					
Average	0.99	0.99	1.00	0.93	0.93	0.98	0.98	0.92	0.94	0.86	-0.13***
	(3.89)	(3.88)	(3.92)	(3.57)	(3.52)	(3.76)	(3.73)	(3.53)	(3.51)	(3.25)	(-2.77)
CAPM α	0.10	0.10	0.10	0.03	0.02	0.07	0.07	0.01	0.02	-0.06	-0.15***
	(1.7)	(1.8)	(2.14)	(0.5)	(0.35)	(1.55)	(1.49)	(0.28)	(0.35)	(-1.2)	(-3.39)
FF α	0.06	0.05	0.06	0.00	0.01	0.08	0.08	0.03	0.04	-0.05	-0.11***
	(1.3)	(1.25)	(1.55)	(0.06)	(0.19)	(1.95)	(2.22)	(0.78)	(0.88)	(-1.16)	(-2.67)
Carhart α	0.07	0.05	0.07	-0.01	-0.01	0.07	0.08	0.03	0.04	-0.04	-0.11***
	(1.46)	(1.23)	(1.63)	(-0.16)	(-0.18)	(1.49)	(1.85)	(0.75)	(0.98)	(-0.98)	(-2.63)
PS α	0.06	0.05	0.07	-0.00	0.00	0.08	0.08	0.04	0.05	-0.03	-0.09**
	(1.28)	(1.19)	(1.55)	(-0.08)	(0.1)	(1.64)	(1.96)	(0.94)	(1.22)	(-0.6)	(-2.10)

Table IA.XII
Fund Herding Measured by Quarterly Betas

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed as the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.64	0.63	0.64	0.64	0.61	0.61	0.63	0.60	0.63	0.55	-0.08**
	(2.16)	(2.11)	(2.15)	(2.18)	(2.09)	(2.07)	(2.10)	(1.98)	(2.06)	(1.84)	(-2.30)
CAPM α	0.00	-0.01	0.00	0.00	-0.03	-0.03	-0.02	-0.05	-0.02	-0.10	-0.09**
	(-0.06)	(-0.19)	(-0.02)	(-0.01)	(-0.38)	(-0.45)	(-0.24)	(-0.86)	(-0.39)	(-1.78)	(-2.55)
FF α	-0.03	-0.06	-0.06	-0.05	-0.08	-0.08	-0.07	-0.08	-0.04	-0.11	-0.07**
	(-0.71)	(-1.25)	(-1.04)	(-1.06)	(-1.59)	(-1.75)	(-1.35)	(-1.84)	(-0.8)	(-2.19)	(-2.14)
Carhart α	-0.05	-0.07	-0.05	-0.05	-0.07	-0.08	-0.06	-0.10	-0.06	-0.12	-0.07**
	(-1.01)	(-1.31)	(-0.85)	(-0.92)	(-1.2)	(-1.5)	(-1.12)	(-2.01)	(-1.32)	(-2.41)	(-2.13)
PS α	-0.06	-0.08	-0.06	-0.07	-0.08	-0.09	-0.07	-0.11	-0.07	-0.14	-0.07**
	(-1.26)	(-1.51)	(-1.14)	(-1.17)	(-1.41)	(-1.7)	(-1.25)	(-2.07)	(-1.36)	(-2.54)	(-2.09)
						Gross Return					
Average	0.75	0.74	0.75	0.74	0.72	0.72	0.73	0.70	0.73	0.66	-0.09**
	(2.54)	(2.48)	(2.50)	(2.53)	(2.44)	(2.42)	(2.45)	(2.32)	(2.41)	(2.21)	(-2.32)
CAPM α	0.11	0.09	0.10	0.10	0.08	0.08	0.09	0.05	0.08	0.01	-0.09**
	(1.79)	(1.38)	(1.47)	(1.58)	(1.19)	(1.20)	(1.40)	(0.86)	(1.37)	(0.26)	(-2.56)
FF α	0.08	0.05	0.05	0.05	0.02	0.02	0.04	0.02	0.07	0.00	-0.07**
	(1.62)	(0.96)	(0.93)	(0.92)	(0.38)	(0.42)	(0.79)	(0.47)	(1.53)	(0.10)	(-2.16)
Carhart α	0.06	0.04	0.06	0.05	0.04	0.03	0.05	0.00	0.04	-0.02	-0.08**
	(1.19)	(0.73)	(1.00)	(0.94)	(0.63)	(0.52)	(0.87)	(0.07)	(0.87)	(-0.29)	(-2.14)
PS α	0.05	0.03	0.04	0.04	0.02	0.01	0.04	0.00	0.04	-0.03	-0.07**
	(0.90)	(0.49)	(0.71)	(0.66)	(0.37)	(0.27)	(0.73)	(-0.04)	(0.75)	(-0.5)	(-2.11)

Table IA.XIII
Fund Herding from Trade Regressions with Nonstandardized Variables

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. The dependent and independent variables are not standardized. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly equally weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.65	0.66	0.69	0.61	0.67	0.60	0.60	0.61	0.56	0.54	-0.11**
	(2.27)	(2.26)	(2.33)	(2.11)	(2.24)	(2.03)	(2)	(2.05)	(1.88)	(1.84)	(-2.22)
CAPM α	0.02	0.03	0.05	-0.02	0.03	-0.04	-0.04	-0.03	-0.08	-0.10	-0.12**
	(0.41)	(0.41)	(0.75)	(-0.29)	(0.45)	(-0.66)	(-0.79)	(-0.64)	(-1.55)	(-2.05)	(-2.53)
FF α	-0.02	-0.02	-0.00	-0.08	-0.02	-0.09	-0.07	-0.04	-0.09	-0.11	-0.09*
	(-0.32)	(-0.39)	(-0.02)	(-1.43)	(-0.49)	(-1.87)	(-1.48)	(-0.91)	(-1.74)	(-2.28)	(-1.97)
Carhart α	-0.01	-0.02	-0.01	-0.06	-0.02	-0.09	-0.08	-0.04	-0.09	-0.11	-0.10**
	(-0.17)	(-0.43)	(-0.29)	(-1.06)	(-0.49)	(-1.79)	(-1.62)	(-0.74)	(-1.56)	(-2.10)	(-2.17)
PS α	-0.02	-0.03	-0.02	-0.07	-0.02	-0.08	-0.09	-0.03	-0.09	-0.10	-0.08*
	(-0.28)	(-0.53)	(-0.38)	(-1.21)	(-0.47)	(-1.7)	(-1.62)	(-0.48)	(-1.47)	(-1.93)	(-1.84)
						Gross Return					
Average	0.76	0.77	0.79	0.71	0.77	0.70	0.70	0.71	0.67	0.66	-0.11**
	(2.66)	(2.61)	(2.68)	(2.45)	(2.58)	(2.36)	(2.34)	(2.39)	(2.22)	(2.21)	(-2.2)
CAPM α	0.13	0.13	0.15	0.08	0.13	0.06	0.06	0.07	0.02	0.01	-0.12**
	(2.41)	(1.97)	(2.3)	(1.2)	(2.13)	(1.03)	(0.99)	(1.36)	(0.42)	(0.27)	(-2.52)
FF α	0.10	0.08	0.10	0.02	0.08	0.01	0.03	0.06	0.02	0.01	-0.09*
	(1.97)	(1.57)	(2.09)	(0.38)	(1.72)	(0.28)	(0.57)	(1.21)	(0.3)	(0.11)	(-1.96)
Carhart α	0.10	0.08	0.09	0.04	0.08	0.01	0.02	0.06	0.01	0.00	-0.10**
	(1.80)	(1.37)	(1.71)	(0.63)	(1.67)	(0.27)	(0.35)	(1.27)	(0.25)	(0.05)	(-2.16)
PS α	0.09	0.07	0.08	0.03	0.08	0.02	0.01	0.08	0.02	0.01	-0.08*
	(1.67)	(1.24)	(1.61)	(0.43)	(1.58)	(0.39)	(0.27)	(1.47)	(0.31)	(0.2)	(-1.82)

Table IA.XIV
Fund Herding Following Institutional Buys and Sells

This table presents the performance of decile portfolios formed on the basis of *FH*, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional buys (Panel A) and sells (Panel B) measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. Decile 10 is the portfolio of funds with the highest FH. We compute monthly equally weighted net and gross (net plus expense ratio) returns, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

Panel A: Fund Herding Following Institutional Buys

FH rank	1	2	3	4	5	6	7	8	9	10	D10–D1
						Net Return					
Average	0.87	0.84	0.78	0.78	0.76	0.74	0.76	0.73	0.78	0.71	-0.16**
	(2.88)	(2.87)	(2.68)	(2.65)	(2.58)	(2.53)	(2.63)	(2.45)	(2.65)	(2.43)	(-2.36)
CAPM α	0.09	0.07	0.01	0.00	-0.02	-0.03	-0.01	-0.06	0.00	-0.07	-0.15**
	(1.13)	(0.92)	(0.11)	(0.01)	(-0.29)	(-0.53)	(-0.21)	(-1.08)	0.00	(-1.14)	(-2.24)
FF α	0.05	0.01	-0.06	-0.06	-0.07	-0.08	-0.05	-0.08	-0.02	-0.09	-0.14**
	(0.87)	(0.12)	(-1.11)	(-1.33)	(-1.35)	(-1.57)	(-1.09)	(-1.57)	(-0.46)	(-1.57)	(-2.44)
Carhart α	0.01	-0.02	-0.06	-0.07	-0.09	-0.09	-0.05	-0.08	-0.03	-0.08	-0.09*
	(0.18)	(-0.38)	(-1.15)	(-1.5)	(-1.85)	(-1.59)	(-1.13)	(-1.64)	(-0.62)	(-1.33)	(-1.75)
FS α	0.07	0.03	-0.03	-0.02	-0.04	-0.06	-0.03	-0.07	0.00	-0.10	-0.17**
	(0.85)	(0.42)	(-0.52)	(-0.37)	(-0.63)	(-0.89)	(-0.48)	(-1.26)	(-0.06)	(-1.79)	(-2.22)
						Gross Return					
Average	0.98	0.94	0.88	0.87	0.86	0.84	0.86	0.82	0.88	0.81	-0.17**
	(3.22)	(3.22)	(3.01)	(2.97)	(2.91)	(2.85)	(2.96)	(2.77)	(2.98)	(2.77)	(-2.42)
CAPM α	0.19	0.17	0.10	0.09	0.08	0.06	0.08	0.04	0.10	0.03	-0.15**
	(2.49)	(2.24)	(1.63)	(1.54)	(1.26)	(0.94)	(1.48)	(0.69)	(1.77)	(0.55)	(-2.29)
FF α	0.15	0.11	0.04	0.03	0.03	0.01	0.05	0.02	0.07	0.01	-0.14**
	(2.57)	(1.89)	(0.81)	(0.72)	(0.61)	(0.20)	(1.06)	(0.40)	(1.52)	(0.18)	(-2.51)
Carhart α	0.11	0.08	0.04	0.02	0.00	0.01	0.04	0.01	0.07	0.02	-0.09*
	(1.86)	(1.33)	(0.67)	(0.44)	(0.08)	(0.09)	(0.97)	(0.29)	(1.26)	(0.31)	(-1.82)
PS α	0.17	0.13	0.06	0.07	0.06	0.04	0.07	0.03	0.09	0.00	-0.17**
	(2.14)	(1.70)	(0.98)	(1.15)	(0.90)	(0.53)	(1.20)	(0.53)	(1.69)	(-0.07)	(-2.28)

Panel B: Fund Herding Following Institutional Sells											
FH rank	1	2	3	4	5	6	7	8	9	10	D10–D1
Net Return											
Average	0.83	0.80	0.73	0.79	0.79	0.75	0.76	0.72	0.77	0.69	-0.14**
	(2.84)	(2.80)	(2.57)	(2.75)	(2.75)	(2.62)	(2.61)	(2.47)	(2.58)	(2.31)	(-2.02)
CAPM α	0.05	0.04	-0.03	0.02	0.02	-0.01	-0.02	-0.05	-0.01	-0.10	-0.15**
	(0.83)	(0.56)	(-0.49)	(0.33)	(0.33)	(-0.24)	(-0.28)	(-0.8)	(-0.23)	(-1.75)	(-2.2)
FF α	0.01	-0.02	-0.09	-0.05	-0.04	-0.08	-0.06	-0.12	-0.05	-0.10	-0.11*
	(0.23)	(-0.42)	(-1.57)	(-0.86)	(-0.75)	(-1.62)	(-1.4)	(-2.05)	(-1.03)	(-2.01)	(-1.76)
Carhart α	0.01	-0.02	-0.09	-0.05	-0.02	-0.08	-0.07	-0.11	-0.07	-0.09	-0.10*
	(0.19)	(-0.37)	(-1.5)	(-0.84)	(-0.33)	(-1.66)	(-1.37)	(-1.87)	(-1.27)	(-1.79)	(-1.65)
PS α	0.03	-0.01	-0.06	0.00	-0.02	-0.05	-0.03	-0.08	-0.03	-0.08	-0.11
	(0.47)	(-0.17)	(-1.03)	(-0.08)	(-0.23)	(-0.77)	(-0.42)	(-1.1)	(-0.43)	(-1.37)	(-1.61)
Gross Return											
Average	0.92	0.89	0.83	0.88	0.88	0.84	0.85	0.81	0.86	0.79	-0.13**
	(3.18)	(3.13)	(2.88)	(3.06)	(3.07)	(2.93)	(2.92)	(2.78)	(2.90)	(2.64)	(-1.99)
CAPM α	0.15	0.13	0.06	0.11	0.11	0.07	0.07	0.04	0.08	0.00	-0.15**
	(2.30)	(2.00)	(0.94)	(1.80)	(1.66)	(1.21)	(1.26)	(0.60)	(1.27)	(0.02)	(-2.17)
FF α	0.11	0.07	0.00	0.04	0.05	0.01	0.03	-0.02	0.04	0.00	-0.11*
	(1.88)	(1.18)	(0.07)	(0.83)	(0.78)	(0.20)	(0.60)	(-0.43)	(0.78)	(-0.05)	(-1.74)
Carhart α	0.11	0.07	0.00	0.04	0.07	0.01	0.03	-0.01	0.03	0.01	-0.10
	(1.80)	(1.19)	(0.05)	(0.73)	(1.20)	(0.11)	(0.56)	(-0.26)	(0.55)	(0.12)	(-1.62)
PS α	0.13	0.08	0.03	0.09	0.07	0.04	0.07	0.02	0.07	0.02	-0.11
	(1.95)	(1.27)	(0.42)	(1.45)	(1.10)	(0.74)	(1.06)	(0.24)	(1.05)	(0.32)	(-1.58)

Table IA.XV
Fund Herding Following Institutional Buys and Sells: Double Sorts

This table presents the performance of mutual funds sorted on the basis of buy herding (FH/buys) and sell herding (FH/sells). We sort stocks based on the sign of the change in institutional ownership that they experience in the previous quarter, ΔIO; stocks with positive changes are classified as institutional buys and stocks with negative changes are classified as institutional sells. For these two groups of stocks, we separately estimate the slope coefficient of cross-sectional regressions of mutual fund trades on past institutional trades, controlling for past stock returns, firm size, and book-to-market. We use the estimated betas to create two measures of fund herding (FH) conditional on the sign of aggregate institutional trades: FH/buys and FH/sells. We double-sort funds independently into quartiles based on FH/buys and FH/sells and compute the average monthly performance of the 16 portfolios. The return series span January 1990 to December 2009. We report monthly equally weighted net returns, as well as risk-adjusted returns based on the Carhart (1997) four-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between portfolios of high and low FH.

	Net Return					Four-Factor Net α				
	Low FH/buys	2	3	High FH/buys	High–Low/buys	Low FH/buys	2	3	High FH/buys	High–Low/buys
Low FH/sells	0.80	0.74	0.76	0.66	-0.13**	-0.03	-0.09	-0.06	-0.13	-0.10*
	(2.76)	(2.50)	(2.59)	(2.33)	(-2.40)	(-0.47)	(-1.42)	(-0.93)	(-1.85)	(-1.82)
2	0.82	0.80	0.77	0.76	-0.06	0.00	-0.03	-0.04	-0.02	-0.02
	(2.85)	(2.78)	(2.67)	(2.70)	(-0.75)	(0.01)	(-0.6)	(-0.77)	(-0.32)	(-0.27)
3	0.82	0.83	0.77	0.69	-0.12**	-0.01	-0.02	-0.04	-0.10	-0.10*
	(2.83)	(2.83)	(2.63)	(2.38)	(-2.14)	(-0.1)	(-0.31)	(-0.85)	(-1.79)	(-1.78)
High FH/sells	0.72	0.72	0.76	0.66	-0.06	-0.08	-0.11	-0.08	-0.10	-0.02
	(2.52)	(2.41)	(2.48)	(2.27)	(-1.13)	(-1.3)	(-1.85)	(-1.34)	(-1.41)	(-0.41)
High-Low/sells	-0.07	-0.02	0.00	0.00		-0.04	-0.02	-0.02	0.03	
	(-1.37)	(-0.44)	(-0.05)	(0.06)		(-0.74)	(-0.38)	(-0.43)	(0.62)	

Table IA.XVI
Price Pressure from Aggregate Institutional Trades

This table presents estimates of the relation between aggregate institutional trades and future stock returns. For each month from January 1990 to December 2009, we regress monthly stock returns in excess of the one-month Treasury bill rate, measured in quarters *t*+1 to *t*+4, on aggregate institutional trades and stock characteristics measured in quarter *t*. Size is the natural log of stock market cap in millions of dollars. BM is the natural log of the book-to-market ratio. MOM3 is the stock return in quarter *t*. MOM12 is the stock return in the previous year. Turnover is trading volume in quarter *t* divided by the number of shares outstanding. Idiosyncratic volatility is the standard deviation of the residuals from a regression of daily stock returns on the Fama and French (1993) three factors, measured in quarter *t*. Share Issuance is the natural log of the ratio of the split-adjusted shares outstanding at the end of quarter *t* divided by the split-adjusted shares outstanding at the end of quarter *t*-4. Analyst earnings forecast revision is the quarterly change in consensus analyst earnings forecasts scaled by the stock price at the end of the previous period. The coefficients reported in the table are time-series averages of monthly regression coefficients, following Fama and MacBeth (1973). Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dep variable: Excess returns (%)	Quarter *t*+1		Quarter *t*+2		Quarter *t*+3		Quarter *t*+4	
	1	2	1	2	1	2	1	2
ΔIO	0.006	-0.014	0.006	0.012	-0.027	-0.038	-0.002	0.010
	(0.24)	(-0.57)	(0.22)	(0.51)	(-0.90)	(-1.44)	(-0.09)	(0.40)
Size	0.027	-0.148**	0.032	-0.029	-0.008	-0.024	-0.010	0.018
	(0.28)	(-1.97)	(0.32)	(-0.39)	(-0.08)	(-0.31)	(-0.10)	(0.23)
BM	0.198*	0.082	0.211*	0.124	0.137	0.078	0.162	0.123
	(1.78)	(0.99)	(1.89)	(1.60)	(1.23)	(0.99)	(1.47)	(1.56)
MOM3	0.006	0.002	0.184*	0.190**	0.194**	0.189***	0.111	0.135**
	(0.06)	(0.03)	(1.84)	(2.47)	(2.06)	(2.66)	(1.30)	(2.14)
MOM12	0.290***	0.318***	-0.003	0.033	-0.168**	-0.117**	-0.134*	-0.116*
	(3.12)	(3.90)	(-0.04)	(0.49)	(-2.37)	(-1.96)	(-1.71)	(-1.77)
Turnover		-0.003		-0.034		-0.014		-0.013
		(-0.04)		(-0.43)		(-0.17)		(-0.16)
Idiosyncratic Vol		-0.286***		-0.075		0.006		0.116
		(-2.67)		(-0.64)		(0.05)		(1.02)
Share Issuance		-0.169***		-0.178***		-0.181***		-0.158***
		(-5.48)		(-5.14)		(-5.00)		(-4.53)
Forecast Revision		0.224***		-0.051		0.062*		0.029
		(5.17)		(-1.61)		(1.90)		(0.80)
Adj R^2	0.043	0.066	0.038	0.057	0.034	0.053	0.031	0.048

Table IA.XVII
Fund Herding and Future Performance:
Excluding Top and Bottom Deciles of Fund Herding

This table presents coefficient estimates from predictive panel regressions estimating the association between fund-level herding (*FH*) and future fund performance. *FH* is defined as the slope coefficient from cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured in the past quarter, controlling for past stock returns, firm size, and the book-to-market ratio. Future mutual fund performance is measured using Carhart (1997) four-factor alpha (both net and gross in monthly percentages); factor loadings are estimated from rolling-window regressions over the previous three years. The panel regressions control for fund size, age, expense ratio (in percent), turnover, percentage flows in the past quarter, and alpha (in percent) in the past three years. The regressions include time fixed effects and the standard errors are clustered by fund. We exclude from the sample the top 10% herding funds and the bottom 10% antiherding funds. The *t*-statistics are presented in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Four-Factor Net α		Four-Factor Gross α	
	(1)	(2)	(3)	(4)
FH	-0.424***	-0.487***	-0.421***	-0.485***
	(-2.62)	(-2.94)	(-2.60)	(-2.92)
Size		-0.009**		-0.010***
		(-2.31)		(-2.68)
Age		0.018*		0.018**
		(1.93)		(2.01)
Expense		-0.090***		-0.019
		(-5.12)		(-1.07)
Turnover		-0.022***		-0.022***
		(-3.01)		(-2.91)
Flow		0.033*		0.030*
		(1.77)		(1.65)
Alpha		0.005		0.002
		(0.20)		(0.07)
Adj R^2	0.061	0.062	0.061	0.062
N	134,460	128,308	134,460	128,308

Table IA.XVIII
Value-Weighted Fund Portfolios

This table presents the performance of decile portfolios formed on the basis of Fund Herding (FH), the average tendency of mutual funds to follow past institutional trades. FH is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. The return series span January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest fund herding measure. We compute monthly value-weighted net and gross (net plus expense ratio) returns on the portfolios, as well as risk-adjusted returns based on the CAPM, the Fama and French (1993, FF) three-factor model, the Carhart (1997) four-factor model, and the Pastor and Stambaugh (2003, PS) five-factor model. Average returns and alphas are in monthly percentages. Newey-West (1987) *t*-statistics are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively, for the return differentials between deciles 10 and 1.

FH rank	1	2	3	4	5	6	7	8	9	10	D10-D1
						Net Return					
Average	0.78	0.76	0.77	0.76	0.74	0.71	0.64	0.64	0.66	0.55	-0.23***
	(2.77)	(2.68)	(2.72)	(2.70)	(2.70)	(2.51)	(2.27)	(2.19)	(2.26)	(1.73)	(-2.66)
CAPM α	0.03	0.00	0.01	0.01	0.00	-0.05	-0.12	-0.13	-0.11	-0.26	-0.29***
	(0.45)	(0.07)	(0.25)	(0.09)	(-0.06)	(-1.01)	(-2.12)	(-2.27)	(-1.88)	(-3.63)	(-3.62)
FF α	0.01	-0.01	-0.01	-0.04	-0.04	-0.06	-0.13	-0.13	-0.10	-0.22	-0.23***
	(0.16)	(-0.17)	(-0.12)	(-0.8)	(-0.92)	(-1.36)	(-2.34)	(-2.29)	(-1.82)	(-3.52)	(-3.16)
Carhart α	0.03	-0.03	-0.03	-0.06	-0.06	-0.07	-0.10	-0.12	-0.10	-0.21	-0.24***
	(0.42)	(-0.47)	(-0.51)	(-1.1)	(-1.17)	(-1.63)	(-1.75)	(-1.98)	(-1.88)	(-3.3)	(-3.06)
PS α	0.02	-0.06	-0.05	-0.09	-0.07	-0.07	-0.12	-0.13	-0.10	-0.21	-0.23***
	(0.24)	(-0.96)	(-0.88)	(-1.67)	(-1.45)	(-1.64)	(-2.15)	(-1.99)	(-1.77)	(-3.27)	(-2.85)
						Gross Return					
Average	0.87	0.84	0.85	0.84	0.82	0.79	0.71	0.72	0.75	0.65	-0.23***
	(3.10)	(2.96)	(3.00)	(2.98)	(2.98)	(2.78)	(2.54)	(2.47)	(2.54)	(2.02)	(-2.64)
CAPM α	0.12	0.09	0.09	0.08	0.07	0.03	-0.04	-0.05	-0.03	-0.17	-0.29***
	(1.79)	(1.32)	(1.70)	(1.43)	(1.40)	(0.60)	(-0.75)	(-0.87)	(-0.45)	(-2.32)	(-3.6)
FF α	0.10	0.07	0.07	0.04	0.03	0.02	-0.06	-0.05	-0.01	-0.12	-0.23***
	(1.49)	(1.14)	(1.30)	(0.68)	(0.68)	(0.38)	(-1)	(-0.88)	(-0.26)	(-2)	(-3.13)
Carhart α	0.12	0.05	0.05	0.02	0.02	0.01	-0.03	-0.04	-0.02	-0.11	-0.23***
	(1.69)	(0.76)	(0.89)	(0.33)	(0.39)	(0.12)	(-0.44)	(-0.66)	(-0.32)	(-1.8)	(-3.04)
PS α	0.11	0.02	0.03	-0.01	0.00	0.00	-0.05	-0.04	-0.02	-0.11	-0.22***
	(1.46)	(0.27)	(0.58)	(-0.21)	(0.07)	(0.03)	(-0.81)	(-0.72)	(-0.33)	(-1.81)	(-2.83)

Table IA.XIX
Fund Herding and Stock Characteristics

This table presents the average characteristics of stock holdings for decile portfolios of mutual funds formed on the basis of FH, the average tendency of mutual funds to follow past institutional trades. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. The sample period spans January 1990 to December 2009. Decile 10 is the portfolio of funds with the highest average herding measure. The stocks characteristics include size, book-to-market ratio, returns in the past quarter (Momentum), and the level of aggregate institutional ownership (IO). All characteristics are measured in decile ranks.

FH rank	1	2	3	4	5	6	7	8	9	10
Size Rank	9.6	9.6	9.6	9.6	9.6	9.6	9.7	9.7	9.7	9.6
BM Rank	3.9	3.9	3.9	4.0	3.8	3.8	3.7	3.6	3.5	3.4
Momentum Rank	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.0	6.1	6.1
IO Rank	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.5

Table IA.XX

Fund Herding and Future Performance: Controlling for R^2 from Trade Regressions

This table presents coefficient estimates from predictive panel regressions estimating the association between fund herding (*FH*) and future fund performance. *FH* is constructed from the slope coefficient of cross-sectional regressions of mutual fund trades on past aggregate institutional trades measured in the previous quarter, controlling for past stock returns, firm size, and the book-to-market ratio. Future mutual fund performance is measured using Carhart (1997) four-factor alpha (both net and gross, in monthly percentages); factor loadings are estimated from rolling-window regressions over the previous three years. The panel regressions control for the R^2 from the trade regressions used to estimate *FH*. We also control for fund size, age, expense ratio (in percent), turnover, percentage flows in the previous quarter, alpha (in percent) estimated over the previous three years, active share, and similarity with the investment decisions of successful funds. The regressions include time fixed effects and the standard errors are clustered by fund. *t*-statistics are presented in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Four-Factor Net α *(t+1)*		Four-Factor Gross α *(t+1)*	
	(1)	(2)	(3)	(4)
Fund Herding	-0.446***	-0.512***	-0.445***	-0.508***
	(-4.87)	(-4.31)	(-4.86)	(-4.27)
Size	-0.006*	-0.008*	-0.007**	-0.009**
	(-1.69)	(-1.77)	(-2.08)	(-2.06)
Age	0.014	-0.005	0.014*	-0.004
	(1.60)	(-0.48)	(1.67)	(-0.43)
Expense	-0.079***	-0.105***	-0.009	-0.034*
	(-4.83)	(-5.05)	(-0.52)	(-1.65)
Turnover	-0.025***	-0.039***	-0.024***	-0.038***
	(-3.39)	(-3.78)	(-3.30)	(-3.69)
Flow	0.002***	0.020	0.002***	0.018
	(2.63)	(1.42)	(2.79)	(1.24)
Past Alpha	0.014	0.025	0.010	0.022
	(0.62)	(1.00)	(0.46)	(0.88)
R^2	0.081	-0.079	0.083	-0.077
	(1.41)	(-1.06)	(1.45)	(-1.04)
Active Share		0.215***		0.220***
		(4.75)		(4.86)
Similarity		0.071*		0.072*
		(1.81)		(1.81)
Adj R^2	0.06	0.08	0.06	0.08
N	159238	92540	159238	92540