Acting on the Most Valuable Information: "Best Idea" Trades of Mutual Fund Managers

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Abstract

In this paper, I identify "best idea" mutual fund trades using an ex ante proxy based on common trades of managers from the same management company. These trades, likely generated by centralized research of fund management companies, account for about 30% of fund volume and outperform benchmarks and other trades by as much as 47 basis points per month. Their performance is not explained by herding, short-term liquidity pressures, changes in the index composition, or funds' reaction to analyst revisions, and does not revert in the long term. The remaining fund trades (not best ideas, likely to be idiosyncratic trades of individual managers) fail to beat benchmarks even before expenses, e.g., their average characteristic-adjusted return is statistically insignificant 0.03% per month. Finally, best ideas improve funds' after-fee returns: Funds which participate in them beat other funds by up to 0.30% per quarter.

JEL classification: G11, G14, G23.

Any given portfolio manager is likely to have a number of investment ideas. They are not all equal and the manager will rank them according to their attractiveness. This premise, coupled with a limited amount of money each idea can potentially absorb, has become a vital part of our understanding of the fund industry, both through theoretical (e.g., Berk and Green, 2004) and empirical work (e.g., Chen, Hong, Huang, and Kubik, 2004, Pollet and Wilson, 2008). However, managers' rankings are not observable, and, consequently, we know relatively little about about how attractive the "best ideas" are compared to the benchmarks and other trades, how frequently they occur, and how much they affect overall fund returns.

This paper addresses such questions using a proxy for the ranking of attractiveness of funds' trades. Importantly, this proxy is not based on any performance-related information. While fund managers' best ideas indeed turn out to generate abnormal profits, under this proxy the ranking of trades is determined before performance is evaluated. Distinguishing "best ideas" from other transactions offers a novel perspective on the ability of portfolio managers and sheds light on what the "upper limit" of their skill is (i.e., how much they could outperform in the best of circumstances).

To identify trades that managers consider particularly valuable I study management companies that sponsor multiple funds. Managers employed by such companies share resources, such as buy-side research, and exchange information in their company's communication networks. If the information they share includes a valuable news item, multiple funds are likely to act on it and buy or sell similar stocks. Thus, when multiple funds that belong to the same company trade the same stock in the same direction, this trade is classified as a "best idea." This proxy is fundamentally different from simply counting possibly unrelated funds that trade a stock in that managers from the same company have access to similar information. Making the same trade in multiple portfolios is a vote of confidence for a particular item from their information set. In contrast, managers from unrelated companies have different information sets. Even if

they receive the same news, it may be less valuable than other information they already have. Thus, when multiple unrelated managers make the same trade, it may not be the "best idea" of any of them.

In the quarter subsequent to when "best ideas" are identified, these trades beat benchmarks and other fund trades by as much as 0.33% per month. This effect is apparent already in trades at least two same-company funds make. However, the results are stronger when three-or-more-fund trades are considered, and the strongest when at least four funds trade the same stock.[1] It is crucial that best ideas are generated from information shared by same-company managers. In contrast, trades made by multiple managers from unrelated companies, if anything, underperform the benchmarks. Consequently, the difference in performance of best ideas and trades repeated by multiple unrelated funds reaches 0.47% per month.

The number (or capacity) of best ideas is fairly low: They account for only about 30% of a typical management company's dollar volume. The remaining trades, given the proxy proposed in this paper, rank lower in managers' list of ideas. Unfortunately for fund investors, these additional trades do not outperform passive benchmarks even before transaction costs. For example, the 95% confidence interval for the characteristic-adjusted returns on such trades is from about -4 to 8 basis points per month.[2] Even the highest values from this interval are likely too small to cover transaction costs and other fund expenses. Since such additional trades account for most of fund volume, this helps explain why overall after-fee returns of mutual funds are, on average, negative.

The above facts lead to a natural question: How can we reconcile the skill apparent in best idea trades with the fact that overall fund returns do not outperform the benchmarks? First, and most importantly for fund investors, funds involved in best ideas do well not only on paper

[1] Unfortunately, there are few stocks traded by five or more same-company funds in the same quarter.

[2] This finding contrasts with the results of Chen, Jegadeesh, and Wermers (2000), who use holdings data to show that mutual fund purchases outperform sales. I document that the abnormal performance is limited to the best ideas, which outperform both benchmarks and other fund trades by statistically and economically significant margins.

(in the sense that a subset of their trades do well), but also beat the remaining funds. Funds participating in best idea trades outperform other funds by as much as 0.30% in the quarter following a best idea trade.

Second, a possible interpretation of the results is that the ability to beat benchmarks resides at the management company rather than individual manager level. The information best ideas are based on is available to multiple same-company managers, which means that it is likely to come from centralized research (buy side analysis, synergies from managers interacting with one another, etc). This information generates outperformance.[3] The remaining trades (not best ideas) are specific to individual managers. These trades do not beat passive benchmarks even before expenses. This, however, is at least partly due to factors that have little to do with ability and are more related to how the industry is organized and what incentives managers face. Managers may rationally make trades that are not designed to outperform, but instead help them remain close to their peers or to a benchmark, manage fund flows, or perhaps market their funds to a clientele. These additional motives for trading hurt performance and, since they are common to most funds, impose a tax on the entire fund industry. All in all, this study provides evidence that the ability to outperform does exist, although perhaps in centralized research of management companies rather than in idiosyncratic trades of individual managers.

I carry out additional tests to ensure that my results are robust. The abnormal performance of best ideas is evident in both covariance- and characteristics-based measures. My findings are better explained by impounding new information into stock prices than by temporary price pressure. First, the effect is not due to trades funds repeat in subsequent quarters. Second, performance does not revert in the long run; if anything, it persists for two quarters after funds trade. Although the measure I propose is based on correlated trades, the results are not driven

[3]Due to data limitations, centralized research has received relatively little attention in the literature. Cheng, Liu, and Qian (2006) use survey evidence to show that money managers who rely more on in-house research perform better than other managers. In contrast, Groysberg, Healy, Chapman, Shanthikumar, and Gui (2007) compare buy-side and sell-side analysts and conclude that buy-side EPS forecasts are relatively less accurate and that buy-side strategies have inferior performance.

by fund herding (e.g., Wermers, 1999) or changes in the breadth of stock ownership (Chen, Hong, and Kubik, 2003). The effect is substantially stronger in stocks that do not belong to the S&P500 index, perhaps because trades in index stocks are often made to align funds with the index and relatively fewer of them are truly "best ideas."[4] Lastly, multi-fund trades and their performance are not driven by funds' reaction to analyst revisions.

This study is related to several recent papers. Alexander, Cici, and Gibson (2007) find that trades made against fund flows (e.g., buys that coincide with heavy outflows; presumably, trades managers are more bullish about) beat the benchmarks, while Baks, Busse, and Green (2007) and Cremers and Petajisto (2007) document that managers who make more aggressive active bets (deviate from the benchmarks the most) do better than other managers. Finally, Cohen, Polk, and Silli (2008) focus on mutual funds' most aggressive positions and show that stocks funds overweight outperform.

This paper proceeds as follows. In the next section, I overview the data used in this study. Section 2 discusses the performance of "best idea" trades and contains the main results of the paper. Section 3 investigates after-fee returns of funds that participate in best ideas and Section 4 concludes. The Appendix contains additional robustness checks.

1 Data and descriptive statistics

To identify management companies and the funds they control, I use the management company identifier reported in the Thomson Financial mutual fund holdings database. I infer trades funds make in a given quarter by comparing holding reports from two adjacent quarters. While this restriction eliminates funds that file semiannually, it allows me to focus on funds with

[4]This does not mean that the effect is driven by micro-cap stocks. All "best idea" stocks considered in this study are large and liquid enough to be traded by multiple mutual funds.

less stale reports.[5] Trades computed from holdings include stocks that were introduced into or deleted from a fund portfolio since the last report, and are adjusted for stock splits.

Fund-level data comes from the CRSP Mutual Fund database. Stock-level data, such as returns, market capitalization, or book-to-market ratios are taken from the CRSP and Compustat datasets. Stock returns are adjusted for delistings by using delisting returns whenever they are available from CRSP. If delisting returns are not available, I follow Shumway (1997) and assume the terminal return of -30% for stocks that disappear for performance-related reasons. Analyst forecasts (used to test if "best ideas" may be driven by sell-side research) are taken from I/B/E/S. The time series of Fama-French and momentum factors are obtained from Ken French's website and the characteristics-based benchmarks, developed in Daniel, Grinblatt, Titman, and Wermers (1997) and Wermers (2004), are from Russ Wermers's website.[6]

Altogether, the sample includes 104 quarters between the first quarter of 1980 and the last quarter of 2005.

I only consider funds that can be mapped to the CRSP Mutual Fund database. To merge this database with fund holdings I use Mutual Fund Links available from WRDS. This link is available primarily for domestic equity funds; bond, money market, specialty, etc., funds are discarded from the sample. This restriction allows me to focus on funds that specialize in equities. Since the goal of this paper is to study multiple portfolios of a given management company, I discard all management companies that control only one fund. Finally, I remove index funds. Index funds are identified by searching fund names for keywords such as "index," "market," "S&P," etc., and manually screening names that include such keywords. This restriction is important as companies that sponsor index funds may mechanically trade the same stock in multiple portfolios.

[5]Results are similar when all funds that report quarterly or semiannually are used. The economic magnitude of abnormal performance is somewhat lower when funds with semi-annual reports are included, but the main results and their statistical significance remain unchanged.

[6]The DGTW benchmarks are available via
http://www.smith.umd.edu/faculty/rwermers/ftpsite/Dgtw/coverpage.htm.

Table I reports the most important characteristics of the data. The summary statistics are time-series averages of cross-sectional estimates. For example, the median number of stocks per fund is obtained by taking the average over the time series of cross-sectional medians.

The sample includes, on average, 169 management companies per quarter. Even at the beginning of the sample period there are more than 50 companies, so the tests presented here are unlikely to be influenced by any single one. The average company sponsors 4.5 domestic equity funds. There are many companies that control only two equity funds (about 40% in the average quarter; more at the beginning of the sample); at the other end of the spectrum, a few large companies manage more than 10 funds (about 8% in the average quarter).

Table I includes only a fraction of the management companies in existence. To enter the sample, a management company needs to have at least two domestic equity funds. Consequently, the sample includes about 46% of all funds with data in the Thomson Financial database; the remaining 54% either belong to companies with only one equity fund (although it may have other funds, say, a money market fund) or do not have a valid management company identifier. In terms of the total net assets, the sample accounts for about 64% of total assets reflected in the Thomson Financial database. Funds included in the sample tend to be larger (their average TNA is about \$698M, while funds that are not included average \$353M), have higher average returns (3.38% compared to 3.13% per quarter), have lower expense ratios (1.2% versus 1.29%), and are less volatile. Other characteristics (e.g., turnover, front and rear loads) are similar for included and excluded funds.

A given quarter's "best ideas" are trades made by multiple same-company funds. Table II investigates how frequently such trades occur and what volume they represent in a typical company. To construct this table, trades in at least two same-company funds are divided into three subsets: buys, sells, and all trades. The last subset includes opposite transactions that simply move stocks within the management company (one fund sells a stock, another fund buys

it). The top half of Table II focuses on the number of stocks traded in multiple portfolios in a given quarter, while the bottom half employs the dollar volume generated in multiple funds. Both measures are expressed as raw numbers and as fractions relative to the number of stocks traded and total volume generated (including both multiple- and single-fund trades).

The main result in Table II is that a sizable portion of the volume that management companies generate is due to trades in multiple funds. One in six stocks purchased by the average company is bought into more than one portfolio, while the corresponding number for sales is only slightly lower. In the average company, purchases and sales in multiple funds account for 29% and 25% of total buy and total sell volume, respectively. Interestingly, there seems to be a lot of heterogeneity in how different companies operate. About 25% of companies do not trade in multiple portfolios at all.[7] In a given sample quarter they buy, on average, only 1 stock and sell, on average, 0.36 stocks in more than one fund. While the purchase size accounts for about 3% of the overall dollar volume of these companies, multi-fund sales correspond to a negligible 0.4% of total dollar volume. At the other end of the spectrum there are funds that trade more than 20% of stocks and generate about 50% of total volume in transactions that involve multiple funds.

The overall trade volume is larger than the sum of buy and sell volume. The difference is due to trades that management companies clear in-house. Gaspar, Matos, and Massa (2005) study such opposite trades and show that they may involve a subsidy from a poorly performing to a star fund within a given family.[8] Table II reports how important such trades are relative to same-direction trades. The size of opposite trades (5 stocks, \$50M volume) is fairly small compared to the estimates obtained for purchases and sales alone (20-30 stocks, \$130-300M in

[7]While Table II offers only a static snapshot of the data, in unreported tests I find that reliance on multi-fund trades is highly persistent. Controlling for size, the number of funds, and the number of styles, AR(1) coefficients of the fraction of the number of or the volume generated in multi-fund trades are about 0.6-0.7.

[8]The mechanism described in Gaspar, Matos, and Massa (2005) and other studies (e.g., Guedj and Papastaikoudi, 2003) predicts that funds' best ideas could be strategically allocated to a single fund rather than repeated across multiple funds. As I show in the next section, this mechanism cannot fully account for the performance of single- and multi-fund trades.

volume for the average company).

In unreported analysis I find that stocks traded in multiple funds are among the largest in the market, even accounting for the fact that mutual funds in general have a preference for large companies. For example, the median stock traded in a single fund belongs in the ninth (second largest) size decile, while the median stock traded in multiple funds is in the tenth decile (largest stocks).[9] The preference for large stocks may be driven by two effects. First, liquidity is positively correlated with size. If mutual funds have new information about a stock, the information is more valuable if that stock is liquid and if multiple funds can trade it cheaply. Second, and perhaps more importantly, the probability of trading a given stock by any mutual fund is increasing in the size of the stock (e.g., Falkenstein, 1996). Thus, large cap stocks are more likely to be traded by multiple funds even if portfolio choices of individual managers are independent. Moreover, while index funds are discarded from the sample, some of the trades classified as "best ideas" may still be trades of closet indexers, and such trades are probably made in large-cap stocks. The proxy used in this paper may spuriously identify such trades as best ideas. This drawback probably makes it more difficult to find any abnormal performance in multi-fund trades; as I show in the next section, the evidence that such trades outperform is strong in spite of that. Moreover, the results are stronger when trades in S&P500 stocks are excluded.

2 The value of best ideas

This section investigates whether management companies do better in trades they make in multiple funds. As outlined in the introduction, fund managers likely consider such trades to be particularly valuable. The first issue this section deals with is whether such "best idea"

[9] In terms of the other characteristics stocks traded in single and in multiple funds are very similar. For example, the median stock bought in a single fund (in multiple funds) is at 40th (39th) percentile of the book-to-market ratio and 62nd (62nd) percentile of stocks sorted on past year performance.

trades beat the benchmarks. Second, I investigate whether best ideas outperform idiosyncratic trades of individual managers by comparing the performance of multi-fund and single-fund trades. Finally, I study longer term returns on multiple-fund trades and potential explanations for their abnormal performance.

2.1 Performance of best ideas and other trades

The test portfolios employed in this section are constructed in the following manner. In each sample quarter, for each management company, I use two adjacent holding reports to identify stocks that were bought or sold by a given number of funds (say, at least two funds). If at least five such stocks are identified, a portfolio long in buys and short in sells is formed on the first day of the next quarter.[10] These portfolios are then held for three months and are rebalanced based on the next holding report.

Table III summarizes the performance of single- and multiple-fund trades. Columns of the table indicate how many same-company funds traded a given stock. The first column focuses on stocks traded in exactly one fund of a management company (including stocks traded in a single fund in more than one company). Given the identification strategy used in this paper, these trades are based on information that is either idiosyncratic to a particular manager or not particularly valuable. The next three columns correspond to the "best idea" trades, identified by observing that at least two, three, or four same-company funds buy or sell a given stock.

Table III presents results for equal, value, and count-based portfolio weights. Count weights are proportional to the number of management companies that trade a stock in multiple funds. For example, in the at-least-three-funds purchase portfolio, the count-based weight is equal to the number of companies that bought a given stock in more than two of their funds, standardized so that the weights sum to 1. Count-based weights are larger for stocks that were multi-fund

[10] Below I discuss the results obtained separately for buys and for sells, as well as the impact of a delay between the end of the quarter in which funds trade and portfolio formation date.

purchases or sales in many management companies. If multiple companies consider a piece of information valuable, it is more likely that the new information represents a truly attractive trading opportunity.

Table III, as well as the remaining tables, reports performance measured by average monthly returns and by alphas estimated with respect to the usual pricing models: CAPM, Fama and French (1993) three-factor model, and Carhart's (1997) four-factor model that adds momentum to the Fama and French factors. I also compute abnormal performance by adjusting for characteristics. For this last measure, stocks are matched on size, book-to-market, and past performance, as described in Daniel, Grinblatt, Titman, and Wermers (1997) and Wermers (2004). To ensure that the results are robust, I also experimented with adjustments for size and momentum only (since some stocks do not have book-to-market data), changing the momentum definition (e.g., considering past 6 or 12 month returns, skipping last month's returns or not), or using equally- and value-weighted adjustment portfolios. In all cases, the results are similar to those exhibited in Table III and do not change the conclusions.[11] The t-statistics, reported in parentheses, are computed using the Newey-West weighting matrix.

The main results of Table III can be summarized as follows. First, there is no evidence that single-fund trades outperform. Once momentum is accounted for, both four-factor alphas and characteristics-adjusted returns are insignificant at the 5% level. Moreover, the average characteristics-adjusted returns are economically small even if their magnitude is taken at the face value, without accounting for standard errors. At best, single-fund purchases outperform single-fund sales by about 2.3 basis points a month, or about a quarter of a percentage point per year. Transaction costs are likely to be at least as high as this amount, which means that net returns will be negative.[12] Interestingly, point estimates of all performance measures suggest

[11] Additionally, I consider conditional models based on Ferson and Schadt (1996), and models augmented with the liquidity factor of Pastor and Stambaugh (2003), short-term reversal factor, and the idiosyncratic risk factor of Ang, Hodrick, Xing, and Zhang (2006). The results, reviewed in the Appendix, are at least as strong as those presented in Table III and the subsequent tables.

[12] Wermers (2000) estimates the difference between mutual fund gross and net returns (the sum of expenses

that the equal-weighted portfolio of single fund trades does better than the count-weighted portfolio. For example, the three-factor alpha of the former is estimated at 8 basis points per month (t-statistic of 2.26; the only performance metric for the single-fund portfolio that is significant at the 5% level), while the corresponding estimate for the count-weighted portfolio is negative 3 basis points. Count-weighted portfolio is tilted towards stocks many separate companies trade in exactly one of their funds. The estimates indicate that the more companies trade a stock in a single fund, the weaker the subsequent performance. I come back to this point when discussing Table IV below.

Second, the trades that management companies make in multiple funds significantly outperform. The last three columns of Table III present strong evidence that such trades beat the benchmarks, both these based on covariances and these based on characteristics. Four-factor alphas are as high as 19 basis points per month, or about 2.28% per year, for the value-weighted portfolio and up to 33 basis points per month, or about 4% per year, for the equal- and count-weighted portfolios. The value-weighted portfolio outperforms its characteristics-based benchmarks by up to about 10 basis points per month or 1.2% per year (however, these numbers are only marginally significant with t-statistics of 1.62-1.8), while the equal- and count-weighted portfolios beat their characteristics benchmarks by up to 22 basis points per month, or 2.6% per year.

Third, the results are increasingly strong as one goes from stocks traded in at least two same-company funds, to stocks traded in at least three, to those traded in at least four. The abnormal performance is apparent already in trades made by at least two funds. For example, the four-factor alpha of the equally-weighted portfolio is significant at about 13 basis points a month (characteristics-matching indicates outperformance of about 8 basis points a month). These numbers dramatically increase to 24 and 33 (to 16 and 22) basis points per month when trades in at least three and at least four same-company funds are considered.

and transaction costs) at 1.6% per year.

This finding confirms that trades in multiple funds are driven by management companies' most valuable information. The more attractive a news item, the more it will impact a company's investment strategy and the more managers will act on it. Moreover, increasing the required number of funds that trade a given stock may increase the precision with which best ideas are identified. Some of such trades are coincidences that arise when two individual managers focus on the same stock by chance (e.g., because they both want to move closer to a benchmark). It is less likely that a similar coincidence occurs for three or four managers at the same time. Lastly, companies that trade a stock in three or more portfolios are, by construction, larger companies that control at least three funds. To the extent that company size proxies for the quality of buy-side research, the increasing performance from two- to three- and four-fund portfolios may be partly driven by differences in research quality.

Table III does not investigate the trades made in at least five same-company funds because there are few such trades in the sample. In 13% (17%) of sample quarters there are no families that buy (sell) any stock in at least five of their funds.[13] In more than 40% of quarters there are fewer than 30 stocks in the five-fund portfolio. Furthermore, most stocks traded in five or more funds are S&P500 stocks, frequently after the index composition changes, which suggests that these trades may be designed to get closer to a benchmark and may not represent active bets. On average, 63% of five-fund buys and 66% of five-fund sells are made in index stocks, while the corresponding numbers are below 50% for trades made in fewer than five funds. When Table III and the tables presented below are reproduced for five-fund trades, all performance results are insignificant. The strongest results are obtained when the equivalent of Table III is reproduced excluding trades in S&P500 stocks. The count-weighted portfolio of trades in at least five funds then generates a four-factor alpha (characteristic-adjusted return) of 36 basis

[13]At the beginning of the sample period few management companies control five or more domestic equity funds. Even at the end of the sample, only 35% of companies satisfy this restriction. In contrast, 65% of companies control at least three funds. Moreover, in all sample quarters there are at least five stocks traded by three same-company funds.

points (29 bps) per month. However, their estimates are insignificant with the t-statistics of 1.47 and 1.02, possibly because the time series of returns is much shorter.

2.2 Interpreting the performance of best idea trades

The abnormal performance documented in Table III suggests that fund managers have skill, at least in the trades they feel the most optimistic about. However, there could be alternative explanations for this effect. Perhaps the most natural one is based on herding. Best ideas are identified by counting the trades same-company funds make. It is possible that the proxy is just picking up the trades that all mutual funds (not necessarily within the same management company) make. Such herding may have price implications if mutual funds' trades are informative to other market participants (e.g., Wermers, 1999) or perhaps because the breadth of ownership changes when many funds trade a stock (Chen, Hong, and Kubik, 2003).

To check whether this is the case, I compare the performance of stocks traded in multiple same-company funds and stocks traded by more than one fund in the sample, but by no more than one fund for each management company (i.e., single-fund trades from different companies). This approach allows me to disentangle the impact of best ideas from effects related to the number of funds trading a stock. Table IV presents the difference of two spread portfolios: long in buys minus sells made in multiple same-company funds and short in buys minus sells made in multiple funds that belong to different management companies. In the first three columns, trades in at least two, three, and four funds are considered. However, one may argue that such a comparison is difficult to interpret. While a trade repeated by, say, four funds at the same time is rather exceptional for a given management company, trades repeated by at least four unrelated funds are much more common. Thus, the fourth column in Table IV compares the performance of trades of four or more same-company funds to trades repeated by unrelated funds from at least 10% of management companies. This way, the number of stocks

per portfolio is similar: In the average quarter, there are 287 stocks traded by at least four same-company funds and 235 stocks traded by at least 10% of unrelated funds.

Best ideas outperform stocks traded by individual managers. This time, the magnitude of abnormal returns is even higher than in Table III, which suggests that the more unrelated funds trade a stock, the poorer this stock's subsequent performance. The results are particularly strong for characteristic-adjusted returns. Even in the value-weighted portfolio, stocks traded in multiple funds outperform their single-fund counterparts by as much as 25 basis points per month. The most striking results are for the count-weighted portfolio, the performance of which is as high as 38-47 basis points per month (or up to about 5.6% per year).

The results discussed so far are related to, but distinct from those presented in Chen, Jegadeesh, and Wermers (2000). Chen et al. study trades of actively managed funds and conclude that stocks the mutual fund industry buys outperform those the industry sells. However, as reported in Table III, there is little evidence that trades of single funds deliver any abnormal performance. Even if point estimates of the spread portfolio alphas are taken at face value, without accounting for standard errors, they are about three times smaller than alphas estimated for stocks traded in multiple funds. Similarly, characteristics matching indicates no evidence that single-fund trades beat their benchmarks; the estimates are insignificant both statistically and economically. Thus, it is difficult to conclude unconditionally that active fund managers beat the benchmarks. They indeed outperform, but only in trades that multiple same-company funds make. When managers go beyond the best ideas and trade on other information as well, there is no evidence that they are successful. As Table IV indicates, the performance of these additional trades is up to almost 0.5% per month lower than the performance of best ideas.

Tables III and IV define best ideas as trades made by at least two, three, and four funds. In the next two tables, the focus is on the portfolio of stocks at least three same-company funds trade. This portfolio, just as two- and four-fund ones, strongly outperforms. In terms of the

economic magnitude of the estimates, it is in between the other two. This also holds for the results discussed below: They are stronger than those obtained for the two-fund portfolio, but weaker than those obtained for trades four or more same-company funds make.

Table V provides a series of robustness checks and presents several variations to the portfolio strategy implemented in Tables III and IV. First, it decomposes the performance of the spread portfolio into its two legs, purchases and sales. Best idea purchases produce four-factor alphas between 12 and 20 basis points per month, depending on the weighting scheme (in all cases, at least marginally significant; the lowest t-statistic, 1.92, is for the value-weighted portfolio). Characteristics matching indicates abnormal returns of equally- and count-weighted portfolios of about 14 basis points per month; the value-weighted average is insignificant 3 basis points. Best idea sales seem to underperform the benchmarks. However, even though all estimates are negative, most of them are insignificant. The only statistically robust evidence is for the three-factor model: when sales are equal- or count-weighted, they underperform by more than 20 basis points per month. This effect is mainly due to momentum: four-factor alphas are insignificant negative 4-5 basis points. It is possible that multi-fund sales are made by management companies eliminating poorly performing stocks from their portfolios, which may reflect the tendency of mutual funds to prefer winners to losers, documented, e.g., in Grinblatt, Titman, and Wermers (1995).

Thus, fund managers are better at identifying good purchases than at selecting stocks to be sold. This may be because mutual funds have more flexibility in choosing which stocks to buy. They typically cannot sell short, so the only securities they can sell are those they already hold in their portfolios. In contrast, when they purchase, they have access to a much wider universe of stocks.

The next two columns of Table V refine the definition of best ideas. Fund managers are often evaluated relative to indexes and may trade index stocks simply to align their funds with

the benchmark. Such orchestrated behavior is particularly likely when the composition of the index changes. The third column in Table V investigates the performance of the buy minus sell portfolio after excluding stocks added to or deleted from the S&P500 index in the quarter in which fund trade or in the preceding quarter (as funds may spread their buying or selling over a longer period of time). The performance results are very similar to those from Table III. Thus, abnormal returns of best ideas are not explained by the S&P500 inclusion effect documented in Harris and Gurel (1986) and Shleifer (1986). The fourth column of Table V imposes a harsher constraint and eliminates all stocks that were included in the index at any time during the quarter in which funds trade, as well as stocks excluded from the index in the preceding quarter. This time, there is a substantial effect on performance. For example, count-weighted portfolio's four-factor alphas (characteristics-adjusted returns) increase from 24 (16) basis points in Table III to 30 (27) basis points per month. The value-weighted portfolio also produces much higher abnormal returns than before (about 0.25% per month).

The increased magnitude of the effect could be due to two reasons. First, some of the trades in index stocks may be made to rebalance the fund portfolio closer to the benchmark rather than to actively bet on a stock. Such behavior is, in fact, more likely when managers have few good ideas, as in such a case they may prefer to tilt their portfolios closer to a benchmark. When trades in index stocks are discarded, the proxy for best ideas is improved and leads to more pronounced outperformance. The second interpretation is that it is easier to find attractive trading opportunities in non-index stocks that are perhaps not as scrutinized by analysts and other investors.

The fifth column of Table V presents the results when portfolios are formed without recent IPO stocks (stocks with IPOs in the quarter in which funds trade or in the preceding quarter). It is possible that some of the multi-fund trades occur when a management company allocates IPO stocks across its funds. However, when such trades are excluded the estimates are almost the

same as in Table III. Thus, the abnormal performance is not driven by management companies getting access to attractive IPOs.

All evidence presented so far is based on trades inferred from funds' holding reports. A usual concern is that such reports could be window-dressed. For example, at the end of the quarter funds may rebalance their portfolios towards stocks with good recent performance. If funds manipulate their holdings, they likely have the biggest incentive to do so in the last quarter of the year. The sixth column of Table V presents a partial check whether the results could be influenced by such behavior. The estimates in this column are obtained after excluding trades reported in the fourth quarter. Most of the estimates are slightly higher than those in Table III. However, the differences are small, so it is unlikely that window dressing has much influence on the proxy for best ideas.

Finally, it is possible that abnormal returns on multiple fund trades are caused by price pressure. Companies that trade a stock in multiple funds may consider the trade to be successful enough to repeat it in multiple quarters. In such a case, the performance of the trades made in the initial quarter may be artificially increased by liquidity pressure caused by subsequent trades. This situation may arise, for example, when funds scale up their portfolios to accommodate inflows (Lou, 2008). To test whether this affects the results discussed here, the last column of Table V reports the performance of "one-time best ideas," that is, trades in multiple funds that are not repeated in the subsequent quarter. The performance of the equal-weighted portfolio is decreased by about 5 basis points per month compared to the numbers from in Table III. However, both the estimates and the pattern of statistical significance of value- and count-weighted portfolio are almost the same as those reported previously. Thus, the performance of "best ideas" does not seem to be driven by sustained price pressure.

Another test of whether the outperformance is due to liquidity effects is to analyze performance over longer horizons. Figure 1 shows that the initial price changes do not revert in the

long run. The graph presents three- (left column) and four-factor (right column) alphas of the spread portfolio of buys minus sells of three or more funds.[14] Figure 1 presents the performance of this portfolio in each of the six quarters following the quarter when funds trade. Thus, the first point in the graphs, corresponding to the first quarter, is the same as the numbers presented in Tables III. The second point corresponds to a portfolio formed one quarter after fund trades are observed, etc.

Figure 1 illustrates that the abnormal returns of the first quarter do not revert within the next year and a half. There is no evidence of negative performance of multi-fund trades; if anything, performance persists for another quarter. Three-factor alphas for the equally- and count-weighted portfolios are significantly positive and economically large (of the order of 20 basis points a month) also in the second quarter after funds trade. When momentum is controlled for, four-factor alphas are still positive at about 10 basis points a month, but no longer significant. Starting in the third quarter, performance flattens out. Point estimates of alphas do become negative about 1-1.5 years after funds trade, but they are small (of the order of 3-5 basis points per month) and statistically insignificant.

The patterns shown in Figure 1 suggest that the best ideas of mutual fund managers point them towards mispriced stocks. Funds correctly anticipate future price changes that do not revert in the long term. An interesting, but also challenging question is how managers are able to do that. Table VI investigates if they outperform by using publicly available information or whether their trades are motivated by information not yet discovered, or perhaps underestimated, by other market participants. To proxy for public information released in the given quarter I use revisions of EPS forecasts made by sell-side analysts. I use changes in consensus forecasts computed between the end of the quarter in which funds trade and the end of the previous quarter.[15] To make changes in revisions comparable between different stocks, I

[14]When average characteristic-adjusted returns are graphed instead, the resulting pattern is very similar to that of four-factor alphas.

[15]I use EPS revisions rather than investment recommendations as the latter are only available for the second

standardize them by the average of absolute values of consensus forecasts at the end of the two quarters. I use absolute values to ensure that the sign of the change is correct when the forecasts are negative.

Best ideas are then divided into two subsets: trades made "against analysts" and those made "with analysts." Funds trade "with analysts" when they buy a stock that had good news in a given quarter (measured as an EPS revision in the top 25% of all revisions) or sell a stock that had bad news (EPS revisions in the bottom 25%).[16] Trades "against analysts" are the complement of that set and include trades in stocks that did not experience a large revision or purchases (sales) of stocks with bad (good) revisions.

The benefits of the "best ideas" are only apparent in trades that are made "against analysts." Trades in stocks that did not experience substantial revisions and trades made against such revisions exhibit abnormal performance, at least in equally- and count-weighted portfolios. Depending on the correction, these portfolios outperform by 15 to 25 basis points a month, or 1.8 to 3% per year. For the value weighted portfolio, the outperformance is significant in the four-factor alphas, but not in characteristic-adjusted returns.

In contrast, once momentum is controlled for, there is no evidence that trades made in the direction of analyst revisions outperform. There is no clear pattern in the signs of different performance measures; in any case, both four-factor alphas and characteristic-adjusted returns are insignificant. Interestingly, the average raw returns and three-factor alphas are substantially higher than those of the "against analysts" trades, which suggests that momentum plays a role in stocks that both experienced analyst revisions and were traded by multiple funds. Finally, average returns and alphas from Table VI do not sum up to those from Tables III and V. This is because Table VI only includes stocks that had valid analyst forecasts at the beginning and at the end of the quarter in which funds trade, whereas the previous tables did not impose

half of my sample. Moreover, as Malmendier and Shanthikumar (2008) argue, EPS forecasts are usually directed to institutions, while recommendations are typically used by individual investors.

[16] I experimented with other cutoffs, for instance 30% or 50%, and the results are similar.

this restriction. The abnormal performance is lower in Table VI than in previous tables, which suggests that managers are particularly successful when their best ideas are in stocks that do not have analyst coverage. This may be because information asymmetries and the potential advantage of skilled investors are higher in such stocks.

3 Best ideas and after-fee fund returns

The previous section established that mutual fund trades that managers find the most attractive outperform benchmarks. At the same time, trades that are not best ideas do not beat the benchmarks even before expenses. This is an important issue: On the one hand, mutual fund managers seem to have enough skill to earn as much as 4% per year more than passive benchmarks, on the other – even though they correctly identify truly attractive ideas, they engage in many more trades, which, after transaction costs and fees, destroy value. Given that these additional trades constitute as much as 70% of fund volume, it is possible that fund investors might not see the advantage of best ideas. The present section tests whether this is true by relating best idea trades to overall after-fee, net of expenses returns of mutual funds: First, by looking at performance of portfolios of mutual funds and, second, by regressing fund returns on a best idea variable and fund- and management company-specific controls.

Table VII presents quarterly returns on portfolios of mutual funds, sorted by whether they participated or a good idea: a trade repeated by at least two (Panel A) or at least three (Panel B) mutual funds from the same management company. Fund returns, taken from the CRSP Mutual Fund database, are net of expenses. Additionally, to better approximate returns realized by fund investors, I account for front- and rear-end load fees whenever possible. Following Sirri and Tufano (1998), I amortize these fees over a seven year holding period. Unfortunately, for a number of fund/year observations, front- and rear-end loads are missing in the CRSP

database. For these funds, I assume that the load fees are equal to zero.[17] Table VII compares the performance of (equal-weighted and TNA-weighted) portfolio of funds that participated in a best idea and the portfolio of funds that did not. Portfolios are formed on the first day of the quarter following the quarter in which best ideas are identified, so that the holding period corresponds to the holding period considered in Tables III through VI.

There is strong evidence that participating in best idea buys improves fund returns. When best ideas are defined as purchases of at least two same-company funds, their benefit is about 13 basis points per quarter in after-fee fund returns. This difference is roughly the same when returns are corrected using the CAPM, Fama-French, and Carhart models. The effect is weaker for TNA-weighted portfolios, for example, the Carhart alpha of 11.6 basis points is insignificant with a t-statistic of 1.77. When the definition of best ideas is changed to trades at least three funds make (Panel B), the outperformance goes up to 20-30 basis points per quarter. This time it is, if anything, stronger for the TNA-weighted portfolio, the alphas of which are between 24 and 37 basis points per quarter, significant at the 1% level. The bottom parts of Panels A and B presents the performance of funds that participated in multi-fund sales. Although stocks sold by a fund do not affect future performance of that fund, participation in good trades, whether buys or sells, might signal the skill of the manager. However, the results indicate that there is little difference in quarterly returns of funds that sold a best idea and those that did not.

In line with other research, long-only portfolios of funds underperform benchmarks by up to about 0.35% per quarter. Interestingly, the negative performance is generally less pronounced for funds which participate in best ideas. In fact, when these funds are equally weighted, their alphas are statistically indistinguishable from zero. The alphas of the TNA-weighted portfolio are strongly negative, but, at least for best idea purchases, they tend to be much smaller than

[17]The results are very similar when load fees are not subtracted from returns. For example, the average equally-weighted (TNA-weighted) return on the spread portfolio in the first row of Panel A of Table VII is 0.117% (0.134%) when loads are subtracted and 0.12% (0.14%) when they are not. The pattern in statistical significance is also similar.

those for the remaining funds. For example, the TNA-weighted four-factor alphas of best-idea funds are -0.28% (-0.13%) for two-fund (three-fund) best ideas, while the alphas of the remaining funds are -0.40% (-0.40%). This suggests that managers able to generate such trades are superior to other managers.

Table VIII provides an additional test of fund performance by regressing quarterly (first four columns) and annual (last four columns) after-fee fund returns on dummy variables that indicate that a fund participated in a best idea buy or sale in the previous quarter and a set of controls.[18] Fund-level controls include fund size, expense ratio, turnover, and past performance, while the company-level controls include size, the number of funds, and the number of styles of the management company. Regressions are run on the cross-section of funds in each sample quarter and the estimates reported in the table, as well as their t-statistics, are based on the time series of cross-sectional estimates. Although the regressions are run every quarter, some dependent variables, e.g., expense ratios, are reported only once per year and thus are the same in four different regressions. Moreover, when the dependent variable is the annual return, its realizations are correlated across four consecutive cross-sectional regressions. Standard errors are corrected for potential problems this may cause by using the Newey-West weighting matrix.

The first four columns of Table VIII indicate that participating in a best idea purchase increases a fund's next quarter return by about 12 basis points. After the controls are included, this estimate decreases to about 9 basis points per quarter, but it is still statistically significant. Participating in best idea sales also correlates with higher future returns, but, in line with the findings from Table VII, these estimates are not significant. The last four columns deal with annual fund returns. The univariate specification indicates that funds that purchased a best idea earn 0.45% more than other funds. When fund- and company-level characteristics are

[18] In an earlier version of this paper, similar regressions were estimated with management company-level best idea variables. Funds that belong to management companies that generate best ideas seem to perform better, regardless of whether a particular fund participated in a best idea. However, in regressions with all controls the differences in performance, while of economically interesting magnitudes, become insignificant with t-statistics of about 1.5.

included, the estimates drops to 0.2-0.27% per year, but are still significant at the 5% level. Interestingly, in the annual return regressions, selling a best idea yields estimates of similar magnitudes as purchasing a best idea, but these estimates are insignificant when any controls are added (in an unreported regression, when only best idea purchase and sale are included, the sale variable drops to 0.424% with a t-statistic of 1.56).

Other results from Table VIII are generally in line with previous studies. There is a robust negative relationship between a fund's size and its returns, as documented in Chen, Hong, Huang, and Kubik (2004). Turnover correlates positively with performance, in line with Grinblatt and Titman (1989) and Wermers (2000), but this relationship is not statistically significant. Somewhat surprisingly, while the coefficient on the expense ratio has a negative estimate, it is only significant at the 10% level. Finally, the negative coefficient of the number of styles is in line with Massa (2003) and Siggelkow (2003), who show that diversity in styles has a negative impact on performance.

Clearly, the amount of the outperformance documented in Tables VII and VIII is much smaller than that estimated for best idea trades in the previous tables. This is partly because now all costs and expenses are accounted for, but also because the previous tables specifically looked at the trades that were ex ante identified as more promising. Fund-level returns reflect the performance of not only best ideas, but also of other trades, which likely destroy value. In spite of this, there is evidence that funds which are able to generate and participate in best ideas have greater returns than funds which do not. Being able to generate best ideas could be interpreted as a signal about a manager's skill that is not related to the most obvious fund- and management-company characteristics.

4 Conclusions

This paper proposes an ex ante proxy for the ranking of mutual fund trades. The most attractive trades – the "best ideas" – beat the benchmarks by up to about 0.30% per month and outperform other fund trades by even higher margins. Abnormal returns do not revert in the next six quarters, which suggests that the result is not driven by transitory liquidity effects. Interestingly, the value of "best ideas" is higher when they involve companies that did not experience large revisions in analyst EPS forecasts. It is thus possible that they reflect new information that is not yet available to sell-side analysts.

Best ideas are based on information shared by multiple managers who work for the same management company. Such information is likely to be generated by centralized research, which may include buy-side analysis or informal networks in which managers exchange their investment views. These trades strongly outperform. The remaining trades (not best ideas) are either idiosyncratic trades of individual managers or, if they are generated by centralized research, they are not valuable enough to attract more than one manager. There is no evidence that these additional trades, accounting for about 70% of fund volume, perform any better than passive benchmarks even before expenses. Once transaction costs and other fund expenses are accounted for, such trades likely turn out to waste investors' money. Although these idiosyncratic trades harm overall fund performance, they are not necessarily evidence that managers are misguided or overconfident in their ability. It may be rational for them to engage in trades that are not designed to beat the benchmarks. Managers need to manage flows to their funds, may want to keep up with their peers and benchmarks, or perhaps window dress their portfolios to attract and retain investors using information other than fund returns (see, e.g., Sosyura, 2007). It is possible that managers make such trades even if they do not expect them to outperform.

5 Appendix

The Appendix provides additional robustness analysis of the performance of best ideas. As in Tables V and VI, I focus on stocks at least three same-company funds bought and sold. Table AI presents results for the spread portfolio, long in buys and short in sells, as well as for the buy and the sell portfolios separately. To control for potential time variation in betas, I estimate conditional versions of the CAPM and the 4-factor model from Carhart (1997). Conditioning variables are these proposed in Ferson and Schadt (1996): one-month Treasury bill yield, the dividend yield of the NYSE-AMEX market index (obtained from CRSP), term premium (the difference between yields of long- and short-term Treasury bonds, obtained from Federal Reserve Bank of St. Louis), credit spread (the difference between yields of Moody's BAA- and AAA-rated corporate bonds, obtained from Federal Reserve Bank of St. Louis), and the January dummy. Another model adds the liquidity factor from Pastor and Stambaugh (2003) (obtained from WRDS) to the four Carhart (1997) factors. Finally, to account for other well-known patterns in the data, I add the short-term reversal factor (obtained from Ken French's website) and the idiosyncratic volatility factor (computed as proposed in Ang, Hodrick, Xing, and Zhang, 2006) to the market, size, value, and momentum factors.

Table AI presents the outperformance (alphas) measured with respect to the above models. In each case, the spread portfolio beats the benchmarks by statistically and economically meaningful numbers. Moreover, the magnitude of the estimated abnormal performance is very similar to that presented in Table III. The performance of "best ideas" is unlikely to be due to time variation in betas or liquidity risk, short-term reversal, or exposure to stocks with high idiosyncratic volatility.

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Table I: Summary statistics of management companies and funds these companies control. The sample spans the first quarter of 1980 through the fourth quarter of 2005 and includes domestic equity funds that are managed by companies that control at least two such funds. Management companies and styles (investment objective codes) are identified using the Thomson Financial fund holdings database. Only funds that can be identified in both the Thomson Financial and CRSP mutual fund databases are included; TNA of management companies is computed using these funds only. All estimates presented below are time-series averages of quarterly cross-sectional estimates (e.g., "median" corresponds to the time series average of medians computed in all sample quarters).

	Average	25th perc	Median	75th perc
# mgmnt comp	169.192	81	135	255
# funds/ comp	4.566	2.000	2.909	4.962
# styles/ comp	2.486	1.990	2.000	3.010
TNA company ($M)	3337.477	144.930	543.470	2083.677
# stocks/ fund	159.654	59.885	104.563	194.077
TNA fund ($M)	698.222	46.997	160.235	521.523
Quarterly returns (%)	3.383	0.498	3.258	6.104
Expense ratio (%)	1.205	0.868	1.121	1.463
Front load (%)	2.960	0.191	2.923	5.445
Rear load (%)	0.520	0.114	0.309	0.789
Turnover (%)	90.377	32.450	64.807	112.402

Table II: Common investment decisions of funds within the same management company. The first panel summarizes the number of stocks bought, sold, or traded (bought or sold) in at least two funds sponsored by the same management company, both in levels and as the fraction of all stocks bought, sold, or traded. The second panel presents dollar volume generated by management companies when they trade in multiple funds, in millions of dollars and as a fraction of total volume generated in a given quarter. All numbers are time-series averages of quarterly cross-sectional estimates (e.g., "median" corresponds to the time series average of medians computed in all sample quarters).

Number of stocks traded in multiple portfolios

	Average	Median	25th perc	75th perc
# bought	28.249	7.106	0.990	26.394
# sold	20.975	4.341	0.356	19.442
# traded	54.345	16.284	3.106	55.269

Fraction of stocks traded in multiple portfolios

	Average	Median	25th perc	75th perc
% of # bought	0.161	0.103	0.018	0.235
% of # sold	0.139	0.081	0.007	0.206
% of # traded	0.189	0.139	0.038	0.283

Dollar volume generated in multiple portfolios

	Average	Median	25th perc	75th perc
Buy vol ($M)	325.894	16.157	0.940	118.965
Sell vol ($M)	127.348	2.981	0.015	35.652
All vol ($M)	503.873	28.184	2.651	191.457

Fraction of volume generated in multiple portfolios

	Average	Median	25th perc	75th perc
% of buy vol	0.289	0.224	0.032	0.482
% of sell vol	0.250	0.148	0.004	0.456
% of all vol	0.336	0.291	0.071	0.549

Table III. Performance of trades made by multiple funds within the same management company. In each sample quarter, spread portfolios are created from stocks a pre-specified number of same-company funds bought (long leg of the portfolio) or sold (short leg) in the previous quarter. Portfolios are equally-weighted (top panel), value-weighted (middle panel), and count-weighted (bottom panel), where count-based weights are proportional to the number of management companies that trade a given stock in multiple portfolios. Portfolios are held for three months following the quarter in which funds trade. Monthly average returns, alphas, and average characteristic-adjusted returns are reported in percentages. T-statistics are computed using the Newey-West weighting scheme and are reported in parentheses. ***, **, and * denote that an estimate is significant at the 1%, 5%, and 10% level, respectively.

	Stocks bought minus stocks sold in			
	exactly 1	≥ 2	≥ 3	≥ 4
	funds from the same management company			
	Equally-weighted portfolios			
avg. ret.	0.064	0.206	0.328	0.411
std. ret	0.677	0.831	1.329	1.784
CAPM α	0.061	0.202***	0.333***	0.408***
	(1.512)	(4.532)	(4.001)	(3.692)
FF α	0.081**	0.226***	0.358***	0.430***
	(2.264)	(4.940)	(4.422)	(3.683)
Carhart α	0.074*	0.127***	0.239***	0.327***
	(1.664)	(2.951)	(3.228)	(3.087)
Char. adjusted ret.	0.023	0.078**	0.158**	0.221**
	(0.721)	(2.199)	(2.159)	(2.161)
	Value-weighted portfolios			
avg. ret.	-0.048	0.057	0.177	0.175
std. ret	0.997	0.427	1.321	1.694
CAPM α	-0.062	0.057**	0.202**	0.218**
	(-1.063)	(2.349)	(2.467)	(2.410)
FF α	-0.100*	0.059**	0.186**	0.189*
	(-1.715)	(2.320)	(2.351)	(1.884)
Carhart α	0.018	0.042*	0.157**	0.194**
	(0.330)	(1.704)	(2.078)	(2.158)
Char. adjusted ret.	0.014	0.026*	0.095	0.130*
	(0.379)	(1.662)	(1.617)	(1.799)
	Count-weighted portfolios			
avg. ret.	-0.029	0.218	0.341	0.421
std. ret	0.836	0.966	1.353	1.845
CAPM α	-0.035	0.221***	0.354***	0.422***
	(-0.834)	(4.238)	(4.296)	(3.708)
FF α	-0.034	0.244***	0.375***	0.430***
	(-0.759)	(4.343)	(4.493)	(3.558)
Carhart α	0.057	0.116**	0.237***	0.310***
	(0.999)	(2.308)	(3.149)	(2.795)
Char. adjusted ret.	0.002	0.067*	0.163**	0.219**
	(0.060)	(1.782)	(2.225)	(2.103)

Table IV. Comparing performance of trades made by multiple same-company funds and trades made by unrelated funds. This table presents the performance of stocks traded in multiple same-company funds minus the performance of stocks traded in single funds by multiple management companies. In each sample quarter, two spread portfolios are created: one composed of stocks a pre-specified number of same-company funds bought (long leg of the portfolio) or sold (short leg) in the previous quarter, and one composed of stocks a pre-specified number of unrelated funds bought (long leg) or sold (short leg); a stock is included in the second portfolio only if it was not traded in multiple funds that belong to the same company. This table exhibits the differences in the performance of the two portfolios. The fourth column compares the performance of trades repeated in 4 or more same-company funds to that of trades made in single funds by at least 10% of management companies. Portfolios are equally-weighted (top panel), value-weighted (middle panel), and count-weighted (bottom panel), where count-based weights are proportional to the number of management companies that trade a given stock. Portfolios are held for three months following the quarter in which funds trade. Monthly average returns, alphas, and average characteristic-adjusted returns are reported in percentages. T-statistics are computed using the Newey-West weighting scheme and are reported in parentheses. ***, **, and * denote that an estimate is significant at the 1%, 5%, and 10% level, respectively.

	Multi-fund minus single-fund trades in			≥ 4 same-comp.
	≥ 2 funds	≥ 3 funds	≥ 4 funds	funds vs 10% of unrelated funds
		Equal-weighted portfolios		
avg. ret.	0.146	0.293	0.399	0.425
std. ret	1.153	1.597	2.001	1.835
CAPM α	0.142**	0.294***	0.391***	0.414***
	(2.314)	(2.769)	(2.820)	(3.723)
FF α	0.152**	0.311***	0.415***	0.460***
	(2.544)	(3.255)	(2.911)	(4.014)
Carhart α	0.056	0.184**	0.289**	0.476***
	(0.972)	(2.127)	(2.238)	(4.385)
Char. adjusted ret.	0.146**	0.293***	0.399***	0.285***
	(2.468)	(3.154)	(3.072)	(2.741)
		Value-weighted portfolios		
avg. ret.	0.127	0.248	0.250	0.196
std. ret	1.308	1.874	2.128	1.664
CAPM α	0.141**	0.286***	0.307***	0.232***
	(1.985)	(2.579)	(2.652)	(2.602)
FF α	0.178**	0.309***	0.325**	0.216**
	(2.319)	(2.729)	(2.493)	(2.299)
Carhart α	0.041	0.156	0.197*	0.236***
	(0.554)	(1.494)	(1.682)	(2.681)
Char. adjusted ret.	0.127*	0.248**	0.250**	0.146**
	(1.727)	(2.316)	(2.124)	(2.097)
		Count-weighted portfolios		
avg. ret.	0.248	0.378	0.473	0.445
std. ret	1.619	1.855	2.276	1.794
CAPM α	0.258***	0.396***	0.479***	0.438***
	(3.169)	(3.581)	(3.242)	(4.077)
FF α	0.281***	0.419***	0.495***	0.477***
	(2.972)	(3.654)	(3.142)	(4.305)
Carhart α	0.060	0.186*	0.270*	0.467***
	(0.667)	(1.767)	(1.832)	(4.432)
Char. adjusted ret.	0.248***	0.378***	0.473***	0.281***
	(2.978)	(3.656)	(3.335)	(2.761)

Table V. Performance of stocks at least three same-company funds bought or sold – robustness checks. In each quarter, stocks at least three same-company funds bought or sold in the previous quarter are identified. The first two columns show performance of stocks bought and sold. The remaining columns show the performance of buy-sell spread portfolio. Portfolio in the third (fourth) column excludes stocks added or deleted from S&P500 (stock in S&P500) in the quarter in which funds trade or in the preceding quarter, portfolio in the fifth column excludes stocks with IPOs in the quarter in which funds trade or in the previous quarter, portfolio in the sixth column is formed based on the holdings reports from the first three quarters of the year (excluding the last quarterly report in each year), and the portfolio in the last column excludes best ideas that a management company repeats in multiple quarters (trades in multiple funds in two or more consecutive quarters). Portfolios are equally-, value-, and count-weighted, where count-based weights are proportional to the number of management companies that trade a given stock in at least three funds. Portfolios are held for three months following the quarter in which funds trade. Monthly average returns, alphas, and average characteristic-adjusted returns are reported in percentages. T-statistics are computed using the Newey-West weighting scheme and are reported in parentheses. ***, **, and * denote that an estimate is significant at the 1%, 5%, and 10% level, respectively.

	buys only	sells only	exclude S&P500 additions deletions	exclude S&P500 stocks	exclude IPOs	exclude fourth quarter reports	exclude repeated best ideas
				Equal-weighted portfolios			
avg. ret.	1.402	1.074	0.320	0.446	0.283	0.373	0.288
std. ret	5.429	5.508	1.341	2.238	1.333	1.224	1.473
CAPM α	0.194*	-0.139	0.325***	0.438***	0.292***	0.365***	0.283***
	(1.922)	(-1.335)	(3.893)	(3.254)	(3.405)	(3.959)	(3.092)
FF α	0.131*	-0.228**	0.351***	0.458***	0.322***	0.399***	0.325***
	(1.671)	(-2.363)	(4.331)	(3.409)	(3.710)	(4.250)	(3.720)
Carhart α	0.200***	-0.040	0.231***	0.283**	0.236***	0.269***	0.196**
	(2.628)	(-0.457)	(3.102)	(2.255)	(2.934)	(3.082)	(2.428)
Char. adjusted	0.145**	-0.013	0.153**	0.265**	0.158**	0.204**	0.142*
	(2.302)	(-0.168)	(2.112)	(2.051)	(2.166)	(2.488)	(1.762)
				Value-weighted portfolios			
avg. ret.	1.183	1.006	0.171	0.282	0.159	0.154	0.206
std. ret	4.471	4.621	1.306	2.409	1.343	1.113	1.489
CAPM α	0.098	-0.104	0.196**	0.291**	0.183**	0.175**	0.224***
	(1.339)	(-1.611)	(2.422)	(2.303)	(2.199)	(2.537)	(2.575)
FF α	0.142**	-0.044	0.181**	0.247*	0.164**	0.160**	0.240***
	(2.149)	(-0.735)	(2.313)	(1.844)	(2.030)	(2.213)	(2.750)
Carhart α	0.126*	-0.032	0.151**	0.243**	0.145*	0.125*	0.188**
	(1.932)	(-0.574)	(2.017)	(1.998)	(1.867)	(1.780)	(2.313)
Char. adjusted	0.026	-0.069	0.087	0.252**	0.095	0.102**	0.110*
	(0.667)	(-1.498)	(1.552)	(2.003)	(1.615)	(2.211)	(1.709)
				Count-weighted portfolios			
avg. ret.	1.347	1.006	0.328	0.472	0.275	0.393	0.344
std. ret	5.355	5.515	1.368	2.267	1.322	1.251	1.538
CAPM α	0.141*	-0.213**	0.341***	0.469***	0.293***	0.395***	0.343***
	(1.658)	(-2.277)	(4.116)	(3.454)	(3.570)	(4.343)	(3.674)
FF α	0.127*	-0.248***	0.364***	0.500***	0.311***	0.420***	0.371***
	(1.721)	(-2.622)	(4.381)	(3.627)	(3.671)	(4.418)	(4.100)
Carhart α	0.186***	-0.052	0.228***	0.299**	0.205**	0.260***	0.217***
	(2.624)	(-0.612)	(3.026)	(2.390)	(2.614)	(2.896)	(2.606)
Char. adjusted	0.137**	-0.026	0.153**	0.266**	0.163**	0.226***	0.164**
	(2.190)	(-0.329)	(2.115)	(2.017)	(2.231)	(2.782)	(2.025)

Table VI. Performance of stocks three or more same-company funds trade in line with or against analyst revisions. In each quarter, stocks traded by at least three same-company funds are divided into two subsets: stocks traded "With analysts" (those that had an EPS forecast revision in the top 25% and that were bought or those that had revisions in the bottom 25% and were sold) and stocks traded "Against analysts" (the remaining ones). Within each subset, a spread portfolio is created that goes long in stocks funds bought and short in stocks funds sold. Portfolios are equally-weighted (top panel), value-weighted (middle panel), and count-weighted (bottom panel), where count-based weights are proportional to the number of management companies that trade a given stock in at least three portfolios. Portfolios are held for three months following the quarter in which funds trade. Monthly average returns, alphas, and average characteristic-adjusted returns are reported in percentages. T-statistics are computed using the Newey-West weighting scheme and are reported in parentheses. ***, **, and * denote that an estimate is significant at the 1%, 5%, and 10% level, respectively.

	Stocks $\geq$ 3 funds traded	
	Against analysts	With analysts
	Equal-weighted portfolios	
avg. ret.	0.266	0.412
std. ret	1.485	4.137
CAPM α	0.278***	0.381*
	(2.781)	(1.686)
FF α	0.245***	0.592**
	(2.624)	(2.529)
Carhart α	0.249***	0.051
	(2.686)	(0.241)
Char. adjusted ret.	0.154**	-0.046
	(2.136)	(-0.229)
	Value-weighted portfolios	
avg. ret.	0.149	0.227
std. ret	1.684	4.425
CAPM α	0.201**	0.159
	(2.010)	(0.615)
FF α	0.127	0.401
	(1.323)	(1.476)
Carhart α	0.194**	-0.141
	(2.196)	(-0.582)
Char. adjusted ret.	0.062	0.005
	(0.970)	(0.027)
	Count-weighted portfolios	
avg. ret.	0.281	0.358
std. ret	1.467	4.445
CAPM α	0.306***	0.327
	(3.123)	(1.289)
FF α	0.259***	0.559**
	(2.849)	(2.198)
Carhart α	0.250***	-0.042
	(2.832)	(-0.187)
Char. adjusted ret.	0.153**	-0.057
	(2.148)	(-0.271)

Table VII: Impact of multi-fund trades on overall fund returns. Each quarter, mutual funds are divided into those that participated/ not participated in a purchase/ sale that was repeated by at least two (Panel A) and at least three (Panel B) funds from the same management company. In each subset fund portfolios are formed on the first day of the subsequent quarter. These portfolios are held for 3 months and then rebalanced based on the next batch of holdings reports. Fund returns are net of fees. Front and rear-end loads are amortized over a 7-year holding period (as in Sirri and Tufano, 1998) and subtracted from fund returns. The table illustrates the performance of equal- and TNA-weighted fund portfolios. ***, **, and * denote that an estimate is significant at the 1%, 5%, and 10% level, respectively.

Panel A: best ideas are trades at least two same-company funds made

Comparing funds that participated/ not participated in a multi-fund buy

	Equal-weighted portfolios			TNA-weighted portfolios		
	Bought a best idea	Did not buy	Bought – not bought	Bought a best idea	Did not buy	Bought – not bought
Avg. ret.	3.381	3.263	0.117	3.226	3.093	0.134
Std. ret.	8.208	8.374	0.504	7.796	8.014	0.836
CAPM α	-0.065	-0.221	0.156***	-0.126	-0.314***	0.188**
	(-0.432)	(-1.343)	(2.811)	(-1.124)	(-2.733)	(2.237)
FF α	-0.036	-0.170	0.134**	-0.236**	-0.280***	0.044
	(-0.304)	(-1.426)	(2.314)	(-2.533)	(-2.960)	(0.704)
Carhart α	-0.160	-0.298**	0.138**	-0.281***	-0.397***	0.116*
	(-1.586)	(-2.522)	(2.281)	(-3.168)	(-3.900)	(1.766)
# funds	708.510	1183.029		708.510	1183.029	

Comparing funds that participated/ not participated in a multi-fund sell

	Equal-weighted portfolios			TNA-weighted portfolios		
	Sold a best idea	Did not sell	Sold – not sell	Sold a best idea	Did not sell	Sold – not sell
Avg. ret.	3.359	3.289	0.071	3.184	3.141	0.042
Std. ret.	8.236	8.380	0.627	7.802	8.074	1.043
CAPM α	-0.092	-0.195	0.103	-0.170	-0.278**	0.108
	(-0.581)	(-1.153)	(1.456)	(-1.511)	(-2.172)	(1.096)
FF α	-0.063	-0.147	0.085	-0.267***	-0.209*	-0.058
	(-0.490)	(-1.246)	(1.356)	(-2.702)	(-1.943)	(-0.635)
Carhart α	-0.184	-0.296***	0.113*	-0.324***	-0.353***	0.029
	(-1.608)	(-2.605)	(1.855)	(-3.444)	(-3.193)	(0.316)
# funds	944.404	947.135		944.404	947.135	

Table VII, continued

Panel B: best ideas are trades at least three same-company funds made

Comparing funds that participated/ not participated in a multi-fund buy

	Equal-weighted portfolios			TNA-weighted portfolios		
	Bought a best idea	Did not buy	Bought – not bought	Bought a best idea	Did not buy	Bought – not bought
Avg. ret.	3.479	3.290	0.189	3.392	3.084	0.309
Std. ret.	8.182	8.346	0.736	7.783	7.965	1.110
CAPM α	0.044	-0.188	0.232**	0.054	-0.312***	0.367***
	(0.286)	(-1.145)	(2.544)	(0.424)	(-2.741)	(3.300)
FF α	0.063	-0.145	0.208***	-0.065	-0.306***	0.240***
	(0.436)	(-1.283)	(2.668)	(-0.566)	(-3.365)	(2.692)
Carhart α	-0.066	-0.270**	0.203**	-0.129	-0.402***	0.273***
	(-0.557)	(-2.396)	(2.451)	(-1.226)	(-4.095)	(2.764)
# funds	447.894	1443.644		447.894	1443.644	

Comparing funds that participated/ not participated in a multi-fund sell

	Equal-weighted portfolios			TNA-weighted portfolios		
	Sold a best idea	Did not sell	Sold – not sell	Sold a best idea	Did not sell	Sold – not sell
Avg. ret.	3.401	3.324	0.076	3.302	3.137	0.164
Std. ret.	8.309	8.331	0.885	7.928	7.968	1.374
CAPM α	-0.063	-0.149	0.085	-0.068	-0.257**	0.189
	(-0.386)	(-0.882)	(0.787)	(-0.487)	(-2.040)	(1.406)
FF α	-0.030	-0.110	0.080	-0.166	-0.244**	0.078
	(-0.211)	(-0.947)	(0.891)	(-1.272)	(-2.467)	(0.651)
Carhart α	-0.160	-0.248**	0.087	-0.247**	-0.349***	0.102
	(-1.245)	(-2.227)	(0.990)	(-2.075)	(-3.353)	(0.837)
# funds	574.452	1317.086		574.452	1317.086	

Table VIII. Best ideas and after-fee fund performance. This table presents regressions of individual fund quarterly (first four columns) and annual (last four columns) returns on dummy variables that indicate whether a fund took part in a multi-fund buy (sell) in the previous quarter. Additional controls include fund characteristics (TNA, expense ratios, turnover, past performance) and management company characteristics (TNA, number of funds, number of styles). Regressions are estimated in each sample quarter using all domestic equity funds controlled by companies that sponsor at least two such funds. Estimates and Newey-West standard errors are based on the time series of cross-sectional estimates. ***, **, and * denote that an estimate is significant at the 1%, 5%, and 10% level, respectively.

	Dependent variable: next quarter returns				Dependent variable: next year returns			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Bought a best idea	0.117**		0.094**	0.086**	0.450***		0.269**	0.202**
indicator	(2.245)		(2.124)	(2.114)	(2.613)		(2.109)	(2.241)
Sold a best idea		0.071		0.024		0.528*		0.278
indicator		(1.046)		(0.346)		(1.899)		(1.363)
log(TNA)			-0.161***	-0.159***			-0.665***	-0.670***
			(-2.803)	(-2.752)			(-2.938)	(-2.931)
Expense ratio (in %)			-0.250*	-0.252*			-0.816	-0.805
			(-1.797)	(-1.828)			(-1.519)	(-1.489)
Turnover ratio			0.174	0.171			0.803	0.782
			(1.121)	(1.102)			(1.427)	(1.386)
Past returns (36m)			0.009*	0.009*			0.028	0.028
			(1.943)	(1.925)			(1.604)	(1.597)
Mgmnt. comp. log(TNA)			0.083*	0.084*			0.301	0.302
			(1.790)	(1.808)			(1.330)	(1.332)
Mgmnt comp. log(# funds)			0.092	0.098			0.517	0.496
			(1.065)	(1.197)			(1.616)	(1.562)
Mgmnt. comp. # styles			-0.125	-0.127			-0.307	-0.345
			(-1.086)	(-1.055)			(-0.841)	(-0.922)
constant	3.263***	3.289***	3.039***	3.028***	12.915***	12.912***	12.406***	12.447***
	(5.218)	(5.319)	(6.605)	(6.607)	(5.644)	(5.765)	(7.142)	(7.195)
R^2	0.003	0.004	0.170	0.172	0.003	0.005	0.184	0.187
avg # obs/quarter	1785.769	1785.769	1428.580	1428.580	1730.644	1730.644	1398.710	1398.710
# quarters	104	104	100	100	104	104	100	100

Table AI. Alternative measures of performance of "best idea" trades. Columns correspond to portfolios of stocks bought, sold, and a spread portfolio long in stocks bought and short in stocks sold by at least three same-company funds. Portfolios are held for three months following the quarter in which funds trade. Portfolios are equally-weighted (top panel), value-weighted (middle panel), and count-weighted (bottom panel), where count-based weights are proportional to the number of management companies that trade a given stock in multiple portfolios. In each panel, performance measures are alphas (expressed in percentage points) from the conditional CAPM and the conditional version of Carhart (1997), in which betas depend on the variables proposed in Ferson and Schadt (1996), a five-factor model that adds the Pastor and Stambaugh (2003) liquidity factor to the four factors from Carhart (1997), and a six-factor model that adds a short-term reversal factor and the idiosyncratic-risk factor (IVOL) of Ang et al (2006) to the four factors from Carhart (1997). T-statistics are computed using the Newey-West weighting scheme and are reported in parentheses. ***, **, and * denote that an estimate is significant at the 1%, 5%, and 10% level, respectively.

	Buys	Sells	Buys-Sells
	Equal-weighted portfolios		
Conditional CAPM α	0.148	-0.153	0.301***
	(1.470)	(-1.368)	(3.621)
Conditional Carhart α	0.115*	-0.077	0.192***
	(1.664)	(-0.936)	(2.580)
Carhart + liquidity α	0.197***	-0.042	0.239***
	(2.658)	(-0.490)	(3.228)
Carhart + reversal + IVOL α	0.179**	-0.072	0.251***
	(2.324)	(-0.904)	(3.671)
	Value-weighted portfolios		
Conditional CAPM α	0.091	-0.093	0.185**
	(1.271)	(-1.378)	(2.347)
Conditional Carhart α	0.100*	-0.039	0.139**
	(1.778)	(-0.740)	(2.170)
Carhart + liquidity α	0.124*	-0.032	0.156**
	(1.909)	(-0.582)	(2.091)
Carhart + reversal + IVOL α	0.173**	-0.022	0.195**
	(2.670)	(-0.395)	(2.562)
	Count-weighted portfolios		
Conditional CAPM	0.108	-0.210**	0.317***
	(1.289)	(-2.085)	(3.735)
Conditional Carhart α	0.096	-0.084	0.180**
	(1.444)	(-1.052)	(2.377)
Carhart + liquidity α	0.183***	-0.054	0.237***
	(2.632)	(-0.634)	(3.148)
Carhart + reversal + IVOL α	0.180***	-0.077	0.257***
	(2.589)	(-0.979)	(3.690)

Figure 1. Long-term performance of stocks at least three same-company funds trade. At the end of the quarter in which management companies report their holdings, stocks bought or sold by at least three same-company funds are identified. Equal-, value-, and count-weighted portfolios long in stocks bought and short in stocks sold are formed in the quarter after the report is released (2, 3, ..., 5 quarters after the report) and are held for three months. Figure 1 presents three- and four-factor monthly alphas of these portfolios, as a function of the delay between the quarter in which funds trade and portfolio formation. Dash-dotted lines represent 95% confidence bounds; standard errors are computed using the Newey-West weighting scheme. A dotted line denoting zero alpha is superimposed on the graphs.