TAXI!
Do Mutual Funds Pursue and Exploit Information on Local Companies?

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Abstract:

We use New York City taxi trips to identify mutual fund managers who directly gather information from local firms. Only those funds in NYC that visit local companies via taxi overweight local firms in their portfolios, and firm visits are associated with superior investment performance. Local firm visits are elevated prior to earnings announcements, and mutual fund trades following firm visits predict subsequent earnings surprises. The results are generally stronger when fund managers and firm executives share educational connections. These patterns support a conclusion that funds' local bias and investing performance are related to their efforts and ability to actively gather information.

Keywords: Local Bias, Information advantage, Mutual funds, Taxi Trips

JEL Classifications: G11, G14, G23

1. Introduction

Well-connected people don't deserve any greater chance for success [in markets] than the average citizen. Nor do the friends and relatives of those well-placed people, who may reap unfair profits because they happen to know the news before it breaks.

Arthur Levitt (SEC Chairman)
February 27, 1998[1]

How material information flows through capital markets is of paramount importance to both market participants and regulators. The acquisition and exploitation of private information have been a concern in U.S. capital markets since the early days of Wall Street, and in more recent decades, regulators have increased their efforts to eliminate the selective disclosure of material non-public information (e.g., Regulation Fair Disclosure). The value of this regulatory agenda is supported by numerous empirical studies showing that limits on the ability of market participants to exploit and profit from material non-public information encourage broader market participation, improves market quality, and positively impacts capital formation (Fishman and Hagerty, 1992; Khanna, Slezak, and Bradley, 1994; Bhattacharya and Daouk, 2002). However, convictions for illegal insider trading continue to occur and a substantial body of empirical research suggests that private information is transferred between corporate insiders, sell-side analysts, investment banks, and investors.[2] In addition, as recently as 2009, 97% of public-firm CEOs reported meeting privately with investors (Thomson Reuters, 2009), a practice that is potentially concerning in this context.

This study addresses the transmission of information between parties located in the same geographic area. Existing studies show that investors – both institutional and individual –

[1] *A Question of Integrity: Promoting Investor Confidence by Fighting Insider Trading*, speech given on February 27, 1998, former SEC Chairman Arthur Levitt.
[2] Coval and Moskowitz, 2001; Irvine, Lipson, and Puckett, 2007; Ivashina and Sun, 2011; Solomon and Soltes, 2015, among others.

overweight local firms in their portfolios (Coval and Moskovitz, 1999; Ivkovic and Weisbenner, 2005). More importantly, some studies find that trades in local firms earn abnormal returns, suggesting local investors possess private information about these companies.[3] On the one hand, it is possible that information transfer occurs directly between investors and local firms/executives. Investors talk to local firm employees, obtain private information, and trade in a way to exploit their information advantage. On the other hand, local investors might just be more attuned to a local company's information environment.[4] Even investors who carefully guard against trading on private information may still deduce better estimates about the distribution of future returns of local companies by merely observing the prevailing winds around them. One shortcoming of our current understanding is that existing literature provides little, if any, evidence of direct information transfers between local investors and firms.

This study advances our understanding by directly analyzing the channel of information flow between local mutual fund managers and the firms that operate nearby. If fund managers collect private information, it is perhaps less likely that they use electronic communications (such as phone or email) as these records can be pivotal in insider trading litigation,[5] and more likely that they rely on in-person meetings. We therefore evaluate these questions using a novel measure to identify direct information gathering: taxi trips between mutual funds and public companies' headquarters in New York City. Using these data, we find considerable evidence that mutual fund

[3] For evidence on institutional investors, see Coval and Moskovitz (1999, 2001), Baik, Kang, and Kim (2010), Pool, Stoffman and Yonker (2012), Bernile, Kumar, and Sulaeman (2015), and Kang, Stice‐Lawrence, and Wong (2021). For individual investors, see Ivkovic and Weisbenner (2005).

[4] Regulation Fair Disclosure prohibits selective disclosure of material information by corporate insiders, but investors could create a mosaic of material yet nonpublic information by interacting with local company constituents, such as body languages, shifts in emphasis in describing the business strategy, or speech tones (Solomon and Soltes, 2015).

[5] It appears, however, that those engaging in illegal insider trading are not always so discrete. One interesting example is the case of Sean Stewart, a JP Morgan healthcare banker who would email his father about upcoming mergers in the healthcare industry. But the fact that they used 'golf-related code' to communicate about the pending deals suggests that the riskiness of these electronic communications was not lost on the pair (See the SEC complaint in the matter, 2015).

managers actively pursue and exploit information on local companies. The frequency of taxi trips between NYC mutual funds and local firms in their portfolios is significantly related to both the degree of overinvestment in these firms and the returns funds earn on these positions.

Our identification strategy relies on data obtained from the NYC Taxi and Limousine Commission (TLC) containing records for every taxi ride that occurs in NYC from January, 2009 to June, 2016. The data provide precise latitude and longitudes associated with both the pick-up and drop-off locations, the time of service, the distance of the trip, and the associated fare. From more than 1.3 billion taxi rides in the database, we identify 506,298 trips that occurred between 266 mutual fund offices and 244 public firm headquarters in NYC.[6] A taxi trip from June of 2009 demonstrates the patterns we are able to uncover using this data. In this particular example, a single passenger was picked up by a yellow taxi at 8:11 pm on June 27, 2009. The recorded latitude and longitudes indicate that the pickup location is 27 meters from the office of a lower-midtown mutual fund. Ten minutes later, the trip ended 25 meters from a public company's midtown Manhattan headquarters. The trip covered 1.31 miles, the fare was $6.5, and the passenger left a $2 tip. A few days after the trip, the fund purchased 71,000 of this company's shares for an average price of $31.79 per share. The company then announced its earnings on July 16, 2009, and the stock price increased to $36.98, a 16.33% increase relative to the price paid by the fund.

We begin our empirical investigation by testing whether NYC-based mutual funds overweight local firms in their portfolios (Coval and Moskowitz, 1999). On average, we find little evidence of systematic local bias during our sample period. NYC-headquartered firms account for

[6] Although one may be concerned about the use of taxi trips to measure local information gathering, we submit that it is a reasonable proxy for this type of activity, particularly in NYC. People working in NYC routinely use taxis to get around the city, and it is likely that fund managers or firm employees would feel comfortable using taxis to travel between their locations since this activity is commonplace and largely anonymous. In addition, other recent research has provided evidence that NYC taxi rides can be similarly used to identify meetings between New York Federal Reserve employees and NYC bankers (Bradley et al., 2020).

8.37% of the portfolios of NYC-based mutual funds, compared to 8.20% for non-local funds. Although there is some variation both across time and types of funds (e.g., fund size, # of holdings, and fund age), the most interesting variation that we observe is associated with our taxi trip identification. NYC mutual funds that are associated with above-median taxi trips to firms in their portfolio (*frequent taxi visitors*) invest 2.84% more of their portfolios in NYC firms than an indexed market portfolio. Considering that mutual funds outside of New York City invest an average of 8.20% of assets under management in NYC-based stocks, 2.84% represents a 35% increase for frequent taxi visitors. Alternatively, NYC mutual funds with a below-median number of taxi visits (*infrequent taxi visitors*) underweight NYC firms by 2.19% when compared to an indexed market portfolio. The local bias among *frequent taxi visit* funds is more evident for smaller funds (3.21%), less diversified funds (5.95%), and younger funds (3.18%). Our results for smaller and less diversified funds are consistent with agreements by Coval and Moskowitz (2001), that these more "agile" funds are likely better at monitoring and exploiting local information.

We recognize that our measure of aggregate fund-level taxi visits is likely noisy and does not cover all possible channels of information gathering. For example, although fund managers may visit NYC firms via taxi, there are also other ways of doing so. In addition, because we do not know passengers' identities, trips between fund and firm locations may not actually carry individuals associated with these organizations. To help address this issue, we extend our investigation along multiple dimensions. First, we investigate the size of funds' positions in the specific NYC firms that fund managers appear to visit. If taxi trips identify information gathering, trip frequency should be related to the magnitude of a fund manager's holdings in the visited firms. In support of our identification strategy, portfolio managers overweight NYC firms that they appear to visit twice as much as those NYC firms that they do not visit by taxi. In addition, fund managers exhibit relatively more local bias in companies they appear to have visited multiple times.

In our second line of investigation, we test whether fund managers extract value-relevant information by visiting local companies. Compared to other mutual fund trades, NYC funds earn an abnormal return of 17 basis points per quarter (0.69% per year) from their NYC-firm trades. Further test indicates that the superior performance on NYC-firm trades is concentrated in NYC funds that frequently visit local firms. These funds earn quarterly abnormal returns of 21 basis points (0.84% per year), but infrequent visitors earn no abnormal returns on their NYC-firm trades. To address the concern that aggregate fund-level taxi visits might be correlated with other unobservable forms of investment skill, we contrast the performance of NYC funds' NYC-firm trades to that of their non-NYC-based trades. The NYC holdings of frequent firm visitors outperform the non-NYC holdings of those same funds. Consistent with our earlier analyses, we find no evidence of outperformance by infrequent taxi visitors.

To further investigate this relation, our identification uses specific taxi trips between a fund and a particular firm within a quarter. In a quarter where a taxi trip occurs between a mutual fund and a firm in its portfolio, the fund manager's trade in that firm is more profitable than other trades. In addition, fund manager trades that meet this criteria (trades in the same quarter as a taxi visit) predict subsequent-quarter earnings surprises in that firm – whereas trades in other firms do not.[7]

While our tests to this point paint a picture of direct information gathering by mutual funds, we attempt to sharpen the signal-to-noise ratio in our identification strategy in two ways. First, we

[7]As explained in Section 2, we exclude NYC mutual funds that report a subadvisory arrangement so that we are confident that the fund managers making portfolio decisions work at the NYC addresses associated with the funds. As expected, when we add subadvised fund back into the sample, we find consistent but muted results across all of our main tests.

control for aggregate levels of taxi traffic that occur around firms and mutual funds. We find evidence that taxi trips between funds and firm in their portfolio are associated with abnomrally profitable trades in areas of high traffic (high centrality) and low traffic (low centrality). Second, we interact our taxi measure with a well-known measure of fund-firm connections, shared educational backgrounds (Cohen, Frazzini, and Malloy, 2008). Taxi rides between funds and firm locations are more likely to involve the two assumed parties when the fund and firm managers share another observable social connection such as having attended the same college. We find that the local investing bias is much stronger for those NYC funds that both have more school connections with local executives and that frequently visit those firms by taxi (the holdings bias is 3.40% for this group vs. -2.27% for funds with fewer school connections and infrequent taxi visits). Further, the trades of fund managers that are both connected via school ties and visit local firms exhibit abnormal returns that are approximately four times as large as the abnormal returns documented for taxi trips alone.[8]

The final way that we sharpen our analyses and inference is by evaluating granular daily trading data for a subset of NYC mutual funds. Change in quarterly holdings is an inherently noisy way to evaluate the outcome of information gathering efforts. While daily portfolio holdings and actual trades are not available for all funds in our sample, we obtain trading activity for a subsample of 14 NYC funds from Abel Noser. We find that over the two weeks following a taxi visit, fund managers are more than twice as likely to trade the visited firm's stock when compared to other periods. In addition, their post-visit trades are highly profitable. For example, when also

[8] In these tests, "fund trades" refer to changes in quarterly fund holdings. In subsequent tests, we examine a subset of actual daily fund trades.

conditioning on proximity to earnings announcements, buy trades executed in the 10 or 20 tradings days following a taxi visit earn a significant 10-day abnormal return ranging from 1.77% to 3.45%.

Identifying the mechanisms that drive local investors' returns is inherently difficult. Locations (of investors and firms) can be endogenous, and evidence of a local information advantage may be largely circumstantial.[9] In addition, several recent studies question the finding of superior returns by local investors (Seasholes and Zhu, 2010), or suggest that local institutional investors' and analysts' historical advantage has largely disappeared (Bernile et al., 2019). We contribute to this dialogue by directly identifying travel between mutual funds and local firms. Our results weigh in favor of an information-driven explanation for local bias and investment performance in a recent time period, and suggest that fund managers actively - and successfully - seek out this advantage. Moreover, it appears that only fund managers who actively pursue an advantage possess and trade on superior information about local firms, which helps explain cross-sectional variation in local bias among local investors (Coval and Moskowitz, 2001).

Our approach is unique from prior work on public corporate events, such as conferences and analyst/investor days (Bushee, Jung, and Miller, 2017; Green et al., 2014 a, b; Kirk and Markov, 2016). Although those events may allow investors access to corporate insiders, they typically occur publicly and are scheduled in advance. Non-participants could know of their occurrence, and their more official nature makes it less likely that private information is shared. In contrast, the firm visits we identify are far more frequent and likely informal and unreported, and may thus facilitate the transfer of private information. Our approach is also different from Bushee,

[9] A notable effort to solve the endogeneity of investor/firm relations is Ellis, Madureira, and Underwood (2019), who use the introduction of direct flights between investors' locals and corporate headquarters to provide causal evidence that investors benefit from access to managers. However, they demonstrate that ease of access to management can facilitate information gathering on far-away companies.

Gerakos, and Lee (2018), who use corporate jet flight logs to identify disclosed but private roadshows. They find that these meetings are associated with both positive abnormal stock returns and abnormally high levels of trading by investors in the cities visited. In contrast, we provide evidence of contact between specific investors and firms, and relate these interactions to the funds' holdings, trades, and returns. Furthermore, we find that among local investors, the local investing bias and advantage is concentrated among those that actively seek information.

Others researchers provide evidence that investors gather information at undisclosed meetings with corporate insiders. Bradley, Jame, and Williams (2021) show that institutional investors benefit from undisclosed non-deal roadshows hosted by brokerage firms. Solomon and Soltes (2015) analyze investors' private meetings with senior management at one particular NYSE firm and find that they offer access to valuable information. Finally, Chen et al. (2020) find that site visits by Chinese mutual funds are associated with both fund trading activities and performance. Our study is consistent with these existing studies, but our investigation and results are unique across a number of dimensions. Compared to Bradley, Jame, and Williams (2021) , we uncover evidence of local interactions that are both more informal and frequent – and likely subject to less oversight by regulators or corporate officials – and show how these interactions relate to mutual funds' demand for local stocks. Compared to Solomon and Soltes (2015), our study covers a large sample of firms and provides a more granular analysis of trading by some local investors.[10] In addition, we are able to exploit the timing of the taxi trips and its relationship with important corporate events.

[10] Our study differs from Chen et al. (2020) across a number of important dimensions including the regulatory environment, location of investors versus firms, and timing of firm visits. According to "Guidelines of Investor Relations management" issued by Shenzhen Stock Exchange, the site visit date is negotiated between the visitors and the firm. Hence, listed firms in China usually do not allow the visit during a blackout or sensitive period.

2. Data

The data used in this paper are drawn from numerous public sources. The stock data is obtained from CRSP and data on firm characteristics and historical firm headquarter locations are from Compustat. We obtain analysts' earnings forecasts from I/B/E/S. Multiple sources are used to compile the data on mutual funds and we describe below the nuances of constructing the mutual fund and taxi visit datasets.

2.1. Mutual Funds

Our analyses require several databases containing mutual fund information. We use the Thompson Reuters Mutual Fund Holdings database to identify the stock holdings of U.S. mutual funds. We merge this database with the CRSP survivor-bias-free U.S. Mutual Funds database to obtain information on funds' total net assets, Lipper fund classification code, management company address, and other fund attributes.[11] Because our focus is on actively-managed domestic equity funds, we only include funds with the following Lipper fund classification codes: large-cap core, large-cap growth, large-cap value, mid-cap core, mid-cap growth, mid-cap value, multi-cap core, multi-cap growth, multi-cap value, small-cap core, small-cap growth, small-cap value, and equity income. Following Pool, Stoffman, and Yonker (2015), we exclude funds with fewer than 20 holdings or more than 500 holdings (that are likely to be index funds). In addition, we exclude funds with total net assets (TNA) less than $5 million and funds with an average investment in equities less than 80% of TNA. Finally, we eliminate funds with missing management addresses in CRSP.

In each quarter, we define a fund as a NYC fund if its management company is located in New York City. Because complete NYC taxi records are available from January 2009 to June 2016,

[11] We use MFLinks to merge the holdings data with CRSP mutual fund database.

we limit our mutual fund sample to this period. Our sample of mutual funds includes 346 NYC funds and 1,683 non-NYC funds. Out of our initial sample of 346 NYC mutual funds, we exclude 80 funds that outsource part or all of the portfolio management function to a sub-advisor. Sub-advisory agreements are identified from N-SAR filings, and the proportion of sub-advised funds that we find is comparable to Chen et al. (2013). After excluding these funds, our final sample consists of 266 NYC mutual funds.

-----Insert Table 1-----

Table 1 compares characteristics of NYC mutual funds to non-NYC funds. While the average size of NYC funds is smaller than that of non-NYC funds - $1,018 million and $1,720 million, respectively; the difference is not statistically significant. The larger size for non-NYC funds reflects the presence of a few very large funds located outside of NYC. Other characteristics such as the number of holdings and number of NYC-firm holdings are similar across the two groups. Both NYC funds and non-NYC funds hold around 90 stocks in their portfolios, of which six are headquartered in NYC.

2.2.Taxi Trips

The NYC Taxi and Limousine Commission (TLC) released information relating to more than 1.3 billion taxi trips occurring from January 2009 onward, initially in response to a 2014 Freedom of Information Act (FOIA) request. The TLC data contains information for three types of vehicles: medallion (yellow) taxi, street hail livery (green) taxi, and for-hire vehicles (FHVs) such as Uber and Lyft. The records contain precise GPS coordinates for pick-up and drop-off locations, pick-up and drop-off times, trip distance, the number of passengers, fare, and tip amount.[12]

We only use yellow taxi records for our analysis because yellow taxis are licensed to pick up passengers anywhere in NYC. We exclude green taxis because they are only allowed to respond to street hails and calls in Manhattan north of East 96th Street and West 110th Street and in the outer boroughs (Bronx, Brooklyn, Queens, and the Staten Island). Figure 1 shows the locations of all NYC funds and NYC-headquartered public firms held by at least one equity fund. Almost all of them are clustered in midtown and downtown Manhattan, an area where green taxis are not allowed to operate. In addition, we exclude FHV rides (e.g., Uber and Lyft) because they do not report detailed trip records to TLC. Excluding FHV rides during our sample period is not likely to affect inference since they represent a relatively small fraction of rides during the 2009-2016 period. Schneider (2018) estimates that in Manhattan as of June 2016, taxis accounted for at least three times as many pickups as Ubers.

----- Insert Figure 1 -----

We use pick-up and drop-off coordinates to identify trips that were likely to occur between fund managers and local companies. We draw from the work of Bradley et al. (2020), who use taxi records to identify interactions between insiders at the Federal Reserve Bank of New York and insiders of major commercial banks. According to their study, taxi GPS coordinates are accurate to between 10 and 100 feet. Consequently, we require the pick-up or drop-off coordinates to be within 30 meters (approximately 100 feet) of a mutual fund management office or a firm headquarters to meet our identification criteria. The resulting sample includes 506,298 taxi trips

[12] Starting in July 2016, TLC provides only the pick-up and drop-off zone IDs instead of GPS coordinates.

between 244 unique NYC-headquartered firms and 266 unique NYC mutual funds. On average, a trip covers a distance of 1.32 miles and carries 1.69 passengers.

Figure 2 further summarizes taxi activity between mutual funds and publicly traded firms by the hour of the day and the day of the week. Panel A shows that there are fewer trips in the early morning, and that trip volume peaks in the evening between 5 pm and 7 pm. The hourly distribution of trips reveals an interesting pattern: approximately 60% of trips take place outside of office hours (either before 9 am or after 5 pm), suggesting that information-gathering may be common outside of normal business hours. Panel B separates trips by the day of the week. There are generally more trips during weekdays (Monday through Friday) than weekends (Saturday and Sunday).

----- Insert Figure 2 -----

We aggregate the number of trips between each mutual fund and NYC-headquartered firms and report summary information in Table 1.[13] Table 1 shows that in each quarter, a NYC fund takes an average of 167 taxi trips to public firms located in NYC, and that 13 of these trips involve firms in the fund's portfolio. We conjecture that taxi trips to firms that are in the fund's portfolio are more likely to reflect information gathering efforts. On average, a NYC fund visits 55% of its NYC holdings each quarter by taxi.

3. Empirical Tests

3.1. Local Mutual Fund Investing Bias in NYC

We begin our empirical analysis by evaluating whether NYC mutual funds exhibit a pattern of local investing bias. Several prior studies show that mutual funds overweight their holdings of

[13] We treat multiple taxi rides between a mutual fund and a firm on the same day as a single taxi visit.

local stocks (Coval and Moskowitz, 1999). Both NYC and non-NYC funds invest, on average, in six NYC-headquartered firms. The portfolio weight of these positions is 8.37% in NYC funds and only 8.20% in non-NYC funds (*t-statistic* for the difference = 1.62). Although these unconditional averages are not statistically different from one another, we uncover two interesting nuances in the time series and cross-section of firms. First, as presented in Figure 3, we show that the difference in NYC-firm portfolio weights between NYC funds and non-NYC funds appears to converge over time, consistent with findings by Bernile et al. (2019). Second, when we exclude either very large firms or financial firms, the difference in portfolio weights between NYC funds and non-NYC funds becomes both economically meaningful and statistically significant. For example, when we exclude firms in the S&P 100, the portfolio weight of other NYC firms is 4.01% for NYC funds and 3.44% for non-NYC funds (difference=0.57%; t-statistic for the difference = 7.45).

----- Insert Figure 3 -----

-----Insert Table 2-----

We are also interested in whether overinvestment in NYC firms varies in the cross section of mutual funds. Prior literature shows that more agile funds – small, undiversified, and older funds – invest more heavily in local stocks, and argue that these types of funds might be better able to monitor local information and pursue related trading strategies (Coval and Moskowitz, 2001). Accordingly, each quarter we sort funds by fund size, number of holdings, and fund age based on the sample median, and calculate the cross-sectional average of NYC- headquartered stock portfolio weights in each group. Table 2 reports the average weighting of NYC firm holdings by funds sorted into two groups along these dimensions.

The portfolio weights on NYC firms are more pronounced for small-sized NYC funds, funds that are undiversified, and young funds. For example, the overweighting bias (portfolio weight in NYC funds minus non-NYC funds) is 0.58% for small NYC funds, while large NYC funds actually underinvest by 0.25%. The results are consistent when we sort by the number of holdings. Undiversified NYC funds, i.e., those with a below median number of portfolio holdings, invest 0.73% more than non-NYC funds in the same group, while diversified NYC funds have the same level of NYC firm holdings as diversified non-NYC funds. Finally, NYC funds in the below-median age group overinvest 0.86% relative to non-NYC funds. The difference is statistically significant at the 1% level.

3.2. NYC Bias and Information Gathering

In this section, we investigate the relationship between local information gathering and fund investment.

3.2.1. NYC Bias and Local Firm Visits

If firm visits facilitate information gathering, one might expect funds that appear to visit local companies more often to have portfolios tilted more toward local companies. We test this premise by dividing NYC funds into "frequent" and "infrequent" firm visitors based on the median number of quarterly taxi trips between funds and the NYC-headquartered firms in their portfolios.[14]

For each fund, we construct a measure of local bias (*NYC Bias*) as:

$$NYC\ Bias_{i,t} = [\textstyle\sum_{k \in K} w_{i,t}^{k}] - w_{M,t} \quad , \qquad (1)$$

Where *i* and *t* denote the NYC fund and quarter, respectively. $w_{i,t}^{k}$ is the portfolio weight of NYC-headquartered stock *k* in fund *i* at quarter *t*. *K* is the set of stocks headquartered in NYC that are

[14] The average numbers of quarterly taxi trips for NYC funds in "frequent" and "infrequent" firm visitors are 23 and 3, respectively.

held by at least one mutual fund, and $w_{M,t}$ represents the portfolio weight of all NYC-headquartered firms in the market portfolio. Intuitively, our measure of *NYC bias* indicates the difference between a NYC fund's NYC ownership and the index weight of NYC firms in the market portfolio.

----- Insert Table 3 -----

Table 3 presents the average NYC bias for the "frequent" and "infrequent" visitors. The NYC bias is 2.84% (t-statistic=17.65) for the frequent visitors versus -2.19% (t-statistic=-17.24) for infrequent visitors, and the difference is statistically significant at the 1% level. Considering that the average non-NYC fund invests 8.20% of TNA in NYC-headquartered firms during our sample period, a NYC bias value of 2.84% represents an overinvestment of approximately 35% for frequent taxi visitors compared to their non-NYC peers.

Based on our discussion of "agile" funds in Table 2, we further partition NYC funds by size, level of diversification, and age, using sample median breakpoints. The NYC bias is larger for "frequent" visitors when compared to "infrequent" visitors across every subgroup. For example, in the small funds subgroup, the NYC bias is 3.21% (t-statistic=10.99) for frequent visitors versus -2.46% (t-statistic=-14.12) for infrequent visitors. We also find that across frequent visitor groups, the NYC bias is greater for smaller funds and less diversified funds relative to larger and more diversified funds. Frequent visitor funds that are undiversified exhibit a greater NYC bias than diversified frequent visitors (5.95% vs. 0.85%), and the difference of 5.10% is significant at the 1% level.[15]

Overall, Table 3 provides evidence that NYC fund managers that visit local firms exhibit greater overinvestment in NYC firms, and that this bias is stronger for small and undiversified funds. This is consistent with Coval and Moskowitz (2001), who argue that small and undiversified funds are more likely to actively engage in local investment and, therefore, have a better chance to obtain information via personal interactions. While both old and young frequent-visitor funds exhibit positive and significant local (NYC) bias (2.48% and 3.18%, respectively), this bias is slightly larger (0.70%) for younger funds. Interestingly, our results on fund age provide different inference than those in Coval and Moskowitz (2001).

3.2.2. NYC Bias and Frequency of Taxi Trips

The positive relation that we present between our measure of aggregate fund-level local information gathering and fund-level local investing bias is consistent with the proposition that taxi rides provide a channel through which valuable information on local companies is transferred. However, if funds gather firm-specific information through firm visits, we expect to find a direct relation between the intensity with which a fund visits a firm and their bias toward holding that company's stock.

To test this proposition, we compare NYC funds' investment bias in the local firms that they visit to the level of bias in the local firms they do not visit. In particular, for each NYC fund and quarter, we partition NYC-headquartered firms into a "taxi trip" portfolio and a "no trip"

[15]We repeat the analysis in Table 3 after excluding financial firms. Results are similar and consistent with those reported, although the magnitudes of the differences in NYC bias are generally smaller. For example, the difference in NYC Bias between Frequent and Infrequent visitors is 2.82% (t-stat=16.31).

portfolio, based on whether or not the fund appears to visit the firm in that quarter. To calculate the NYC bias among firms in these portfolios, we follow the methodology in Table 3 and only include NYC-headquartered firms in each portfolio. The results are presented in Table 4. For all NYC funds, the average NYC bias in companies they visit is 0.65%, while the bias for companies that they do not visit is just 0.27%. The difference of 0.38% is significant at the 1% level.[16]

----- Insert Table 4 -----

We showed in Table 3 that certain types of funds – small, undiversified, and young funds – exhibit larger local bias, and that bias is more acute for funds that are associated with greater aggregate taxi activity. In this section, we continue this line of investigation by examining whether taxi trip frequency and investment bias are more strongly associated in these more agile funds. The overinvestment bias associated with firms where a taxi trip occurs is generally stronger for small funds and undiversified funds. For example, Table 4 shows that the difference in NYC bias between taxi trip sample and no trip sample is 1.15% and 1.55% for small funds and undiversified funds, respectively. The difference is much smaller and less statistically significant for large funds and diversified funds. Among the taxi trip sample, the overinvestment bias in small funds is 1.36%, which is almost twice as large as the bias in large funds (0.71%). Undiversified funds show a much larger overinvestment bias than diversified funds (2.18% vs. -0.14%).[17]

To summarize, we find that the more taxi trips NYC funds take to NYC-headquartered firms, the greater the overinvestment bias they exhibit. Our results are consistent with the

[16]We repeat the analyses in Tables 3 and 4 using the average portfolio weight in NYC firms across a fund's Lipper Peer Group as a benchmark (instead of the market portfolio) and find similar and consistent results.

[17]We further subdivide "Taxi Trip" holdings into those where the fund visits a firm more than one time in a quarter, and those where the fund visits the firm only once in a quarter. We find that the bias associated with "multiple trips" is economically and statistically larger the bias associated with "single trips": 0.15% (t-statistic=1.81). This difference is particularly acute for smaller funds: 0.33% (t-stat=2.83), and undiversified funds: 0.53% (t-statistic=4.37).

conclusion that information gathering through firm visits plays a role in NYC funds' local investment decisions. Furthermore, funds that might benefit more from an information advantage in local firms – small and undiversified funds – appear to be the most active gatherers of information on local companies, and to invest more heavily in the firms they target.

3.3. Information Gathering and Returns on Trades

Thus far, we have shown that there is a larger local bias among NYC mutual funds that use taxis to visit companies' headquarters. Next, we investigate whether funds appear to exploit information gathered from local companies by examining the returns to NYC funds' trades.

3.3.1. Firm Visits and Returns on NYC Positions

The objective of our analyses is to investigate whether NYC mutual funds use taxi trips to exploit an information advantage and earn abnormal returns on their local (NYC) firm trades. Consistent with our analyses of holding bias, we identify information gathering in two ways: i) we identify funds that are more likely to take taxi trips to firms in their portfolios, and ii) we identify fund-firm pairs where a taxi trip occurred during the quarter.

We begin with our fund-level identification strategy. Our analyses broadly follow the methodology used in Kumar, Mullally, Ray, and Tang (2020). Specifically, we run the following regression:

$$\begin{aligned} DGTW\_RET_{i,t+1} = {} & \alpha + \beta_1 NYC\ Fund_{i,j,t} * NYC\ Firm_{i,t} * \Delta Ownership_{i,j,t} + \beta_2 NYC\ Fund_{i,j,t} \\ & + \beta_3 NYC\ Firm_{i,t} + \beta_4 \Delta Ownership_{i,j,t} + \beta_5 NYC\ Fund_{i,j,t} * NYC\ Firm_{i,t} \\ & + \beta_6 NYC\ Fund_{i,j,t} * \Delta Ownership_{i,j,t} + \beta_7 NYC\ Firm_{i,t} * \Delta Ownership_{i,j,t} + \varepsilon_{i,j,t} \end{aligned} \tag{2}$$

Where i, j, and t indicate the firm, mutual fund, and quarter (time), respectively. The dependent variable is the DGTW-abnormal return during the quarter following portfolio disclosure. [18]

[18] Please see Daniel et al. (1997) and Wermers (2003) for further details about DGTW adjustment.

Independent variables of interest include *NYC Fund*, that equals one if the mutual fund is located in New York City; *NYC Firm*, that equals one if the firm is headquartered in New York City; and Δ*Ownership*, which is the number of shares purchased or sold by mutual fund j over quarter t in firm i, divided by the fund j's total net assets in quarter t-1 (expressed as a percent). We also include stock and year-quarter Fixed Effects in different regression specifications and cluster all standard errors by stock and quarter.

We pool all mutual fund trades during our sample period – from both NYC funds and funds located outside NYC. Our primary coefficient of interest is β_1: the coefficient on the triple interaction term *NYC Fund*NYC Firm *ΔOwnership*. The coefficient provides the marginal effect for a "local" trade by a NYC mutual fund in a NYC firm.

----- Insert Table 5 -----

Regression specifications (1) and (2) in Panel A of Table 5 provide evidence that the coefficient on β_1 is both statistically and economically significant. In the first regression specification, the coefficient is 0.205 (t-statistic=2.47), indicating that a NYC fund that purchases a local NYC stock with 1% of its portfolio is associated with subsequent-quarter abnormal returns of 0.205%. We do not report other coefficient estimates in the table in order to limit the size of the quantity of coefficients reported. In the second regression specification (2), we include both stock and year-quarter fixed effects and find relatively little change in our coefficient of interest. The finding is consistent with Baik, Kang, and Kim (2010), who show that local trades are associated with future abnormal returns; however, this finding – by itself – does not contribute to our understanding of the channel that drives the relationship between local trading and subsequent abnormal returns.

In order to answer the questions most pertinent to our study, we decompose the *NYC Fund* variable into *Frequent Visitor* and *Infrequent Visitor*. *Frequent Visitor* (*Infrequent Visitor*) equals one for a NYC Fund that has an above-median (below median) number of taxi visits to firms in its portfolio during a particular quarter. As such, *Frequent Visitor* identifies NYC funds that we believe are actively gathering information on local firms through personal contact. We re-run our regression model with triple interaction terms involving both *Frequent Visitor* (*Frequent Visitor *NYC Firm *ΔOwnership)* and *Infrequent Visitor (Infrequent Visitor *NYC Firm *ΔOwnership).* If taxi trips provide a channel through which NYC mutual fund managers gather value-relevant information about firms in their portfolios, we should expect the triple interaction term involving *Frequent Visitor* is dominant.

This is exactly what we find, in regression specifications (3) and (4) we find that the triple interaction term with Frequent Visitor is economically large and statistically significant. For example, in specification (3), the coefficient is 0.2699 (t-statistic=2.75). Alternatively, the triple interaction term with *Infrequent Visitor* is both economically small and statistically insignificant: 0.0431; *t-statistic*=0.23. Overall, our results suggest that the local information advantage is ONLY evident for mutual fund managers who consistently take taxi cabs to firms in their portfolio. There is no evidence of a local information advantage for firms do not take regular taxi visits to firms in their portfolios.

The implications of our findings are profound – local portfolio managers trading the stock of local firms appear to have no information advantage unless they actively pursue information in person. The remainder of our analyses flesh out this core result.

One potential objection to our analyses is that NYC-headquartered firms are quite different from other firms. By pooling trades in both NYC-firms and non-NYC firms, we potentially confound inference. While stock fixed effects and the triple interaction term in our regression specification go a long way in addressing this type of bias, we nevertheless re-run our regression specification with only NYC firms and present results in Panel B of Table 5. Because all firms are NYC firms, we no longer need the dummy variable *NYC firm*. Our interaction variable of interest is now $NYC\ Fund * \Delta Ownership$. Consistent with results in Panel A, we find a positive and significant coefficient on the interaction term of interest; 0.1607; t-statistic=2.12. Furthermore, we also continue to find that when our *NYC Fund* dummy variable is decomposed in to *Frequent Visitor* and *Infrequent Visitor*, the interaction variable $Frequent\ Visitor * \Delta Ownership$ has a coefficient estimate of 0.2192 (t-statistic=2.62). Alternatively, the interaction term $Infrequent\ Visitor * \Delta Ownership$ has a coefficient estimate of 0.0042 (t-statistic=0.02).

Our results suggest that fund managers gain a unique advantage as investors in local firms by gathering valuable information directly from them. However, another alternate possibility is that fund managers that take time to visit local companies have higher levels of overall investing skill. In addition, because our analysis is based on funds in NYC, these taxi-trotting fund managers may just be more adept at gathering and interpreting information available in this major financial center – which should be relevant to the pricing of public companies more generally.[19]

Our analysis in Panel C of Table 5 addresses this last concern. Specifically, we now run an identical regression to that in Panel B, but include only non-NYC firm. If *NYC Funds* (or *Frequent Visitor* NYC Funds) have more general investment skill than other funds, then we should expect

[19] Christoffersen and Sarkissian (2010) find that funds in financial centers perform better than other funds and argue that there are information spillovers and opportunities to learn in larger urban areas.

$\Delta Ownership$, and for non-NYC firms, we find that the coefficient on this interaction term is now negative and statistically insignificant (-0.0443; t-statistic=-1.02). Furthermore, we also find that when our *NYC Fund* dummy variable is decomposed in to *Frequent Visitor* and *Infrequent Visitor*, both interaction terms are negative, and neither is statistically significant. For example, the interaction variable *Frequent Visitor** $\Delta Ownership$ has a coefficient estimate of -0.0506 (t-statistic=-0.90).

3.3.2. Firm Visits and Returns on Trades

While characterizing each NYC fund according to its proclivity to physically visit firms in its portfolio is a valid way to identify information gathering, it is also possible that such identification is correlated with other unobservable fund-level characteristics that drive our result. In order to break this possible omitted variable bias, we identify actual holdings in the portfolio where a NYC fund manager made a taxi visit. In this setting, our identification of information acquisition is now at the fund-firm level (rather than the fund level).

Since we can only identify taxi visits to firms in NYC (and are not able to observe a taxi visit between mutual fund in Omaha, Nebraska and a firm in the same city), we restrict our analyses to NYC firms in this setting. Specifically, we pool all trades in NYC firms by both NYC mutual funds and non-NYC mutual funds. We then run the following regression:

$$\begin{aligned} DGTW\_RET_{i,t+1} = \alpha + \beta_1 TaxiTrip_{i,j,t} * \Delta Ownership_{i,j,t} + \beta_2 TaxiTrip_{i,j,t} \\ + \beta_3 \Delta Ownership_{i,j,t} + \varepsilon_{i,j,t} \end{aligned} \quad (3)$$

Where i, j, and t denote the firm, mutual fund, and quarter (time), respectively. The dependent variable is the DGTW-abnormal return during the quarter following portfolio disclosure for the mutual fund. Independent variables of interest include *Taxi Trip*, which is an indicator variable that equals one if mutual fund j takes a taxi trip to firm i in quarter t, and *ΔOwnership*, as defined in equation 2. We also include Stock and Quarter Fixed Effects in different regression specifications and cluster all standard errors by stock and quarter.

Our primary coefficient of interest is β_1: the coefficient on the interaction term *Taxi Trip* ΔOwnership*. The coefficient provides the marginal effect of a "local" trade in a NYC firm that the fund visited in quarter t.

----- Insert Table 6 -----

The coefficient of interest is positive and statistically significant in the regression specification (1): 0.2954; t-statistic=2.68; and in regression specification (2) that contains both stock and year-quarter fixed effects: 0.2423; t-statistic=2.23. To the extent that our fund-firm measure contributes to a more precise identification of information gathering, we should expect the strength of our coefficient to increase. This is exactly what we find. Comparing our results with those presented in Panel B of Table 5 (which also only investigates NYC firms), our coefficient of interest increases by approximately 50%.

In contrast, changes in ownership by NYC funds that do not visit the firm by taxi do not forecast future stock returns. The coefficient on the interaction term *No Taxi Trip*ΔOwnership* is negative and statistically indistinguishable from zero in all regression specifications. Thus, funds that do not actively seek out information do not appear to enjoy the same trading advantage.

One potential concern with fund-firm identification is that taxi rides might not actually be between a mutual fund office and a firm in their portfolio. One alternate explanation is that some funds and/or firms are located in very central locations – such that there is a plethora of taxi trips that originate and/or end at their local. Perhaps centrally located managers are just more "plugged in" to the pulse of business in the city, and taxi visits are merely an identifying marker of such centrality.

While we submit that our fund-firm identification addresses this concern – abnormal returns following trades are only present for firms that the NYC fund actually visits, not for all NYC firms. Nevertheless, we engage in an experiment to try and rule out this possibility. Specifically, we gather taxi trip data for the radius greater than 30 meters, but less than 50 meters from either a mutual fund office or a NYC firm headquarter – we call these pseudo trips. We then count the number of pseudo trips between all NYC fund-firm pairs and divide each fund-firm pair into a high-centrality or low-centrality category based on whether it has above- or below-median number of pseudo trips. We then separately run our regression from Table 6 for the high centrality group and the low-centrality group. For the specification that includes stock and year-quarter fixed effects, the coefficient on the interaction term *Taxi Trip*ΔOwnership* is 0.1909 (t-statistic=1.76) for the high-centrality subsample, and is 0.4134 (t-statistic=1.78) for the low-centrality group. Statistical significance in both groups is reduced due to a reduction in the power of our tests, however, both interaction terms remain statistically significant at the 10% level. Strikingly, the coefficient in the low-centrality subsample is more than twice as large as that in the high-centrality subsample. This is the opposite of what one should expect if taxi-trips are proxying for funds that are more centrally located and plugged in to local economies. Our results are much more consistent with the interpretation that the taxi trips that we do identify for low-centrality fund-firm pairs are more precisely identifying an actual taxi trip between a mutual fund manager and a NYC firm (and information is transferred during this meeting).

3.4. Firm Visits and Earnings Surprises

Our previous analyses provide evidence that fund managers that visit local firms i) overweight those firms in their portfolios, and ii) trade in a manner that forecasts local firms' abnormal returns. While one might reasonably conclude based on this evidence that NYC funds gain an informational advantage by visiting local firm headquarters, in this section we provide additional evidence that fund managers are able to gain information about firm profitability through these interactions. To do this, we investigate whether fund managers' trades forecast earnings surprises. Consistent with prior literature (e.g., Yan and Zhang, 2009; Baker et al., 2010), we focus on earnings announcements because they represent an important and salient signal of firm performance.

3.4.1. Timing of Firm Visits Around Earnings Announcements

We begin by investigating the timing of taxi trips to local firms during the eight weeks surrounding earnings announcements. Specifically, we estimate the following regression:

$$Taxi\ Trips_{i,t} = \alpha + \sum_{-4}^{4} \beta_t\ Week_t + \gamma\ Controls_i + Year + Quarter\ FE + Firm\ FE + \epsilon_{i,t}\ . \quad (2)$$

The dependent variable, $Taxi\ Trips_{i,t}$, is the natural logarithm of the total number of taxi trips that firm *i* receives from all NYC mutual funds in week *t*. Our independent variables of interest are week dummy variables that extend from four weeks prior to an earnings announcement day to four weeks following the earnings announcement day.[20] The regression includes a number of control variables following Bushee, Gerakos, and Lee (2018), such as firm size (*Log MVE*), book-to-market ratio (*BM Ratio*), sales growth (*Sales Growth*), leverage ratio (*Leverage*), earnings per

[20] We use 5th week prior to the announcement date as the benchmark.

share scaled by price (*EP Ratio*), change in net income (△*Earn*), and the number of analysts following a company (*Log # Analyst*). We also include both quarter and firm fixed effects.

----- Insert Figure 4 -----

Figure 4 plots the coefficients on the *Week* dummy variables from this regression. There is a fairly sharp increase in taxi trips between NYC funds and firms starting two weeks before firms' earnings announcements, and this activity declines significantly in the third week following announcements. These results are consistent with a rise in information gathering efforts when information asymmetry (and therefore the expected benefit of information) is likely to be highest.

3.4.2. Fund-Firm Visits and Earnings Surprises

Given the elevated firm visits in the weeks preceding earnings announcements, we investigate whether changes in mutual funds' holdings predict subsequent earnings surprises. To do so, we run regressions identical to those presented in Table 5, Panel B and Table 6 – except that the dependent variable is now the cumulative abnormal return during the [-1, +1] day period around the first earnings announcement following holdings disclosure by a mutual fund.

---- -Insert Table 7 -----

In the first two specifications, our variable of interest is the interaction term *NYC Fund*Δ Ownership.* Consistent with results presented in Table 5, the coefficient is positive and statistically significant: 0.0696 (t-statistic=1.96). Further, predictability is only evident in *Frequent Visitor* NYC funds. The coefficient estimate on *Frequent Visitor*ΔOwnership* is 0.0925 (t-statistic=2.34), whereas the coefficient estimate on *Infrequent Visitor*ΔOwnership* is -0.0064 (t-statistic=-0.09). Finally, when we use fund-firm identification of taxi trips during the quarter prior to earnings announcements (as in specifications 5 and 6), the coefficient of interest on T*axi Trip*ΔOwnership* is 0.1033 (t-statistic=2.07). There is no evidence that trades of NYC mutual funds that do not take taxi trips to a firm are able to trade in a manner consistent with subsequent earnings surprises.

Overall, our evidence indicates that taxi trips provide fund managers with an information advantage concerning subsequent earnings announcements. Furthermore, about half of the subsequent-quarter abnormal performance associated with a "taxi-trip" trade is accounted for by abnormal returns surrounding the earnings announcement. As such, it appears unlikely that microstructure effects or other trading frictions are able to explain our abnormal return results.

3.5. School Ties

While we believe that taxi visits are a reasonable way to identify information flow between mutual fund managers and corporate executives, as discussed earlier, we also acknowledge that our measure is inherently noisy because we do not have information about the passengers in the taxis. Although this type of noise should bias against finding results of abnormal holdings and informed trades, we nevertheless attempt to refine our identification scheme to strengthen the signal-to-noise ratio. If a more focused identification scheme yields consistent or stronger results, this will lend confidence to our interpretation of the overall results.

We conjecture that taxi rides between fund and firm locations are more likely to identify actual visits between mutual fund managers and corporate insiders if persons at these organizations have pre-existing social relationships. We proxy for pre-existing social relationships by identifying instances where fund managers and corporate executives have shared educational backgrounds as in Cohen et al. (2008). We collect biographical information for NYC mutual fund managers from Morningstar, which provides managers' educational backgrounds and start and end dates with their funds, and link it to background data on board members (executives or non-executive directors) from Boardex. Of the 266 NYC mutual funds in our sample, we obtain educational background information for the managers of 73 NYC funds from January 2009 to June 2016. Over the same period, we identify educational backgrounds for board members at 239 NYC-headquartered firms. We classify NYC fund-firm pairs as having a 'School Connection' if a fund manager and a board member of the firm attended the same undergraduate or graduate school.[21]

We begin this analysis by investigating whether the strength of funds' overall connections to NYC firms are related to the size of their NYC holdings. For each fund-quarter, we calculate the total number of NYC fund-NYC firm pairs that have a School Connection and divide funds into two groups by whether they are above the sample median (*Many School Connections*) or below the sample median (*Few School Connections*) of this measure. We then calculate the NYC bias for each group using the methodology employed in Table 3. Our results, presented in Panel A of Table 8, show that the NYC bias is 2.34% (t-statistic=12.61) for funds in the *Many School Connections* group and -1.01% (t-statistic=-6.54) for funds in the *Few School Connections* group. The difference (3.36%, t-statistic=13.88) suggests that mutual fund managers in New York City hold larger positions in local firms when they have more social connections to those firms.

----- Insert Table 8 -----

In Table 3, we find the local bias is entirely contained in the subsample of funds that also take frequent taxi rides to NYC-headquartered firms. Next we examine whether the relationship between NYC bias and school connections is related to the frequency of the taxi rides. In each quarter, we further subdivide the fund groups above by how frequently they appear to visit NYC

[21] For team-managed funds, we define a school connection if at least one manager and a board member is connected.

firms.[22] NYC bias for fund managers with *Many School Connections* is significantly larger for the *Frequent Visitor* group (3.40%), when compared to the *Infrequent Visitor* group (0.82%).

More important than the level of portfolio holdings is whether information is transferred between portfolio managers and executives. To investigate the profitability of trade, we restrict our sample to both funds and firms where we have both school affiliation and taxi trip data: NYC fund trades that occur in NYC firms. This restriction greatly reduces the sample of trades that we consider (10,976 observations), and also the power of our tests.

We repeat our analyses from Table 6 (specifications 1 and 2), however, in this analysis, we also introduce the variable School Tie, which equals 1 if a fund manager and firm executive went to the same school. Our regression specification becomes:

$$\begin{aligned} DGTW\_RET_{i,t+1} = \alpha &+ \beta_1 TaxiTrip_{i,j,t} * SchoolTie_{i,j,t} * \Delta Ownership_{i,j,t} + \beta_2 TaxiTrip_{i,j,t} \\ &+ \beta_3 SchoolTie_{i,j,t} + \beta_4 \Delta Ownership_{i,j,t} + \beta_5 TaxiTrip_{i,j,t} * SchoolTie_{i,j,t} \\ &+ \beta_6 TaxiTrip_{i,j,t} * \Delta Ownership_{i,j,t} + \beta_7 SchoolTie_{i,j,t} * \Delta Ownership_{i,j,t} + \varepsilon_{i,j,t} \end{aligned} \quad (5)$$

Consistent with prior analyses, our variable of interest is the triple interaction term *TaxiTrip*SchoolTie*ΔOwnership*. In Table 8, Panel B, we find that the coefficient of interest is 1.0645 (t-statistic=1.95). The magnitude of the coefficient suggests that a 1% (of a mutual fund's portfolio) change in ownership is associated with a 1.06% abnormal return over the subsequent quarter when two conditions are met: i) the portfolio manager and company executive went to the same school, and ii) there is an observed taxi trip between the portfolio manager and company executive in the quarter.

[22] Frequent and infrequent taxi visits are classified the same as in Table 3, which is based on sample median.

For completeness, we repeat our analyses after replacing the dependent variable with the CAR [-1, +1] surrounding the subsequent-quarter earnings surprise. In specification (4), that includes both stock and year-quarter fixed effects, the coefficient on the triple interaction term is 0.0901, and is approximately the same magnitude as the coefficient reported in Table 7. However, the t-statistic is only 0.36. Taken together with the abundance of evidence that we have presented so far, it is likely that the lack of power in our tests results in Type 1 error.

3.6. Abel Noser Tests

Our ability thus far to associate mutual fund manager actions with firm visits is limited by data availability, though inference is strengthened by the results found when also accounting for fund/firm social connections. To refine identification further, we obtain granular trade-level data for a subset of NYC mutual funds from Abel Noser for the period from January, 2009 to November, 2011.[23] Using the matching algorithm proposed by Agarwal, Tang, and Yang (2012), we are able to successfully match 14 NYC mutual funds from the Abel Noser trading data to the S12 mutual funds holdings data.[24] The funds we identify are responsible for 4,086 trades (2,703 buys and 1,383 sells) on 79 NYC-headquartered public firms during this time period.[25]

If taxi visits facilitate the transfer of information, one should expect that fund managers are more likely to trade following these interactions. We thus begin this analysis by investigating whether NYC mutual funds are more likely to trade during a short window of time following a taxi ride between the fund and a NYC-headquartered firm. We construct a calendar-week time

[23] The Abel Noser data has been widely used in academic studies of institutional trading (see, for example, Puckett and Yan, 2011; Hu et al., 2018).

[24] Agarwal, Tang, and Yang (2012) provide a data appendix that details the matching algorithm. This algorithm has been used by other papers such as Busse et al. (2021). Cohen, Lou, and Malloy (2016) also match Abel Noser trading data to mutual fund holdings data (S12) using their own methodology.

[25] We aggregate all transactions by a fund for a particular stock during a trading day and term the daily observation a trade.

series of shares traded for each NYC fund-NYC firm pair. For each fund-firm week, we define a trade dummy that equals 1 if the fund trades the stock and 0 otherwise. The independent variable of interest is *Post Taxi,* which equals one if there was a taxi trip between the fund and the firm during the previous two weeks (t-2 to t-1). We also include *Pre Ann,* an indicator variable that equals one if an earnings announcement falls in the two weeks following a potential trade week (t+1 to t+2), and the interaction between *Post Taxi* and *Pre Ann*. The first three columns of Table 9 present linear probability regressions that include several other firm level controls (each is defined in the variable appendix), as well as firm and year-quarter fixed effects. In each of these regressions, the slope coefficient on *Post Taxi* is around 1.6 and the t-statistic is over 4.0, indicating that the odds of trading is about 1.6 percentage points higher in the two weeks following a taxi visit. Compared to the unconditional probability in our data of trading a particular NYC firm during a week of 1.44%, this indicates that NYC mutual fund managers are more than twice as likely to trade a stock in the two weeks after visiting the firm. Columns 4-6 present OLS regressions where the dependent variable is the natural logarithm of one plus the number of shares traded by a mutual fund.[26] Across all regressions the coefficient on *Post Taxi* is large and highly statistically significant.

----- Insert Table 9 -----

As a robustness check, we create a pseudo taxi visit sample by randomly assigning fund-firm taxi trips to a fund that does not actually visit the firm. Using these pseudo visits, we re-estimate Panel A of Table 9. We replicate this procedure 500 times and report the average

[26] In untabulated results, we implement negative binomial regressions with the same control variables and fixed effects to account for the large number of zeros in the dependent variable and find consistent results.

coefficient of the *Post Taxi* dummy for the pseudo taxi visit sample in Appendix B. The results show no change in the probability of trade following pseudo taxi visits.

Our final set of analyses investigates the profitability of these trades. We measure the performance of each trade using the buy and hold abnormal return over the 10 trading days following a trade. Abnormal returns are computed by subtracting the DGTW benchmark return as in Table 7 and 8. Unconditionally, we find the performance of buy trades exceeds the performance of sell trades by 0.56% (t-statistic=3.00). Conditioning on trades in the 10 or 20 trading days following a taxi visit, buy trades are more profitable just prior to earnings announcements. The 10-day abnormal return following buy trades ranges from 3.20% to 3.45% (t-statistic>5) if they occur in the 10 days preceding an earnings announcement. If we extend the window to include trades in the 20 days preceding an earnings announcement, the magnitude is slightly muted, but still economically significant. Overall, the results paint a consistent picture. Buy trades that follow a taxi visit and occur in the month before an earnings announcement are highly profitable. Other buy trades following Taxi visits do not appear to contain much information.

4. Conclusion

In this study we focus on an important yet unexplored information-gathering activity, visits to local public firm headquarters, to investigate whether and how institutional investors obtain information about local companies. We use taxi trips in New York City that occur between mutual funds and corporate headquarters to proxy for the extent to which local investors intentionally collect information about local firms. On average mutual funds located in New York City overweight NYC-based stocks compared to their non-NYC peers, and we find that such local bias is driven by funds that frequently visit local firms, consistent with the hypothesis that fund managers obtain superior information by visiting local companies.

Next we turn to the value of information gathered through local firm visits by examining the performance of local trades of frequent firm visitors. We find that NYC funds that frequently visit local firms maintain larger positions in NYC firms, and that trades in those firms outperform those of both their NYC peers that do not frequently visit firms and those of peer funds located outside of New York City. In addition, when NYC funds visit local firms and purchase their stocks, these firms subsequently outperform with both abnormal stock returns and larger earning surprises.

The relations identified in this paper are generally stronger when NYC fund managers and corporate insiders at NYC-based firms share an educational background, further supporting the interpretation that visiting local firms facilitates the flow of valuable information. In addition, among funds where we can identify specific trades, there is a close relation between firm visits and trading, and trades in close proximity to firm visits better predict both future returns and earnings of the firm. Overall, these results suggest that fund managers' local advantage is driven by their intentional efforts to collect information about local companies.

We are left to question whether the evidence we uncover implicates trading on private information. The evidence presented in this paper is consistent with this interpretation, but we are cautious not to jump fully to that conclusion. We do not present conclusive evidence of meetings between fund managers and corporate executives or employees, nor the direct sharing of private information. But the evidence that NYC fund managers visit local corporate headquarters is strong, as is the evidence those that do so appear to benefit. It is possible that these visits merely reflect fund managers' searches for relevant but nonstandard public information, and that they benefit from this practice, but the collection and exploitation of private information seem likely.

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Figure 1 - Locations of NYC Institutions

Panel A and B map the unique locations of NYC equity mutual funds and NYC public firm headquarters during the sample period from 2009 to 2016.

Panel A: NYC Mutual Funds

Panel B: NYC Public Firm Headquarters

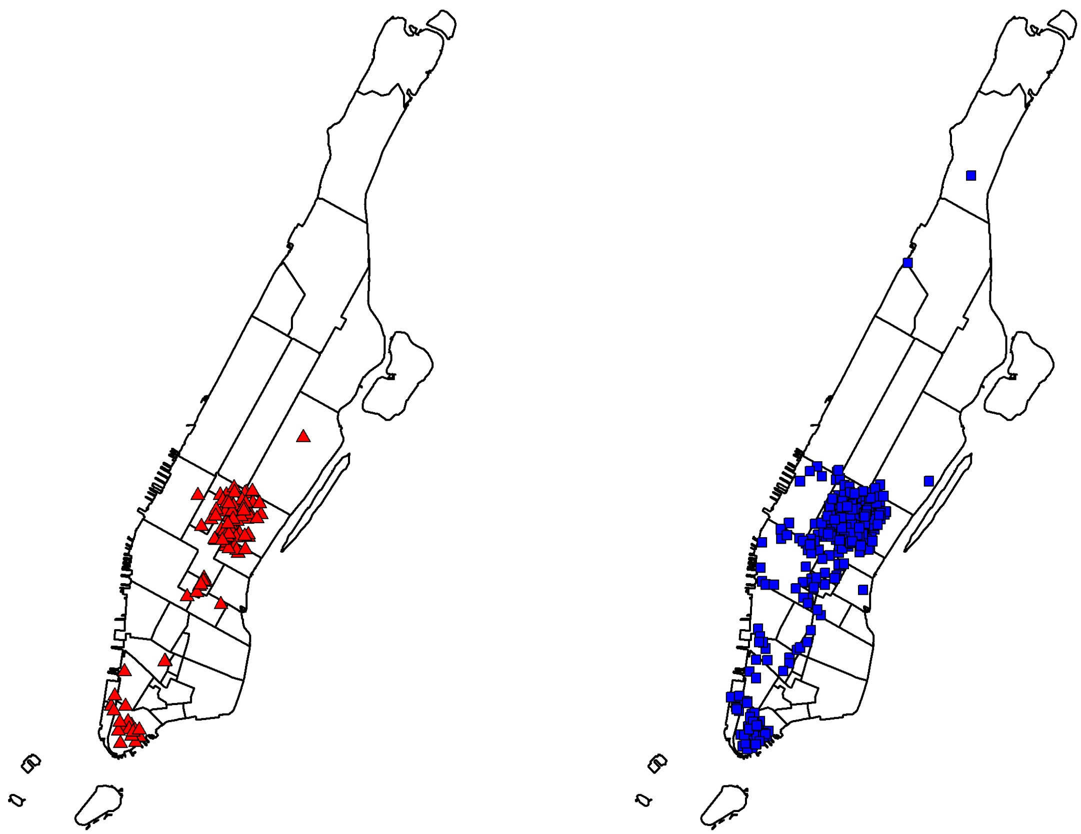
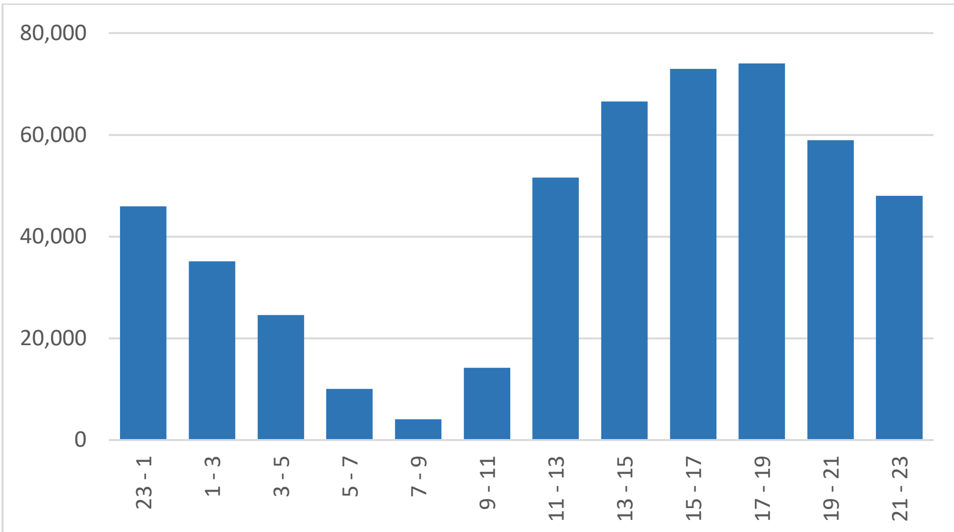


Figure 2 - Distribution of Taxi Trips

The taxi trip sample is obtained from the NYC Taxi and Limousine Commission (TLC) for taxi trips that occur between January 1, 2009 and June 30, 2016. We identify taxi trips where the pick-up (drop-off) coordinates are within 30 meters or 100 feet of a mutual fund management office and drop-off (pick-up) coordinates are within 30 meters of a firm's headquarters. We count multiple trips between a fund and firm within the same day as a single taxi ride. Panel A shows the distribution of taxi trips between NYC mutual funds and public firms across different hours of the day. Panel B shows the distribution of the frequency of taxi trips over the days of the week.

Panel A: Taxi Trips by Hour



Panel B: Taxi Trips by Weekday

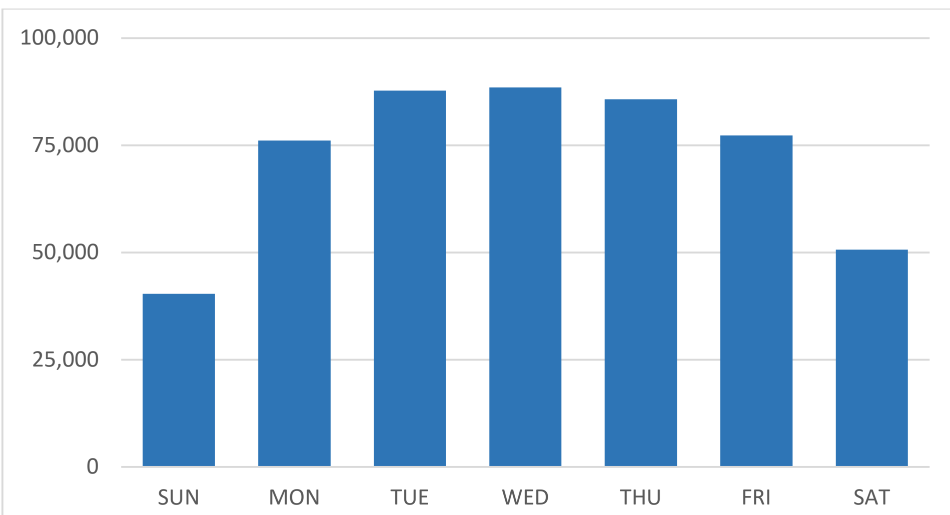


Figure 3 – Time Series of NYC firm ownership

This figure reports the average portfolio weight of NYC-headquartered firms for two groups of mutual funds - NYC funds (NYC Funds %) and Non-NYC funds (Non-NYC Funds %). Average portfolio weights are calculated each quarter and the time series of quarterly averages is presented for the period from 2000 to 2017.

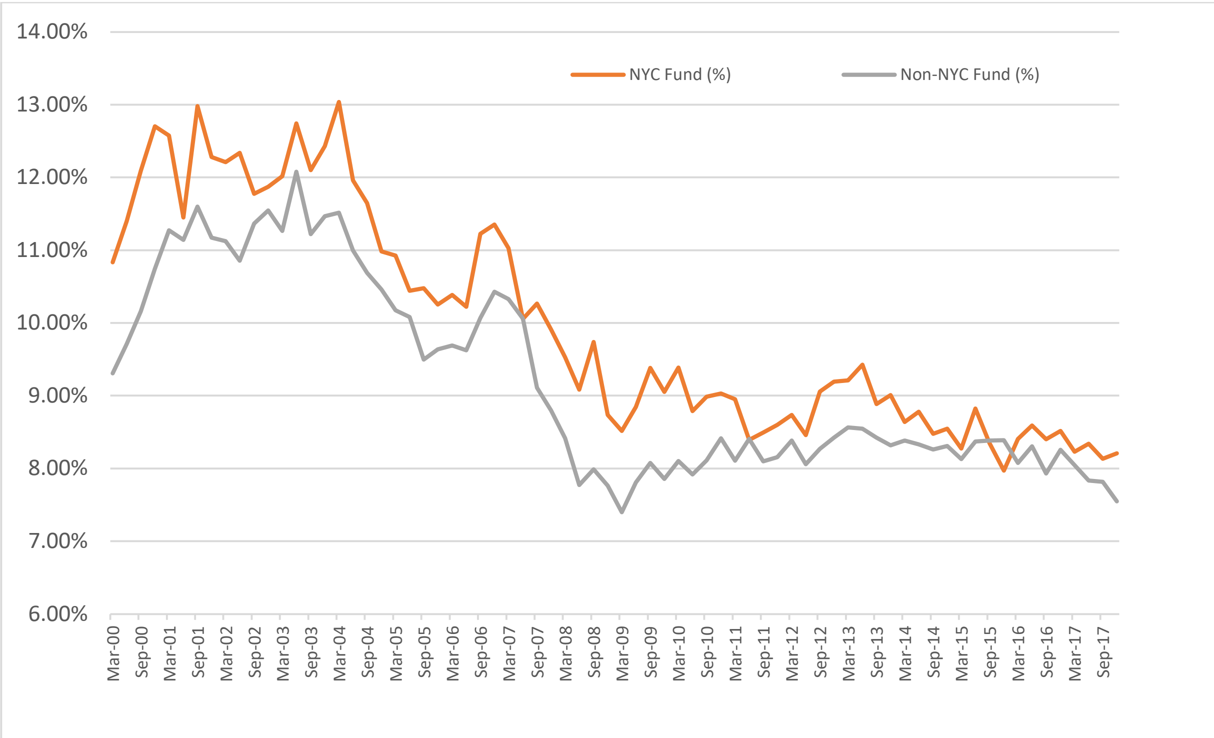


Figure 4 – Timing of Taxi Trips around Earnings Announcements

This chart shows the abnormal taxi trips that a firm receives each week around earnings announcement date. We estimate the following equation:

$$Taxi\ Trips_{i,t} = \alpha + \sum_{-4}^{4} \beta_t\ Week_t + \gamma\ Controls_i + Year - Quarter\ FE + Firm\ FE + \epsilon_{i,t}$$

The dependent variable is Log (1 + number of taxi trips that firm *i* receives from all NYC mutual funds in week *t*). We plot the coefficients of the time windows starting from the 4th week prior to earnings announcement date to the 4th week after earnings announcement date. Week -5 is used as the benchmark. Week 0 denotes the announcement day. We control for firm size (*Log MVE*), book-to-market ratio (*BM Ratio*), sales growth (*Sales Growth*), leverage ratio (*Leverage*), earnings per share scaled by price (*EP Ratio*), the change in net income (*△Earn*), analyst following (*Log # Analyst*). All control variables are lagged by one quarter. Standard errors are clustered by quarter. The dashed line plots the 95% confidence interval.

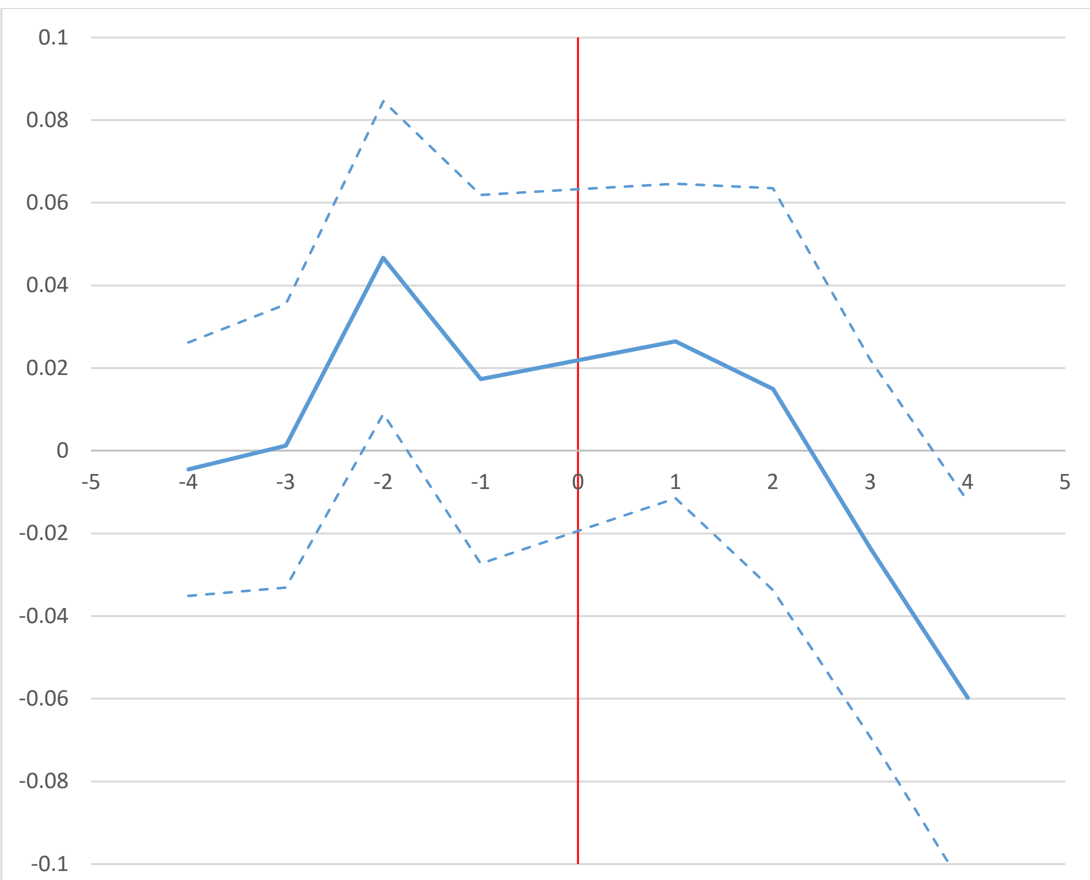


Table 1 – Descriptive Statistics

This table presents the summary statistics separately for mutual funds based in New York City (NYC funds) and those not based in NYC (Non-NYC funds). We identify 266 NYC funds and 1,683 Non-NYC funds during the period January 2009 to June 2016. For each fund group, we report the average total asset under management ($ million), number of holdings, number of holdings in firms with NYC headquarters, and fund age. Averages are calculated across all fund-quarter observations. For fund holding measures, we consider only common stock holdings (sharecode=10 or 11) and report the average change in ownership (scaled by its total net assets in the previous quarter), and the quarterly DGTW-abnormal monthly return across all mutual fund holdings. For NYC funds, we also present the number of taxi rides where the pick-up location is within 30 meters of the mutual fund's office and drop-off location is within 30 meters of a NYC-firm headquarters (or vice-versa). We present the average number of trips per quarter for all NYC mutual funds in our sample to i) a NYC-firm held in the mutual fund's portfolio, and ii) any NYC firm. We further divide taxi-trips to NYC firms in the mutual fund's portfolio into high- and low-centrality groups. Centrality is defined by calculating the number of taxi rides where the pick-up and drop-off locations are beyond 30 meters but less than 50 meters from fund offices and firm headquarters. We divide all possible NYC fund-firm pairs in a quarter into high- and low-centrality groups based on the median number of 30-to-50 meters trips.

	Mean	Median	Std. Dev	P25	P75
NYC Funds (266 Funds)					
Asset Under Management ($ million)	1,018.89	395.40	1,672.95	126.10	1,198.88
Number of Holdings	91.57	75	69.52	49	105
Number of NYC-firm holdings	6.13	5	4.60	3	9
Age (years)	19.90	16.30	14.19	11.42	22.50
ΔOwnership (%, scaled by TNA)	-0.08	0.00	0.62	-0.14	0.04
Quarterly DGTW (%)	0.14	0.102	12.74	-7.08	7.38
Taxi Trips to NYC firms (per qtr.)	167.21	109	166.65	41	238
Taxi Trips to NYC firms in port. (per qtr.)	12.81	7	17.46	3	15
High-centrality taxi trips (per qtr.)	11.00	5	16.46	1	13
Low-centrality taxi trips (per qtr.)	1.81	1	4.08	0	2
Non-NYC Funds (1,683 Funds)					
Asset Under Management ($ million)	1,720.88	287.15	6,784.55	80.80	1,117.68
Number of Holdings	90.39	65	78.90	44	101
Number of NYC-firm holdings	6.12	4	5.78	2	8
Age (years)	17.71	14.30	13.71	9.42	20.89
ΔOwnership (%, scaled by TNA)	-0.08	0.00	0.68	-0.11	0.03
Quarterly DGTW (%)	0.16	0.12	12.32	-6.80	7.16

Table 2 – Ownership of NYC-headquartered firms

This table reports ownership of NYC-headquartered firms for two groups of mutual funds – NYC funds and Non-NYC funds. The sample consists of 266 NYC funds and 1,683 Non-NYC funds from January, 2009 to June, 2016. We consider only common stock holdings (sharecode=10 or 11) and calculate the portfolio weight in NYC firms for each mutual fund in each quarter. We report the time series mean of quarterly cross-sectional averages for each group of funds, and also present the difference between the two (NYC minus Non-NYC %) and associated t-statistics. We report identical statistics for funds divided each quarter into two groups by the sample median based on fund size, number of holdings, and fund age. T-statistics are constructed using the time series of quarterly cross-sectional averages. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	NYC Funds (%)	Non-NYC Funds (%)	NYC minus Non-NYC (%)	t-statistics
All NYC Funds				
Full sample	8.37	8.20	0.17	1.62
Exclude S&P 100	4.01	3.44	0.57***	7.45
Exclude Financials	4.85	4.20	0.66***	7.59
Fund Size				
Small Funds	8.15	7.57	0.58***	3.50
Large Funds	8.58	8.83	-0.25**	-2.42
# Fund Holdings				
Undiversified Funds	9.50	8.77	0.73***	5.01
Diversified Funds	7.57	7.57	0.01	0.04
Fund Age				
Old Funds	8.05	8.36	-0.31***	-2.67
Young Funds	8.88	8.02	0.86***	5.74

Table 3 – NYC (local) firm Bias and Taxi Visits: Fund-Level

This table shows the average NYC Bias across two categories of NYC funds – "Frequent Visitors" and "Infrequent Visitors". The sample consists of 266 NYC funds from January, 2009 to June, 2016. Each quarter we separate NYC funds into Frequent (Infrequent) visitors if the number of taxi visits to NYC-headquartered firms that appear in their portfolio is above (below) the median across all NYC funds. We consider only common stock holdings (sharecode=10 or 11). NYC bias is calculated for each mutual fund as the portfolio weight of all NYC-headquartered firms in its portfolio minus the portfolio weight of all NYC-headquartered firms in the market portfolio (using market capitalization). We also calculate NYC Bias for Frequent and Infrequent Visitor funds after divide funds by size, number of holdings, and fund age based on the sample median in each quarter. T-statistics are constructed using the time series of quarterly cross-sectional averages. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Frequent Visitor	Infrequent Visitor	Frequent minus Infrequent
All NYC Funds			
NYC Bias	2.84***	-2.19***	5.03***
	(17.65)	(-17.24)	(24.54)
Fund Size			
Small Funds	3.21***	-2.46***	5.67***
	(10.99)	(-14.12)	(16.66)
Large Funds	2.56***	-1.89***	4.45***
	(26.09)	(-13.13)	(25.54)
Small minus Large	0.65**	-0.57**	1.22***
	(2.11)	(-2.51)	(3.19)
# Fund Holdings			
Undiversified Funds	5.95***	-1.68***	7.63***
	(19.69)	(-10.88)	(22.49)
Diversified Funds	0.85***	-3.00***	3.85***
	(5.36)	(-26.38)	(19.76)
Undiv. minus Div.	5.10***	1.32***	3.78***
	(14.96)	(6.87)	(9.66)
Fund Age			
Old Funds	2.48***	-1.90***	4.38***
	(11.73)	(-14.70)	(17.66)
Young Funds	3.18***	-2.50***	5.68***
	(16.54)	(-15.20)	(22.45)
Old minus Young	-0.70**	0.61***	-1.31***
	(-2.44)	(2.90)	(-3.69)

Table 4 – NYC (local) firm Bias and Taxi Visits: Fund-to-Firm Identification

This table reports the average NYC Bias for NYC mutual funds across two groups of NYC-headquartered firms in their portfolio – those that the fund visits (*Taxi Trip*) and those that the fund does not visit (*No Trip*). The sample consists of 266 NYC funds from January, 2009 to June, 2016. For each fund quarter, we separate each mutual funds' NYC-firm headquartered holdings into into "taxi trip" and "no trip" groups, based on whether there are any taxi trips between the fund and the firm during the quarter. NYC bias for each group is calculated by taking the portfolio weight of "taxi-trip" (or "no trip") firms minus the portfolio weight of those same firms in the market portfolio (based on market capitalization weightings). We also calculate NYC Bias for Taxi Trip and No Trip groups after dividing funds by size, number of holdings, and fund age based on the sample median in each quarter. T-statistics are constructed using the time series of quarterly cross-sectional averages. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Taxi Trip	No Trip	Trip – No Trip
All NYC Funds			
NYC Bias	0.65***	0.27***	0.38***
	(9.02)	(4.29)	(4.37)
Fund Size			
Small Funds	1.36***	0.21***	1.15***
	(12.33)	(3.20)	(11.30)
Large Funds	0.71***	0.43***	0.28*
	(10.85)	(4.59)	(2.00)
Small minus Large	0.65***	-0.22*	0.87***
	(5.10)	(-1.91)	(5.06)
# Fund Holdings			
Undiversified Funds	2.18***	0.62***	1.55***
	(22.37)	(7.16)	(11.74)
Diversified Funds	-0.14	0.00	-0.14
	(-1.43)	(0.05)	(-1.28)
Undiversified minus	2.31***	0.62***	1.69***
diversified	(16.98)	(5.84)	(9.87)
Fund Age			
Old Funds	0.71***	0.35***	0.36***
	(8.60)	(4.28)	(3.50)
Young Funds	1.35***	0.29***	1.06***
	(16.62)	(4.58)	(10.14)
Old minus Young	-0.65***	0.06	-0.70***
	(-5.61)	(0.54)	(-4.80)

Table 5 Performance of Holdings/Trades in NYC Firms

This table investigates the performance of NYC fund "trades." The dependent variable is the cumulative DGTW-adjusted monthly returns for stock *j* over the three-month period following holdings disclosure. $\Delta Ownership_{i,j,t}$ is the product of the change in shares in stock *j* by fund *i* from the previous quarter and the stock price at the end of quarter *t*, scaled by fund *i*'s total net assets in the previous quarter. *NYC Fund Dummy* equals one if a fund's managing office is located in New York City. *"Frequent" ("infrequent") Visitor* equals one if a NYC fund's number of taxi visits to NYC-headquartered firms that appear in their portfolio is above (below) the median during the quarter. We include fund, stock, and year-quarter fixed effects in columns 2 and 4. In Panel A, we include the full sample; Panel B and C include trades in NYC firms and non-NYC firms, respectively. For brevity, we only report the interaction terms of interest. t-statistics are constructed with standard errors clustered by fund and stock and appear in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: full sample

	(1) DGTW	(2) DGTW	(3) DGTW	(4) DGTW
NYC Fund*NYC Firm*ΔOwnership	0.2050**	0.1733**		
	(2.47)	(2.05)		
Freq*NYC Firm*ΔOwnership			0.2699***	0.2090**
			(2.75)	(2.15)
Infreq*NYC Firm*ΔOwnership			0.0431	0.0777
			(0.23)	(0.41)
Observations	3,205,735	3,205,642	3,205,735	3,205,642
Stock FE	No	Yes	No	Yes
Quarter FE	No	Yes	No	Yes
Adjusted R-squared	0.0001	0.0539	0.0001	0.0539

Panel B: NYC firms

	(1) DGTW	(2) DGTW	(3) DGTW	(4) DGTW
NYC Fund*ΔOwnership	0.1607**	0.1468*		
	(2.12)	(1.94)		
Freq*ΔOwnership			0.2192***	0.1841**
			(2.62)	(2.20)
Infreq*ΔOwnership			0.0042	0.0412
			(0.02)	(0.23)
Observations	216,037	216,031	216,037	216,031
Stock FE	No	Yes	No	Yes
Quarter FE	No	Yes	No	Yes
Adjusted R-squared	0.0001	0.0729	0.0001	0.0729

Panel C: Non-NYC firms

	(1) DGTW	(2) DGTW	(3) DGTW	(4) DGTW
NYC Fund*ΔOwnership	-0.0443	-0.0340		
	(-1.02)	(-0.78)		
Freq*ΔOwnership			-0.0506	-0.0331
			(-0.90)	(-0.58)
Infreq*ΔOwnership			-0.0389	-0.0423
			(-0.65)	(-0.70)
Observations	2,989,698	2,989,610	2,989,698	2,989,610
Stock FE	No	Yes	No	Yes
Quarter FE	No	Yes	No	Yes
Adjusted R-squared	0.0001	0.0538	0.0001	0.0538

Table 6 – Performance of NYC Firm Trades: Visit vs Novisit

This table examines the performance of trades in NYC firms for two categories of NYC funds – those that visit the firm (*Taxi Trip*) and those that does not visit (*No Taxi*). The dependent variable is the cumulative DGTW-adjusted monthly returns for stock *j* over the three-month period following holdings disclosure. $\Delta Ownership_{i,j,t}$ is the product of the change in shares in stock *j* by fund *i* from the previous quarter and the stock price at the end of quarter *t*, scaled by fund *i*'s total net assets in the previous quarter. *Taxi Trip* (*No Taxi*) dummy equals one if there are any (no) taxi trips between fund *i* and stock *j* in quarter *t*. We calculate the number of taxi rides where the pick-up and drop-off locations are beyond 30 meters but less than 50 meters from fund offices and firm headquarters, and divide all possible NYC fund-firm pairs into high- and low-centrality groups based on the median number of 30-to-50 meters trips in each quarter. We include fund, stock, and year-quarter fixed effects in columns 2, 4, and 6. t-statistics are constructed with standard errors clustered by fund and stock and appear in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1) Full Sample	(2) Full Sample	(3) High Centrality	(4) High Centrality	(5) Low Centrality	(6) Low Centrality
Taxi Trip*ΔOwnership	0.2954***	0.2423**	0.2595**	0.1909*	0.4146*	0.4134*
	(2.68)	(2.23)	(2.42)	(1.76)	(1.74)	(1.78)
No Taxi*ΔOwnership	-0.1289	-0.0558	0.0338	0.0365	-0.2183	-0.1068
	(-0.77)	(-0.36)	(0.16)	(0.18)	(-1.05)	(-0.57)
Observations	216,037	216,031	203,409	203,403	201,076	201,069
Stock FE	No	Yes	No	Yes	No	Yes
Quarter FE	No	Yes	No	Yes	No	Yes
Adjusted R-squared	0.0001	0.0729	0.0001	0.0729	0.0001	0.0718

Table 7 – Trade Imbalance, Taxi Visits and Earnings Surprises

This table presents three-day DGTW-adjusted earnings announcement returns following fund "trades" in NYC firms. The dependent variable is the DGTW-adjusted cumulative abnormal return (CAR) over the [-1, 1] window around the stock *j*'s earnings announcement over the three-month period following holdings disclosure. $\Delta Ownership_{i,j,t}$ is the product of the change in shares in stock *j* by fund *i* from the previous quarter and the stock price at the end of quarter *t*, scaled by fund *i*'s total net assets in the previous quarter. *NYC Fund* dummy equals one if a fund's managing office is located in New York City. *"Frequent" ("infrequent") Visitor* equals one if a NYC fund's number of taxi visits to NYC-headquartered firms that appear in their portfolio is above (below) the median during the quarter. *Taxi Trip* (*No Taxi*) dummy equals one if there are any (no) taxi trips between fund *i* and stock *j* in quarter *t*. We include fund, stock, and year-quarter fixed effects in columns 2, 4, and 6. For brevity, we only report the interaction terms of interest. t-statistics are constructed with standard errors clustered by fund and stock and appear in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
CAR [-1, 1]						
NYC Fund*ΔOwnership	0.0581	0.0696*				
	(1.53)	(1.96)				
Freq*ΔOwnership			0.0789*	0.0925**		
			(1.82)	(2.34)		
Infreq*ΔOwnership			-0.0055	-0.0064		
			(-0.08)	(-0.09)		
Taxi Trip*ΔOwnership					0.0937*	0.1033**
					(1.83)	(2.07)
No Taxi*ΔOwnership					-0.0181	-0.0041
					(-0.22)	(-0.05)
Observations	207,115	207,111	207,115	207,111	207,115	207,111
Stock FE	No	Yes	No	Yes	No	Yes
Quarter FE	No	Yes	No	Yes	No	Yes
Adjusted R-squared	0.0001	0.0766	0.0001	0.0766	0.0001	0.0766

Table 8 – School Ties and Taxi Trips

This table examines the association between school ties, taxi trips, NYC bias and trading informativeness. The sample includes NYC holdings of NYC funds. Panel A compares the NYC bias (calculated as in Table 4) for different categories of funds. A NYC fund and a NYC-headquartered firm is classified as connected if the fund manager and a board member of the firm (executives or non-executive) attended the same school. We classify funds by the sample median of the sum of school connections and taxi visits in each quarter. Panel B shows performance of fund "trades" conditional on school ties. The dependent variables in columns 1 and 2 are the cumulative DGTW-adjusted monthly returns for stock *j* during quarter *t*+1. The dependent variables in columns 3 and 4 are the DGTW-adjusted cumulative abnormal return (CAR) over the [-1, 1] window around the stock *j*'s earnings announcement during quarter *t*+1. $\Delta Ownership_{i,j,t}$ is the product of the change in shares in stock *j* by fund *i* from the previous quarter and the stock price at the end of quarter *t*, scaled by fund *i*'s total net assets in the previous quarter. We include fund, stock, and year-quarter fixed effects in columns 2 and 4. For brevity, we only report the interaction terms of interest. t-statistics are constructed with standard errors clustered by fund and stock and appear in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: NYC Bias and School Connections

	Many School Connections	Few School Connections	Many minus Few
All Funds	2.34***	-1.01***	3.36***
	(12.61)	(-6.54)	(13.88)
Frequent Visitors	3.40***	0.79***	2.61***
	(16.41)	(5.84)	(10.57)
Infrequent Visitors	0.82**	-2.27***	3.09***
	(2.27)	(-9.53)	(7.14)
Freq. minus Infreq.	2.58***	3.05***	-0.48
	(6.18)	(11.17)	(-0.96)

Panel B: Performance of Fund Trades

	(1) DGTW	(2) DGTW	(3) CAR [-1, 1]	(4) CAR [-1, 1]
Taxi Trip * School Tie * ΔOwnership	1.0623**	1.0645*	0.1343	0.0901
	(2.08)	(1.95)	(0.50)	(0.36)
Observations	10,976	10,972	10,976	10,972
Fund FE	No	No	No	No
Stock FE	No	Yes	No	Yes
Quarter FE	No	Yes	No	Yes
Adjusted R-squared	0.0006	0.0767	-0.0002	0.0767

Table 9 – Taxi Trips and Daily Mutual Fund Trades

This table investigates taxi visits and daily mutual fund trading data. Data on mutual fund trading are obtained from Abel Noser. Panel A investigates the relation between taxi visits and the probability and magnitude of subsequent mutual fund trading. We construct a calendar-week time series for each NYC fund-NYC firm pair and aggregate the weekly number of shares traded. Columns 1-3 present linear probability regressions where the dependent variable equals 100 if a mutual fund trades a stock during week t, and 0 otherwise. Columns 4-6 present OLS regressions where the dependent variable is the natural logarithm of one plus the number of shares traded by a mutual fund. *Post Taxi* is an indicator variable that equals 1 if there is a taxi visit between the fund and the firm during the previous two weeks (t-2 to t-1). *Pre Ann.* is an indicator variable that equals 1 if the firm has an earnings announcement in the following two weeks (t+1 to t+2). *Post Taxi* Pre Ann.* is an interaction term of the two variables. *Firm Size* is the natural logarithm of the market value of the firm. *BM Ratio* is the ratio of the firm's book value to market value of assets. *Leverage* is the ratio of the firm's total debt to total assets. *EPS* is earnings per share scaled by stock price. *Sales Growth* is the percentage change in sales from the previous quarter. *Earnings Growth* is the change in net income from the previous quarter scaled by total assets. We include year-quarter and firm fixed effects in all regressions. Panel B presents DGTW-adjusted buy-and-hold abnormal returns over ten trading days following trades of mutual funds. Column 1include all trades for NYC-headquartered firms in the Abel Noser sample. Columns 2 – 4 include trades that are within ten trading days after taxi visits and Columns 5-7 include trades that are within twenty trading days after taxi visits. In Columns 2-7, we further divide the sample based on whether trades occur less than 10 trading days, less than 20 trading days, or more than 20 trading days before an earnings announcement. T-statistics are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Probability of Trade following a Taxi Visit

	Trade Dummy * 100			Trading Volume		
Post Taxi	1.56***	1.61***	1.58***	0.13***	0.13***	0.13***
	(4.86)	(4.41)	(4.28)	(4.94)	(4.43)	(4.29)
Pre Ann.		0.05	0.02		0.00	0.00
		(0.70)	(0.26)		(0.59)	(0.13)
Post Taxi * Pre Ann.		-0.33	-0.30		-0.01	-0.01
		(-0.48)	(-0.43)		(-0.19)	(-0.15)
Firm Size			0.70*			0.05
			(1.72)			(1.44)
BM Ratio			0.11			0.01
			(0.96)			(0.71)
Leverage			0.63			0.05
			(0.52)			(0.43)
EPS			-0.49			-0.04
			(-0.79)			(-0.69)
Sales Growth			-0.16			-0.01
			(-0.74)			(-0.55)
Earnings Growth			0.34			0.03
			(0.32)			(0.30)
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
# Obs	169,141	169,141	154,819	169,141	169,141	154,819
Pseudo R-squared	0.03	0.03	0.03	0.03	0.03	0.03

Panel B: Performance of Fund Trades – 10-day Buy and Hold Abnormal Returns (BHARs)

	All Trades	Trades within 10 days after Taxi Ride			Trades within 20 days after Taxi Ride		
		Days before earnings Announcement			Days before earnings Announcement		
		≤10	≤20	>20	≤10	≤20	>20
Buys	0.29***	3.45***	1.88***	-0.35	3.20***	1.77***	-0.32
	(2.68)	(5.33)	(4.07)	(-1.26)	(5.21)	(4.29)	(-1.43)
Sells	-0.28*	1.24	0.72	-1.03**	0.67	0.68	-1.33***
	(-1.73)	(1.23)	(1.02)	(-2.59)	(0.84)	(1.21)	(-4.08)
Diff	0.56***	2.21*	1.16	0.68	2.53**	1.08	1.01***
	(3.00)	(1.92)	(1.44)	(1.43)	(2.55)	(1.58)	(2.65)

Appendix A – Variable Definitions

Variables		Definitions
NYC Fund	=	Indicator variable coded as 1 for mutual funds whose managing office is located in New York City during the quarter
"Frequent" Visitor	=	Indicator variable coded as if a NYC fund's number of taxi visits to NYC-headquartered firms that appear in their portfolio is above (below) the median during the quarter
"Infrequent" Visitor	=	Indicator variable coded as 1 if a NYC fund's number of taxi visits to NYC-headquartered firms that appear in their portfolio is below the median during the quarter
Log (TNA)	=	Natural logarithm of the fund's total net assets in millions during the quarter
Log (# Holdings)	=	Natural logarithm of the number of equity holdings during the quarter
Fund Age	=	Number of years since the first offer date of the fund
R_M - R_f	=	The monthly value-weighted return of all CRSP firms listed on the NYSE, AMEX, or NASDAQ that have a CRSP share code of 10 or 11 minus the one-month Treasury bill rate (obtained from Kenneth R. French's data library)
Post Taxi	=	Indicator variable coded as 1 if there is a taxi visit between the fund and the firm during the previous two weeks (t-2 to t-1)
Pre Ann	=	if the firm has an earnings announcement in the following two weeks (t+1 to t+2)
Firm Size	=	Natural logarithm of the market value of the firm during the quarter
BM Ratio	=	Ratio of the firm's book value to market value of assets during the quarter
Leverage	=	Ratio of the firm's total debt to total assets during the quarter
EPS	=	Earnings per share during the quarter scaled by stock price in the previous quarter
Earnings Growth	=	Change in net income from the previous quarter scaled by total assets in the previous quarter
Sales Growth	=	Percentage change in sales from the previous quarter

Appendix B – Random Assignment of Taxi Visits

This table investigates the relation between pseudo taxi visits and the probability and magnitude of subsequent mutual fund trading. We create a pseudo taxi visit sample by randomly assigning taxi visits to a fund that does not visit the firm. We re-estimate the trading probability and volume models with model specifications in Columns 1 and 3 in Panel A, Table 11. We replicate the procedure 500 times and report the average coefficient of this pseudo P*ost Taxi* dummy. We conduct z-test on whether the mean coefficient is significantly different from the original estimated coefficient.

Estimation	Trading Probability	Trading Volume
Mean of Random β	-0.0178	-0.0019
Std.dev of Random β	0.1185	0.0100
Original Estimated β	1.58	0.13
# Replications	500	500
p-value of z-test	<0.0001	<0.0001