Filing Speed, Information Leakage, and Price Formation

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Abstract:
We examine the impact of filing lag on price formation. The filing lag is defined as the number of days between the event and filing dates of unanticipated 8-K reports. Consistent with the theoretical models of Hirshleifer et al. (1994) and Brunnermeier (2005) we find that the reporting lag is associated with information leakage which allows informed traders to trade strategically – "buy on the news sell on the rumor", and consequently the longer the filing lag the less informative the news becomes at the filing date. Our results indicate that informed investors learn quite immediately about the news as evident by the enhanced trading around the event date. Finally, the economic impact of information leakage is quite significant and increases with the filing lag.

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1. Introduction

This study addresses two interrelated issues. Are institutional traders able to exploit information leakage from short lags in mandatory *unanticipated* SEC financial reports and, if so, what form do these trades take in the price discovery process? More specifically, we show that unanticipated Form 8K reports filed with the SEC often exhibit lags, raising the potential for information leakage that could be exploited by informed traders. By unanticipated, we mean Form 8K events *othe*r than those reporting business operations and preliminary earnings because the latter are likely anticipated by informed traders. We focus on unanticipated events because when events are anticipated traders' ability to ferret out value relevant information from leakage is unlikely.

We conjecture and find that the longer the 8K filing lag, the greater is the likelihood of informed institutional trading prior to the filing date. We further show that informed institutional traders exploit the information contained in lagged 8K's by following a 'Buy on the Rumor Sell on the News' strategy (Hirshleifer, Subrahmanyam, and Titman, 1994; Brunnermeier, 2005). In this strategy, informed traders transact based on the leaked sign of the news and then (partially) reverse their trades when the news become public. Also, consistent with Kyle (1985), we find that the noisier the demand by uninformed traders, the more aggressive and profitable are trades by institutional traders who follow a 'Buy on the Rumor Sell on the News' strategy both before and after the 8K filing.

Overall this study provides evidence indicating that institutional investors are able to capitalize on lags in unanticipated material corporate events even when the lags are of short duration. The evidence further indicates that institutional trades are consistent with extant theories regarding optimal trading strategies that informed institutional investors should follow in the context of information leakage; in particular, institutional investors trade based on the leaked sign of the news and then (partially) reverse their trades when the news become public.

In what follows, Section 2 develops the formal hypotheses of this study. Section 3 describes the data. Section 4 provides the empirical results. Section 5 concludes.

2. Hypotheses Development

Public firms are required to report specific material corporate events of interest to security holders on a fairly current basis with the SEC using Form 8-K ("current

report"). Events that trigger an obligation to file an 8-K include material events affecting, inter alia, the registrant's business and operations, financial information, securities and trading markets, financial statements, corporate governance, management, and external auditors.[2] An important feature of most 8Ks for the purposes of this study is that they include both the event date and the date of filing with the SEC.

Until August 2004, most events on the 8-K report had to be filed within 15 business days of the event.[3] In August 2004, the SEC considerably expanded the scope of the events to be reported via an 8-K and shortened the time period required to disclose these events to no more than 4 business days. Other than reports of company operations (i.e., 8-K reports containing item 2.02), which are typically the preliminary earnings, the information contained in 8Ks are by and large unanticipated. Preliminary earnings are reported on a quarterly basis and most companies provide the exact date and time of the announcement in advance, so that the information is anticipated by market participants. In contrast, almost all other 8-K reports depend on the occurrence of events that are idiosyncratic. Although investors are likely to predict that certain events would be reported via 8-K reports (e.g., results of clinical trials, CEO departures), they typically cannot easily predict the exact timing of the event or its financial consequences to the firm, if any.

Empirical evidence accumulated to date indicates that managers systematically delay disclosing bad news but time or accelerate the disclosure of good news to create circumstances that are beneficial to themselves or to the firm (Kothari et al., 2009). While it is to be expected that these incentives play a lesser role as far as 8-K reporting is concerned, especially after 2004 when the reporting lag is reduced to no more than 4 business days, nevertheless, the 8K filing lag appears to be longer for negative news as evidenced by the higher likelihood of 8-K reporting on Fridays for negative news (Segal and Segal, 2016). In addition, the filing lag is likely positively related to the economic magnitude of the event, especially if the news is negative. This is because managers are likely to require more time to ensure the veracity of larger reported magnitudes both

[2] In the accounting literature, Lerman and Livnat (2010) show that 8K's often trigger market reactions in the form of abnormal equity returns and trading volumes. Segal and Segal (2016) show that managers disclose negative non-earnings information from the 8-K report strategically when investor attention is low. Rubin et al. (2017) examine analysts' reaction to 8-K information.

[3] With the exception of auditor changes (resignation/firing/hiring) and director resignations that had to be reported within 5 business days.

because such events are bound to be more complex and also to minimize potential litigation risk. These considerations yield our first hypothesis stated in the alternative.

Hypothesis 1: The 8K filing lag is negatively (positively) associated with the sign (economic magnitude) of the news.

Notwithstanding the lag determinants, a fundamental issue from a finance perspective is what impact do 8K filing lags have on institutional trading and equity price formation. We conjecture that the likelihood of information leakage increases with the reporting lag which, in turn, motivates strategic trading by informed institutional investors. Information leakage to institutional investors could come about through information tipping. For example, Irvine et al. (2007) document high institutional trading and buying in the five days before the release of analysts' initial buy recommendations. Christophe et al. (2010) find abnormal short-selling prior to release of a downgrade by analysts. While the findings of these studies can also be explained by the ability of sophisticated traders to predict changes in analysts' recommendations (the prediction hypothesis), the overall evidence in these studies appears to be more consistent with the tipping hypothesis. The tipping hypothesis is also buttressed by anecdotal evidence. For example, in 2007, the SEC brought charges against several individuals for trading shares based on insider information about USB AG analysts' upcoming downgrades.

Assuming that information leakage occurs prior to 8K filings, how would informed institutional traders exploit this information? Hirshleifer et al. (1994) develop a model of trading behavior where risk-averse informed (high ability) traders receive private information before uninformed (low ability) traders. The model predicts that the informed traders would transact based on the sign of the news and then (partially) reverse their trade when the news become public, at which point, prices fully reflect the private information. Their (profit-taking) strategy arises from the desire of risk-averse informed traders to reduce the long-term risk of the events that they cannot predict. This trading strategy is termed 'Buy on the Rumor Sell on the News'. In a similar vein, Brunnermeier (2005) shows analytically that risk-neutral informed traders would engage in a similar strategy because of the expectation that the market will overreact to the news when it becomes public. The overreaction in Brunnermeier's model stems from the assumption that traders employ technical analysis after the public

announcement to determine the extent to which the news is already incorporated in stock prices. Because the leaked information includes noise, prices just prior to the public announcement will also incorporates this noise, which in turn causes the uninformed traders to err in their technical analysis, leading to an overreaction. Anticipating the overreaction, informed traders reverse their position to take advantage of the mispricing.

A recent empirical study supports these models. Kadan et al. (2017) use a proprietary dataset that identifies daily buy and sell volumes of all institutions, individuals, and market makers on the New York Stock Exchange. They provide evidence that institutional investors engage in a 'Buy on the Rumor Sell on the News' trading strategy around analyst recommendation revisions - that is, they buy (sell) before analysts announces an upgrade (downgrade) and reverse their position after the revision becomes public.

These considerations yield our next set of hypotheses regarding the trading strategy of institutional investors in the context of 8K filing lags. Because reversals cannot be guaranteed, taking place as they do further ahead in time when other shocks might be affecting capital markets, we formulate our initial hypotheses based on the first proposed leg of institutional investor trading strategy and only subsequently to the second leg (i.e., the reversal).

Hypothesis 2A: Institutional investors will undertake a trading strategy of buying (selling) shares for positive (negative) 8-K news before the filing date

Hypothesis 2B: The likelihood of the latter trading strategy is increasing in the filing lag.

Hypothesis 2A follows from the first leg of the Hirshleifer et al. (1994) and Brunnermeier (2005) model predictions. The logic behind Hypothesis 2B is straightforward. The longer the filing lag, the greater is the likelihood of information leakage and, hence, the greater the number of informed traders to adopt such a strategy.

The models of Hirshleifer et al. (1994) and Brunnermeier (2005) predict a (partial) trading reversal in addition to the initial trading on the sign of the news. The next set of hypotheses reflect both predictions.

Hypothesis 2C: Institutional investors will undertake a trading strategy of buying (selling) shares for positive (negative) 8-K news before the filing date and reversing their position after the filing date

Hypothesis 2D: The likelihood of the latter trading strategy is increasing in the filing lag.

Given the likelihood of information leakage and subsequent informed trading, both Hirshleifer et al. (1994) and Brunnermeier (2005) predict heightened trading volume and stock return volatilities around the event date. Similarly, given that some investors are uninformed, heightened trading volume and stock return volatilities should obtain around the filing date as well. Furthermore, consistent with Glosten and Milgrom (1985), the bid-ask spread should increase around the event and filing dates to compensate market makers for losses suffered in trades with informed investors. These considerations rationalize the following hypothesis:

H3: Trading volume, equity return volatility and the bid-ask spread increase around the event date and around the filing date.

A related interesting issue is whether trading around the filing date is affected by the filing lag. As noted above, the overreaction of uninformed investors is positively associated with the noise in the signal that informed investors receive prior to the announcement of the news. If we assume that (a) the noise in the signal is positively associated with the economic magnitude of the news, and (b) a longer filing lag is positively associated with the economic magnitude of the news (as per Hypothesis 1), then a longer filing lag should be associated with greater mispricing. The latter, in turn, should lead to greater trading volume and stock return volatilities around the filing date. The above considerations lead to the following hypothesis:

H4: Trading volume and equity return volatilities around the filing date are positively related to the filing lag.

The Kyle-type model (1985) predicts that the noisier the demand by uninformed traders, the more aggressive will be the trading by informed (institutional) traders.

Assuming that institutional traders optimally follow a 'Buy on the Rumor Sell on the News' strategy then we should find a positive relation between noise and trading volume both before and after the filing date. This leads to our last hypothesis.

H5: Trading volume and equity returns both before and after the filing date are positively related to demand noise by uninformed traders.

3. Data

3.1 8-K data

We download the entire population of 8-K Forms filed with the SEC via EDGAR for the years 1996 to 2013. The initial sample consists of 895,760 8-K forms with firm identifier, filing and event dates, and items reported. Requiring valid Permnos and excluding 8K forms that include exhibits only, reduces the sample to 563,987 forms. Given our focus on non-earnings information, we eliminated all 8-K reports that contain earnings announcements or financial statements and exhibits (74,830 forms) and 8-K reports with missing equity returns around the filing date (46,479 forms), thereby reducing the sample size to 442,678 8K forms.

Financial data are obtained from Compustat and CRSP. Requiring non-missing values for share price, profitability, leverage, equity return volatility, book value of equity, and the number of analysts following (obtained from IBES) at the beginning of the fiscal year further reduces the 8-K sample to 384,373 reports.

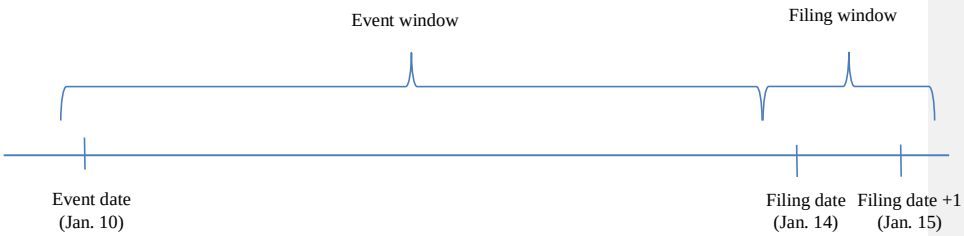
3.2 Institutional Trading Data

Our sample includes transaction-level institutional trading data from January 1999 through the end of 2010 from Abel Noser Solutions.[4] According to Ancerno, the transaction data are transferred directly from each institutions' trading systems to Abel Noser Solutions. The data include stocks traded, number of shares traded, and price per share. Importantly, names of the institutions are eliminated from the database, so it is impossible to identify the type of institution behind the trade (e.g., pension fund, mutual fund, etc.). However, each institution is identified by a unique code so that we can track each institution's trades across stocks and over time. As described in various studies,

[4] Abel Noser stopped reporting unique institutional identifiers after 2011 to protect their clients' privacy. Hence, it is impossible to track an institution's trades across stocks and time after 2011.

the institutions covered by the database are large, representing a significant percentage of the total trading volume in U.S. stock markets (see for example Hu et al. 2014, Cready et al. 2014).

Before describing the data, it is helpful to describe the setting and timeline.



In this example, the Event date (e.g., date of resignation of a director or date of auditor departure) is January 10. The company reports the event via an 8-K form on January 1**4**, the Filing date, yielding a reporting lag of **4** days. The Event window starts on the Event date and ends one day prior to the Filing date. Hence, in this example the event window is January 10 to the 1**3** inclusive. We define Day_t as the t'th trading day during the event window. Thus, Day_1 would be Jan 10, Day_2 would be Jan 11, and so on. Note that Day_t is defined in terms of trading days, so that Day_1 could be 3 days after the event date if the event falls on a Saturday. The Filing window is the Filing Date plus the first trading day after the Filing date.

Table 1, Panel A provides descriptive statistics of the sample firms. Mean and median market value of equity are $2.2 billion and $305 million, respectively. Mean return on assets is -2.4%. The median return is positive. Mean equity return is 3.2%, and mean book-to-market ratio is 53%. Mean book leverage is 22%, and mean equity return volatility is 3.6% per day. The mean number of analysts following a firm in a given year is 6.2.

Commented [JC1]: Is this summary data consistent with other studies?

This is OK. The sample includes also small firms. This is the 8-K sample not the ANCERNO.

Table 1, Panel B provides descriptive statistics on the number of 8-K reports and the filing lag. Consistent with the evidence in the literature, Panel B shows that the number of firms in the sample is decreasing over time in more recent years (from 4,355 in 2004 to 3,327 in 2013). The number of 8-K reports is correlated with the number of firms, although we observe an increase in the average number of reports especially after 2004, consistent with the change in the scope of items to be reported. The economic magnitudes of the events are significant as evidenced by mean absolute market adjusted

cumulative returns in the 3 days around the filing date. These range from 2.5% in 2013 to 5.2% in 2000. The Filing lag decreases monotonically from a mean of 6 days in 1996 to 2.8 days in 2004. The largest decrease (in percentage terms) occurs in 2001 coinciding with RegFD. Interestingly, given that the mean filing lag by 2004 was already below 4 business days, the change in the 8-K reporting requirements in 2004 had no effect on the mean filing lag.

Table 1, Panel C reports the proportion of each event type, average economic magnitude, and filing lag for each 8K item. Consistent with Segal and Segal (2016) and Rubin et al. (2017), the most frequent items after 2004 are Item 8.01, "Other Events," (29%); Item 1.01, "Entry into a Material Definitive Agreement" (20%); and Item 5.02, "Departure of Directors or Principal Officers, Election of Directors, Appointment of Principal Officers" (23%). Prior to 2004 the most frequent item was Item 5, "Other Events" followed by Item 2 "Acquisition or Disposition of Assets". The table points to variation in filing lags across the various items, although these variations do not appear to be economically significant as they are between 3 and 4 days for most categories after 2004. Not surprisingly, there is greater variation in reporting lags before 2004.

4. Empirical Analysis

4.1 Determinants of the Filing Lag

Table 2 shows the results from regressing the filing lag on 8-K characteristics and control variables. The main variables of interest are the sign of the news, the economic magnitude of the news and an interaction term involving both. The economic magnitude of the news is measured as the cumulative market adjusted return (CMAR) over date t and date t+1, where date t is the submission date of the 8-K to the SEC. To capture the delay in reporting of negative news, we include an interaction negative news indicator, which takes the value of 1 if CMAR is negative and zero otherwise. Given the decrease in the filing lag over the sample period, the regressions also control for the time trend. The firm-level control variables include profitability, leverage, return volatility, log of the market value of equity, book-to-market, and the number of analysts following the firm. We use firm-level control variables throughout the analyses. We control for firm and year fixed-effects in almost all regressions. Whenever the sample includes more than one item, we also control for item fixed-effects. Standard errors are clustered by firm.

Columns (1) and (2) of Table 2 give the main results. Column (1) reports the results of an OLS regression, whereas Column (2) reports the results of a Poisson regression to account for the fact that the dependent variable is a count variable. The results across both regressions indicate that the economic magnitude of the event and the sign of the news—the interaction term--are statistically significant determinants of the filing lag. Companies tend to report negative news later than positive news, and the filing lag increases (decreases) with the economic magnitude of negative (positive) news. Hence, these results are consistent with the incentives of managers to delay the reporting of negative news, potentially because of litigation costs. In contrast, mangers rush to issue positive 8-K reports and the filing speed increases with the economic magnitude of the positive news. Taken together, the relation between the filing lag and the economic magnitude of the news is conditional on the sign of the news, implying that the sign of the news has a first order effect on the filing lag.

Consistent with the evidence in Table 1, we find that the filing lag decreases with time. The coefficients on the control variables indicate that larger firms tend to issue 8-K reports faster whereas riskier firms (i.e. high equity return volatility) and firms with more analysts following tend to delay the issuance of the 8-K report.

The next two columns report the results when we restrict the sample to the old and new 8-K forms, respectively. The results are very similar to those in Column 1, except that the coefficient on the negative news indicator in the 'New 8-K' column is not significant. We conduct further sensitivity analyses (untabulated). First, to eliminate the possibility that the results are due primarily to changes to the 8-K report in 2004, we include news items reported both on the old and new 8-K forms. Specifically, we include "Entry into a Material Definitive Agreement", "Termination of a Material Definitive Agreement", "Bankruptcy or Receivership", "Changes in Certifying Accountant" - Items 1.01, 1.02, 1.03, 4.01 from the new 8-K forms and Item 2, 3, and 4 from the old 8-K form. While there are differences between the definitions of the items across the two 8-K regimes, they are close in substance. In other analyses, we restrict the sample to a particular news item for the most frequent items. In all analyses, the results are similar to the overall results– the filing lag is significantly related to the sign of the news, and conditional on the sign of the new, the filing lag increases (decreases) with the economic magnitude of the news for negative (positive) news.

Commented [JC2]: Don't you think this is very problematic?

No. 1) the reporting window is shorter (4 days max), so harder to detect. Further, it is significiant one tailed. 2) What is more important is the economic magnitude – which is by itself and its interaction are highly significant.

4.2 Institutional Trading

We initially analyze institutional trading around ~~the~~ 8-K filing days. The initial sample for the analysis includes all firms on Ancerno that report the filing of at least one 8-K form. Specifically, we use the daily trading data on Ancerno and compute the institutional daily volume as the total number of shares traded scaled by the number of shares outstanding. We regress institutional daily volume on indicator variables of days before the event date, days during the event and the filing window. We include trading days prior to the event date to allow for potential leakage prior to the reported event date.[5] The 8-K sample available for the analysis comprises 328,297 8K forms which were filed between 1998 and 2010 - the sample years of the Ancerno data. To identify trading around the event date and filing date we drop all 8-K forms with a filing lag less than 2 days, yielding 145,014 forms. An additional 85,570 forms were filed by firms for which institutional data are not available. Hence the final 8-K sample available for the institutional trading analysis is 97,713 forms. Since the frequency of filing lags greater than 7 drops significantly, we combine all forms with filing lag equal to or greater than 7 into a single category.

To examine the trading pattern around the 8-K dates, we regress daily trading volume of institutional investors (scaled by the number of shares outstanding) on daily 8-K indicator variables for two pre-event days (M1 and M2), the event window and the filing window, in addition to firm-level control variables (see Table 2), and firm, year, and item fixed effects. The regressions are estimated using OLS and the standard errors are clustered by firm. A positive coefficient on the indicator days indicates "abnormal" trading volume – that is, greater trading activity relative to non-news days.

The results in Table 3 clearly indicate information leakage to institutional investors as early as on the event date. We find that institutional investor volume trading is significantly higher (relative to non-news days) on the event date and up to 3 trading days after the event date. The largest reaction is on the first trading day after the event date, potentially because some of the events became known only after trading hours. From the first trading day after the event date, the abnormal volume decreases monotonically and becomes insignificant on the fourth trading day of the event window.

[5] The event date is typically the date on which the information first becomes known. However, in many cases information about the impending event can leak out. For instance consider director resignations. The event date is the date on which the director resigns. However, the information about the director's resignation intentions are likely to leak out prior to the actual resignation date.

We also observe significant spikes in volume on the filing date itself and on the first trading day after the filing date. This result suggests that not all institutions are informed prior to the filing lag.

To examine whether the results are affected by the length of the reporting lag, we repeat the analysis separately for each filing lag window by excluding the trading days around the 8-K forms with different filing lags. For example, the 2-day column shows the results when we exclude trading days around 8-K forms with filing lags greater than 2 days. The results are very similar to the full sample results. Institutional investors appear to be informed as early as the event date, and some institutions learn about the event only on the filing date. The only exception is the 7-day filing lag where we do not observe significant volume on the filing date. The table also shows that inferences are not affected by the sign of the news. Taken together, the results indicate that there is information leakage immediately after or concurrent with the event date, and institutional investors react immediately to the news.

The results above indicate that institutional investors trade significantly during the event window. We now examine whether institutional investors exploit their information advantage and engage in strategic trading as conjectured in Hypotheses 2A through 2D.

To empirically examine Hypotheses 2A and 2B , we define an indicator variable for each institutional investor that takes the value one if the sign of net trading during the 8-K event window is *consistent* with the sign of the news, and zero otherwise. Specifically, for each institutional investor who traded during the 8-K event window, we compute the net shares transacted during the specific 8-K event window as the total number of shares acquired minus the total number of shares sold. We define an indicator variable for each institution that traded during the 8K event to take the value one if the sign of net trading during the event window is consistent with the sign of the news. We create an aggregate variable for all 8-K forms, labeled Total Consistent Trading, by summing the indicator variables for each 8-K form. Total Consistent Trading essentially measures the number of institutional trades that took advantage of the leaked event information. We also compute the proportion of institutions with net trading that is consistent with the sign of the news relative to the total number of institutions that trade during the event window.

To test hypotheses 2C and 2D, we construct the trading strategy variable in a similar fashion. We first define the sign of the news as the sign of the market adjusted

equity return during the filing window. For each institutional investor who traded during the 8-K event and filing windows, we compute the net shares transacted during the 8-K event window as the total number of shares acquired minus the total number of shares sold. We also compute the net shares transacted in the 3 calendar days starting with the specific 8-K filing date.[6] We define an indicator variable for each institution that traded during the 8K event window to take on the value one if (i) the sign of net trading during the event window is consistent with the sign of the news, *and* (ii) the sign of net trading during the filing window is opposite to the sign of the news, and zero otherwise. We then create an aggregate variable for each 8-K form, labeled Total Strategic Trading, by summing the indicator variables for all institutions. Total Strategic Trading essentially measures the number of institutional trades that engaged in strategic trading for each 8-K form. We also compute the proportion of institutional investors that engaged in strategic trading by dividing Total Strategic Trading by the total number of institutional investors that traded shares during the event and filing windows.

We further examine the relation between information leakage and institutional trading by analyzing the relation between the filing lag and institutional trading during the filing window. While the results in Table 3 show higher trading on the filing date (relative to non-news days), a decrease in abnormal volume over the filing lag would also be indicative of information leakage because it suggests that institutional investors traded on the news prior to the filing date. We measure a firm's Abnormal Filing Volume as the average volume during the 2-day filing window scaled by the filing firm's average daily volume over non-news days during the year.

Table 4, Panel A reports the mean of the log of each of Total Consistent Trading, Total Strategic Trading, and Abnormal Filing Volume. In addition, this panel also reports the proportion of Total Strategic Trading and Total Consistent Trading relative to total number of institutions that trade shares during the event window. The bottom line of the panel indicates that 54% of institutions that trade during the event window is consistent with the sign of the news, and about 12% of institutions that trade during the event window engage in strategic trading. To put the 54% number in perspective, we conduct a bootstrapping analysis and find that on average consistent trading on non-

Commented [JC3]: What about bootstrapping the strategic trades?

This is tricky because there is no natural "news" event. The strategic trading assumes that there is a major event for which inst trade BOTH prior and after the event. In other words to do bootstrapping I need to define a repeated event and examine trading pattern around it. And for the bootstrap to be efficient we need many such events.

[6] We use 3 days window to allow for the possibility that 8-K forms are reported on the last trading day of the week, and to "allow" institutional investors sufficient time to reverse their trading position

news days is only 51% and the difference is highly significant (p-value<0.01).[7] These figures together with the evidence in the prior table indicate that institutions are able to capture and take advantage of the information contained in 8K's ahead of the market.

Panel A also shows the mean of the trading variables by filing lag. We observe a monotonic increase in Consistent and Strategic trading across the filing lags, and a monotonic decrease in the mean Abnormal Filing Volume. Specifically, the log of Strategic (Consistent) trading increases from 0.18 (1.06) for the 2-day filing lag to 0.24 (1.36) for the 7-day filing lag. We observe the opposite pattern for Abnormal Filing Volume which decreases monotonically from 1.18 for the 2-day filing lag to 1.03 for the 7-day filing lag.[8] These results are consistent with the conjecture that the longer the filing lag, the more opportunities institutional investors have to exploit their informational advantage, and consequently, the lower the trading over the filing window. The scaled variables show a downtrend over the reporting lag. These results are explained by the trading pattern we observe in Table 3 where informed institutional investors appear to trade immediately on or after the event date. Because the scaled variables are computed as total strategic or consistent trading scaled by the total number of institutions that trade during the event window, they should decrease over the reporting lag since the numerator is relatively fixed whereas the denominator (the number of institutions that trade) naturally increases with the filing lag.

Panel B of Table 4 formally tests the prediction that the frequency of consistent and strategic trading increases with the reporting lag. We regress each of the log of Consistent Trading and the log of Strategic Trading on the reporting lag, firm-level and form-level control variables. The form-level control variables include the economic magnitude of the news (absolute market adjusted returns during the filing window) and an indicator for negative news. This Panel also reports regressions of the two trading

[7] The bootstrap is constructed as follows. Conditional on each possible filing lag i (ranging from 2 to 7), we compute for each firm-year the proportion of consistent trades on non-news days by excluding from the sample those trading days that fall between the 8K event and filing dates. We then compute the proportion of consistent trades in days t-i through t-1, where consistent trades are measured relative to the stock return on day t. For example, the mean consistent trades on non-news days for the 2-day filing lag of firm j in year i is computed as follows. For each consecutive two days, day t-2 and day t-1, we identify the market adjusted return on day t. We then compute the proportion of consistent trades (i.e. number of institutions with the sign of net trading similar to the sign of the news on day t scaled by the total number of institutions who traded during the two days) for each possible two adjacent trading days during the year. The mean consistent trade is then computed as the mean of the consistent trades over the 2-day window.

[8] With the exception of the Average Filing Volume for 6 and 7-day filing lags, which are significant at the 5% level, all figures in the table are significant at the 1% level.

variables for positive and negative news separately. The coefficient on the reporting lag variable is positive and significant in all regressions independent of whether the news is positive or negative, indicating that the likelihood that informed investors exploit their information advantage increases with the time between the filing and event dates.

This panel also regresses abnormal volume on the reporting lag, firm-level and form-level control variables. The results show the opposite pattern, namely, abnormal volume decreases with the reporting lag consistent with information leakage during the event window. We also observe that the likelihood of strategic trading and abnormal volume increase with the magnitude of the news. The estimated coefficients for the size control variable suggests that advantageous trading increases with liquidity (as proxied by firm size).

As a sensitivity analysis, we re-estimate the regressions of Table 4 for each of the two 8K form regimes separately (before and after 2004). The results (untabulated) are very similar to those reported.

Altogether, the results of this section suggest that institutional investors learn about the news as early as the event date, and use their informational advantage by trading based on the sign of the news during the event window. In addition, we find evidence that institutional investors also reverse their trading position once the news become public as predicted by the models of Hirshleifer et al. (1994) and Brunnermeier (2005). Moreover, the findings regarding institutional trading are stronger, the longer the filing lag. Finally, we also document a negative relation between abnormal volume during the filing window and the filing lag consistent with information leakage during the event window.

4.3 Overall Volume, Volatility, and the Bid-Ask Spread

In this subsection we examine the overall trading volume, equity return volatility, and bid-ask spread around the 8-K filing. We also examine how these variables relate to the filing lag during the filing window. The dependent variables are constructed using CRSP data so that they reflect the outcome of all investors in the market - informed and uninformed.

Table 5 reports regression of each of the above variables on days relative to the event and filing dates of the 8-K form. Control variable estimated coefficients are suppressed. As before, the regressions are estimated with firm, year, and item fixed-effects. Standard errors are clustered by firm. The volume regression results are similar

to those reported in Table 3. Volume is significantly higher throughout the event window. It is highest on the first day after the event date and then monotonically decreases. We also observe an increase in volume during the filing window. Separating the 8-K sample into good and bad news does not change any of these inferences.

The next set of regressions examines equity return volatility. The pattern is almost identical to the volume regressions. Equity return volatility is significantly higher during the event window beginning as early as one day prior to the event date, until one day after the event date, and then subsequently decreases over the event window. On the filing date there is again a spike in volatility. Also, inferences remain robust when we look at positive and negative news separately. Taken together the results are consistent with information leakage, where informed investors trade as early as the event date resulting in higher equity volatility during the event window.

We also examine whether the increase in volume and volatility is accompanied by a corresponding increase in the bid-ask spread. Glosten and Milgrom (1985) show analytically that the specialist is expected to increase the bid-ask spread to compensate for losses suffered in trades with informed investors.[9] Consistent with the prediction of the model, we observe an increase in the spread as early as two days prior to the event date and a higher spread on the event date. Interestingly, the estimated coefficient for the bid-ask spread is not significantly different from zero on the filing date.

Overall, the results regarding trading volume, equity return volatility, and bid-ask spread around the 8-K event day are consistent with H3.

Similar to the institutional trading analysis, we now examine whether overall trading on the filing date is affected by the reporting lag. For each of the trading variables, we compute an abnormal measure, by dividing the average of each of trading volume, equity return volatility, and bid-ask spread during the filing window by the their respective averages over non-news days during the year. Table 6, Panel A presents the univariate results. As expected, the average abnormal trading volume and equity return volatility are significantly greater than 1 (p-value<0.01) implying heightened trading and volatility when the news become public. Surprisingly, however, the average abnormal bid-ask is less than 1 (p-value<0.01) indicating that on average the bid-ask spread on news days is lower than the bid-ask on non-news days. Looking at the average

[9] The issue has been examined in several other studies as well. See, for example, See Bagehot (1971), Copeland and Galai (1983), Kyle (1985), and Easley and O'Hara (1987).

trading results over the filing lag, we clearly see a decreasing pattern for both the abnormal volume and the abnormal equity return volatility. Abnormal volume (volatility) falls from 1.31 (1.15) for the 2-day filing lag to 1.12 (1.01) for the 7-day filing lag. Except for the abnormal volatility for the 7-day reporting lag, which is not statistically significant, all other values are highly significant (p-value<0.01). The bid-ask spread shows a weak increasing pattern but remains less than 1 for all reporting lags.

Table 5, Panel B formally tests the relation between the abnormal trading variables and the reporting lag. The control variables are similar to those used in Table 3 except that we do not include the economic magnitude of the event. This helps to prevent spurious correlation between the trading variables on the filing date and equity returns given that we measure the economic magnitude of the event as the absolute cumulative market-adjusted return during the filing window. As before, we report regression for the entire sample and for positive and negative news separately. The results for the abnormal volume and abnormal equity return volatility are consistent with the univariate results - volume and volatility are negatively associated with reporting lag. The spread regressions indicate weak positive association with the reporting lag, but when we estimate the regression separately for positive and negative news the coefficients on the reporting lag becomes insignificant.

Overall, the results for trading volume and equity return volatility are consistent with H4 whereas the results for the bid-ask spread are not consistent with H4.

4.3 Endogeneity

The analyses of the prior subsections assume that the filing lag is exogenous or at least conditionally exogenous. However, as shown in Table 2, the filing lag is potentially affected by the sign and economic magnitude of the news, which may explain the lower trading activity (volume and volatility) during the filing window, especially if firms tend to accelerate (delay) the reporting of high (low) economic magnitude events. Because no obvious Instrumental Variable (IV) for the filing lag is evident, and absent a natural experiment, we elect to deal with potential endogeneity of the filing lag using a matched design analysis based on the Covariate Balancing Propensity Score (CBPS) approach recently developed by Imai and Ratkovic (2014). The CBPS approach models treatment assignment while simultaneously optimizing covariate balance. To the extent that one obtains covariate balance across the treatment

and control samples, the estimated treatment effect (of the filing lag on trading activity) will be relatively insensitive to misspecifications in the parametric model relating the trading activity to the filing gap (Ho, Imai, King and Stuart, 2007). Research in the econometrics literature indicates that CBPS estimation is effective relative to other methods in mitigating potential misspecifications from estimating parametric propensity score models (Fong et al. 2015).

We match the treatment and control firms based on the estimated CBPS propensity scores. The matching analysis is executed as follows: We first restrict the sample to the most frequent 8-K items – item 1.01, 5.02, 8.01 after 2004, and item 5 prior to 2004. This is because we match observations within reported items and by year. To increase the power of the test, we match high filing lag 8 K forms with low filing lag 8K forms. Specifically, we define High (Low) Filing Lag as those forms with filing lag of 6 or 7 days (2 or 3 days). Within each item and year, we match forms with High Filing Lag (treatment sample) with forms of Low Filing Lag (control sample). We facilitate the matching by estimating the CBPS propensity scores using the filing firm-level control variables (profitability, size, book-to-market, equity return volatility, leverage, and number of analysts). In addition, to account for the potential confounding effect of the economic magnitude of the event on the filing lag, we also match based on the total economic magnitude of the event, which is computed as the cumulative market adjusted return from the event date through the day after the filing date (inclusive). We select the match from the control sample based on the closest propensity score with replacement. Hence, the matching procedure results in a matched sample of 8-K forms that are identical with respect to their content (i.e item), economic magnitude, and characteristics of the filing firm. The only difference between forms within each pair is the filing lag.

Table 7, Panel A presents mean covariate values across high and low filing gap samples. In general, as expected the differences between the treatment and control samples for each covariate are insignificant indicating covariate balance. Results are quite similar when we examine differences in the medians. Following the recommendation of Ho et al. (2007), we further examine the extent of covariate balance by examining quantile-quantile plots provided in Figure 1 for each covariate across the matched sample. These plots compare the distributions of the treatment and control samples, not just means or medians. The plots provide strong qualitative evidence that the CBPS approach is quite effective in yielding covariate balance.

Table 7, Panel B shows the matched sample estimation of the impact of the filing lag on institutional and overall trading during the filing window, controlling for the firm level control variables and the the cumulative market adjusted return from the event date through the day after the filing date inclusive. The main variable of interest is the High Filing Lag indicator which takes the value of 1 for the treatment sample and zero for the control sample. Consistent with prior results, we observe that high filing lag is positively associated (p-value<0.01) with each of Strategic and Consistent Trading by institutional investors during the event window, and negatively associated with trading volume by institutional investors during the filing window. These results indicate once again that even after controlling for the type of news and the economic magnitude of the event, reporting lags provide informed investors with the opportunity to use their information advantage. Consequently, we also observe muted trading by informed investors during the filing window. The last three columns of the table show the results related to the overall abnormal trading measures – volume, equity return volatility, and bid-ask spread. Similar to the results in Table 6, we observe that the high filing lag is negatively associated with abnormal trading volume and equity return volatility – further confirming the likelihood of information leakage during the extended event window resulting subsequently in lower trading when the news is filed.

4.4 Economic Significance Analysis

The results thus far indicate that the news reported via 8-K forms leak prior to the filing of the 8-K form with the SEC, thereby allowing informed investors to use their information advantage prior to the actual filing of the news. We also document that the probability of information leakage – and advantageous trading by institutional investors – increases with the reporting lag. Further, consistent with this conjecture, we also find that overall trading by institutional investors and overall trading in the market during the filing window are decreasing in the reporting lag. Furthermore, equity return volatility during the filing window also decreases with the filing lag.

We now turn to examining the economic effect of the reporting lag on price formation and trading. We first estimate the overall economic impact of the news using two proxies: (i) the sum of daily market adjusted equity returns squared from the event date through the day after the filing date (Total Volatility) and (ii) the sum of trading volume scaled by total number of shares outstanding over the same period (Total Volume). We then compute the ratio of total daily market adjusted equity return squared

during the filing window to Total Volatility, and similarly, the ratio of the sum of trading volume scaled by total number of shares outstanding during the filing window to Total Volume. These latter two variables measure the proportion of the total economic impact of the news event on the equity market during the filing window.

Table 8, Panel A provides the means of the volume and volatility ratios by reporting lag. The overall mean of the ratios is 0.37 and 0.36, respectively, indicating that, on average, about two thirds of the impact of the news is impounded in trading prior to the actual release of the news.[10] Further, the panel shows monotonic decreases in the ratios over the reporting lags – from 0.46 (2 days reporting lag) to 0.24 (7 days reporting lag).

Table 8, Panel B shows the regression results. We present two specifications for each ratio – one with the reporting lag measured as a continuous variable and one where we include an indicator variable for each possible reporting lag value. The results for the full sample clearly show that the longer the reporting lag, the less impact the news has during the filing window as the coefficient on the reporting lag variable is negative and significant (p-value<0.01). The second specification allows us to determine the actual impact of increasing the reporting lag relative to the 2-day reporting lag benchmark. We observe that the impact of the news during the filing window is significantly lower for the 6 and 7-day reporting lags – about 11% and 19% lower, respectively. To mitigate the possibility that the results are affected by economic magnitude of the event, whereby, potentially, firms release less significant news later, we also present the results using the matched sample discussed above. The coefficient on the High Filing Lag variable (indicator with 1 if reporting lag is greater or equal to 6) is around 15% for both ratios, providing further support that extending the reporting lag reduces significantly the informational content of the news.

4.5 Institutional Investors: Trading Volume, Profits, and Noise

[10] Arguably one should use an abnormal measure of volume and volatility when measuring the impact of the news. To the extent that the abnormal measures are measured as ratio of the variable of interest to the mean value of the variable over non-news days, then the resulting abnormal based volume and volatility ratios (i.e. abnormal volume or volatility during the filing window relative to total abnormal volume or volatility) would be identical to those used in Table 8. This is because both the numerator and denominator are scaled by the same number (i.e. mean volume or volatility over non-news days).

Our final hypothesis predicts that trading volume and profits of informed investors is positively associated with the extent of noise trading during the event window. To facilitate the empirical analysis we identify informed investors as those institutional investors that engaged in strategic trading around the 8-K event and filing window (that is, the sign of net trading during the event window is consistent with the sign of the news, *and* 'the sign of net trading during the filing window is opposite to the sign of the news).[11] We measure trading volume during the event and filing window and the number of shares traded at each respective window scaled by the cumulative shares owned by the institutional investor on the day prior to the event window. We measure the profit of informed investor from the trading strategy around the 8-K as the change in share price – average share price during the filing window divided by the average share price during the event window minus 1.[12]

"Noise traders" are commonly defined as agents who trade in security markets for non-information-based reasons. The theoretical existence of noise traders is posited as a solution to the "no trade" or "no speculation" results of Grossman and Stiglitz (1980) and Milgrom and Stokey (1982), which show that it is impossible informed agent to profit from that information by trading without the existence of noise traders. The intuition is simple. An informed buyer of an asset is willing to trade if s/he believes that the asset can be sold later for a higher price. However, if the seller is also informed s/he will not sell the asset, so, no one trades. But, we do observe trade in the world, and no trade is difficult to reconcile with the notion of asset market efficiency, in which prices allegedly contain all available information. If some agents produce costly private information and then trade on their private information, security prices will reflect some or all of the information and hence become more informationally efficient.

To explain how informed traders can cover the costs of information production when they trade in securities markets, someone in the market must lose money trading against them. "Noise traders" or "liquidity traders" are the traders who lose money, on average, when they trade. Their trade then provides the compensation for the cost of

[11] This is a restrictive definition of informed traders. Another group of informed traders is those that traded according to the sign of the news during the event window and did not reverse the position during the filing window. However, this group also includes those institutions that provide liquidity and noise traders that by chance traded according to the sign of the news without having any information on the upcoming 8-K filing. Since it is impossible to separate the three groups we elect to define informed investors as described.

[12] For short positions during the event window (negative 8-K events) we compute profit as average share price during the event window divided by the average share price during the filing window minus 1

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information production by the informed traders. Hence, we identify noise traders among the institutional investors as those traders who trade in the opposite direction to informed traders during the filing window. That is, noise traders are those institutions who buy (sell) shares when the market reacts positively (negatively) to the 8-K news. Having identified the 'noise' traders institutions we measure the extent of noise trading in the event window as the total number of shares traded by 'noise' traders scaled by the total number of shares traded by all institutional during the event window.

Table 9, Panel A presents descriptive statistics of the main variables. At the median, informed investors trade about 3.3% (2%) of their cumulative position prior to the 8-K event date during the event (filing) window. This implies that they do not completely reverse (again at the median) their position once the news becomes public. The mean (median) profit, which is based on the average change in share price is 1.6% (1%). The average proportion of trading by 'noise' traders is 0.27.[13]

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Table 9, Panel B shows the regression results. Consistent with the predictions of Kyle (1985), we find that the profit of informed investors is increasing with the noise in demand. The results concerning the trading volume are mixed. The model predicts that the greater the noise in demand the higher would be the trading volume during the event window because it would allow informed investors to 'hide'. Based on this argument and the prediction of Brunnermeier (2005), we also expect that trading volume in the filing window would be increasing with the noise in demand as informed investors are expected to reverse the position. The results indicate that while trading volume during the filing window increase with noise, trading volume during the event window decrease with noise. However, in contrast to the prediction of the model, we find that trading volume during the event window is decreasing with the noise in demand.

To investigate the trading volume further we repeat the analysis conditional on the sign of the news. We find that the negative coefficient on the trading volume during the event window is attributed to the negative 8-K news where the informed trader engages in short position during the event window. Hence, one plausible explanation for the negative coefficient on noise for the full sample is the restrictions and transaction costs associated with short trading. The results for the positive news 8-K are consistent

[13] Note that this ratio is likely the lower bound. The reason is that our proxy for noise traders is based on trading during the filing window. Hence, our proxy does not take into account all those 'noise' traders that traded during the event window but did not trade during the filing window.

with the full sample results except that the coefficient on noise in the trading volume during the event window is not significant.

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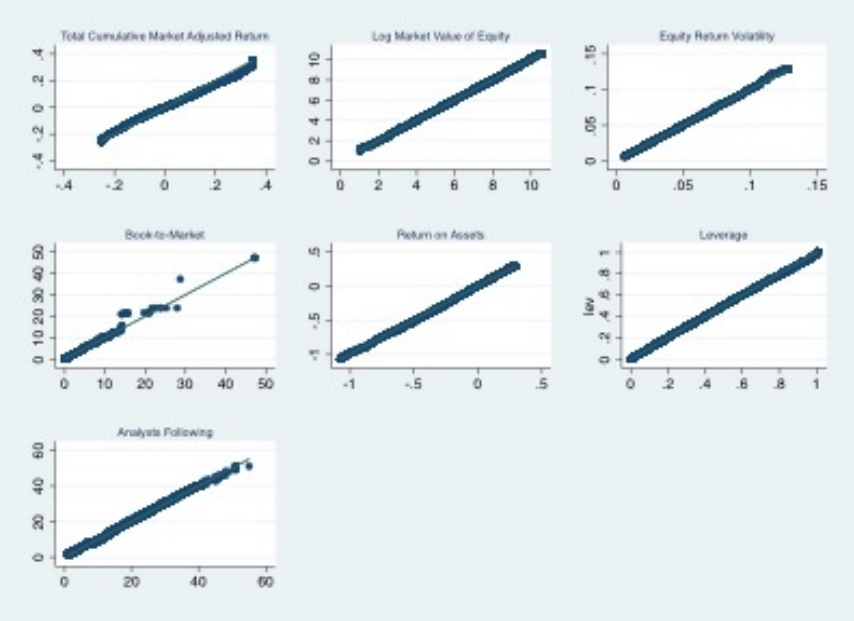
Figure 1: Quantile Plots



The graphs provide quantile-quantile plots for each covariate

Appendix I:

New Form 8-K Items Number and Description

Item Description	
Entry into a Material Definitive Agreement	1.01
Termination of a Material Definitive Agreement	1.02
Bankruptcy or Receivership	1.03
Mine Safety - Reporting of Shutdowns and Patterns of Violations	1.04
Completion of Acquisition or Disposition of Assets	2.01
Results of Operations and Financial Condition	2.02
Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant	2.03
Triggering Events That Accelerate or Increase a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement	2.04
Costs Associated with Exit or Disposal Activities	2.05
Material Impairments	2.06
Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer of Listing	3.01
Unregistered Sales of Equity Securities	3.02
Material Modification to Rights of Security Holders	3.03
Changes in Registrant's Certifying Accountant	4.01
Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review	4.02
Changes in Control of Registrant	5.01
Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers	5.02
Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year	5.03
Temporary Suspension of Trading Under Registrant's Employee Benefit Plans	5.04
Amendment to Registrant's Code of Ethics, or Waiver of a Provision of the Code of Ethics	5.05
Change in Shell Company Status	5.06
Submission of Matters to a Vote of Security Holders	5.07
Shareholder Director Nominations	5.08
Asset-Backed Securities	6.01-6.05
Regulation FD Disclosure	7.01
Other Events	8.01
Financial Statements and Exhibits	9.01

Old Form 8-K Items Number and Description

Item Description	
Changes in Control	1
Acquisition or Disposition of Assets	2
Bankruptcy or Receivership	3
Changes in Certifying Accountant	4
Other Important Events	5
Resignation of Directors	6
Other Exhibits	7
Change in Fiscal Year	8

*New form became effective August 23, 2004.

Appendix 2 - Variable Definition

Market Value of Equity - computed at fiscal year end

Leverage - Short term debt (DLC) plus long term debt (DLTT) scaled by average total assets (AT)

Return on Assets - Income before extraordinary items (IB) scaled by average total assets (AT)

Equity Return Volatility - standard deviation of daily equity return during the fiscal year

Book-to-Market - Common stockholders' equity (CEQ) scaled by market value of equity at fiscal year-end

Log of Total Strategic Trading - log of the total number of institutional investors with the sign of net trading during the event window equal to the sign of the news (market adjusted returns on the filing window) and sign of net trading during the filing window opposite to the sign of the news.

Proportion of Total Strategic Trading - Total Strategic Trading scaled by total number of institutions which traded the shares during the event window

Log of Total Consistent Trading - log of the total number of institutional investors with the sign of net trading during the event window equal to the sign of the news.

Proportion of Total Consistent Trading - is computed as Total Consistent Trading scaled by total number of institutions which traded the shares during the event window.

Abnormal Filing Volume - is the average volume of institutional investors during the filing window scaled by average daily volume of institutional investors during the year over non-news days

Overall Trading Volume - is volume (CRSP) scaled by number of shares outstanding (in 00)

Equity Return Volatility - market adjusted equity return squared

Bid-Ask Spread - bid minus ask divided by the mid-point of the spread in percentage terms

Abnormal Trading Volume -

Commented [JC4]: ???

Abnormal Equity Return Volatility - average market adjusted equity return squared during the filing window divided by average market adjusted equity return squared during the year over non-news days

Abnormal Bid-Ask Spread - average bid minus ask divided by the mid point of the spread in percentage terms divided by the average spread during the year over non-news days

Table 1 - Descriptive Statistics

Panel A - Firm Level

	Mean	STD	Q1	Median	Q3
Market Value of Equity	2,233	6,034	70	305	1,308
Leverage	0.222	0.216	0.030	0.172	0.348
Return on Assets	-0.024	0.202	-0.019	0.019	0.065
Equity Return Volatility	0.036	0.022	0.020	0.030	0.045
Book-to-Market	0.751	1.053	0.316	0.543	0.874
Number of Analysts	6.224	7.231	1	4	9

Panel B - 8-K form

Year	Number of Firms	Number of 8-K forms	Average # of Forms by Firm	Absolute Return	Filing Lag
1996	2,393	5,290	1.38	0.031	6.026
1997	3,033	7,518	1.96	0.034	5.700
1998	3,360	8,667	2.25	0.039	5.499
1999	3,302	8,441	2.2	0.042	5.235
2000	3,179	8,373	2.18	0.052	4.845
2001	3,279	9,652	2.51	0.049	3.773
2002	3,733	12,432	3.23	0.044	3.351
2003	3,873	14,911	3.88	0.034	2.874
2004	4,208	21,805	5.67	0.029	2.792
2005	4,355	36,561	9.51	0.026	2.866
2006	4,275	35,988	9.36	0.025	2.874
2007	4,206	35,200	9.16	0.028	2.808
2008	4,106	33,430	8.7	0.047	2.729
2009	3,935	29,882	7.77	0.046	2.603
2010	3,832	30,105	7.83	0.030	2.598
2011	3,667	28,953	7.53	0.028	2.627
2012	3,387	28,238	7.35	0.027	2.503
2013	3,327	28,927	7.53	0.025	2.399

Panel C - Reported Items

After Aug 2004				Before Aug 2004			
Item	Number of Forms	Absolute Return	Filing Lag	Item	Number of Forms	Absolute Return	Filing Lag
1.01	0.199	0.033	3.622	1	0.051	0.039	3.959
1.02	0.017	0.033	3.691	2	0.122	0.038	8.363
1.03	0.000	0.140	2.813	3	0.007	0.053	4.656
2.01	0.021	0.031	3.623	4	0.039	0.045	5.096
2.03	0.050	0.027	3.752	5	0.612	0.041	3.615
2.04	0.002	0.048	3.673	6	0.003	0.054	4.193
2.05	0.007	0.040	3.508	8	0.005	0.042	7.209
2.06	0.003	0.043	3.488				
3.01	0.017	0.058	3.740				
3.02	0.020	0.044	3.649				
3.03	0.012	0.040	3.058				
4.01	0.007	0.033	3.985				
4.02	0.003	0.044	3.487				
5.01	0.002	0.036	3.133				
5.02	0.232	0.030	3.631				
5.03	0.039	0.030	3.536				
5.05	0.002	0.027	3.991				
5.04	0.002	0.025	1.873				
5.07	0.049	0.024	3.237				
5.06	0.000	0.017	4.167				
5.08	0.000	0.022	2.188				
6.01	0.000	0.005	1.500				
7.01	0.189	0.032	1.352				
8.01	0.293	0.033	1.971				

Panel A shows descriptive statistics at the firm-year level. Panel B reports statistics on the number of 8-K forms, their economic significance measured by the absolute market adjusted equity return in the three days centered on the filing date, and mean filing lag. Panel C presents statistics on the frequency, economic significance, and filing lag of the various items reported via the 8-K form.

Table 2: Determinants of Filing Lag

	(1) All-OLS	(2) All-Poisson	(3) Old 8-K	(4) New 8-K
Constant	4.786***		6.671***	3.339***
	(0.000)		(0.000)	(0.000)
Market Adjusted Return	-3.607***	-1.231***	-4.790***	-3.136***
	(0.000)	(0.000)	(0.000)	(0.000)
Negative News Indicator	0.040***	0.013***	0.080***	0.014
	(0.000)	(0.000)	(0.002)	(0.189)
(Market Adjusted Return)	7.573***	2.551***	10.937***	6.054***
X (Negative News Indicator)	(0.000)	(0.000)	(0.000)	(0.000)
Time	-0.108***	-0.036***	-0.391***	-0.043***
	(0.000)	(0.000)	(0.000)	(0.000)
Return on Assets	-0.070	-0.038***	-0.086	-0.153**
	(0.329)	(0.000)	(0.581)	(0.014)
Equity Return Volatility	2.688***	0.798***	4.597***	1.078**
	(0.000)	(0.000)	(0.002)	(0.017)
Book-to-Market	-0.003	0.002	0.029	0.008
	(0.820)	(0.278)	(0.328)	(0.332)
Leverage	0.043	0.024***	0.045	0.055
	(0.575)	(0.009)	(0.786)	(0.403)
Log Market Value of Equity	-0.103***	-0.029***	-0.035	-0.009
	(0.000)	(0.000)	(0.362)	(0.533)
Analysts Following	0.018***	0.004***	-0.017**	0.008**
	(0.000)	(0.000)	(0.020)	(0.012)
Observations	384,373	383,212	133,650	250,723
R-squared	0.160		0.164	0.167

The table shows regressions of the filing lag on its determinants. The variables are defined in Appendix II. The first column is an OLS regression inclusive of all 8-K forms in the sample. The second column replicates the first column using a Poisson regression. Column 3 (4) report results when we restrict the sample to old (new) 8-K reports, before and after Aug. 2004, respectively. Standard errors are clustered by firm. P - values are reported in parentheses. The regressions include firm, year, and item fixed effects. *, **, *** indicate significance at the 10%, 5%, and 1%, respectively.

Table 3 - Institutional Daily Volume Trading

	Full Sample	2 Days	3 Days	4 Days	5 Days	6 Days	7 Days	Negative Events	Positive Events
Constant	0.305***	0.314***	0.315***	0.310***	0.314***	0.312***	0.309***	0.311***	0.305***
	(0.006)	(0.005)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)
DayM2	0.001	-0.018	-0.019	-0.021	0.032	0.030	-0.024	-0.009	-0.011
	(0.915)	(0.349)	(0.488)	(0.415)	(0.240)	(0.235)	(0.308)	(0.448)	(0.385)
DayM1	0.004	-0.001	-0.036	-0.027	0.046*	0.032	-0.024	-0.001	-0.011
	(0.695)	(0.954)	(0.180)	(0.288)	(0.093)	(0.221)	(0.301)	(0.958)	(0.386)
Day_0	0.125***	0.154***	0.119***	0.080***	0.140***	0.107***	0.094***	0.117***	0.113***
	(0.000)	(0.000)	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Day_1	0.232***	0.383***	0.265***	0.175***	0.175***	0.171***	0.132***	0.216***	0.224***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Day_2	0.080***		0.109***	0.064**	0.102***	0.071***	0.059**	0.067***	0.069***
	(0.000)		(0.000)	(0.042)	(0.000)	(0.006)	(0.014)	(0.000)	(0.000)
Day_3	0.057***			0.068**	0.093**	0.072***	0.036	0.047***	0.043**
	(0.000)			(0.034)	(0.028)	(0.006)	(0.139)	(0.005)	(0.014)
Day_4	0.015				0.016	-0.154	0.016	0.017	-0.011
	(0.369)				(0.696)	(0.395)	(0.544)	(0.454)	(0.633)
FDay_0	0.105***	0.182***	0.099***	0.092***	0.132***	0.077***	0.023	0.079***	0.109***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.003)	(0.323)	(0.000)	(0.000)
FDay_1	0.046***	0.064**	0.045	0.062**	0.065**	0.057**	-0.016	0.031**	0.038**
	(0.000)	(0.011)	(0.172)	(0.049)	(0.033)	(0.026)	(0.528)	(0.034)	(0.012)
Observations	4,045,230	3,678,832	3,650,534	3,652,658	3,654,630	3,678,919	3,709,952	3,830,333	3,821,795
R-squared	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043

The table reports regression of institutional daily volume trading on timing indicator variables. The dependent variable is volume scaled by number of shares outstanding (in 000). The Columns i Days (i=2-7) show regressions where we exclude from the sample the trading days around 8-K filing with filing lag different from i. The variables are defined in Appendix II. The regressions include firm level control variables (see Table 2), and firm, year, and item fixed effects. Standard errors are clustered by firm. p values are reported in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1%, respectively.

Table 4 - Strategic and Consistent Trading by Institutional Investors

Panel A: Univariate Statistics

Reporting Lag	Log of Total Consistent Trading	Proportion of Total Consistent Trading	Log of Total Strategic Trading	Proportion of Total Strategic Trading	Inst. Abnormal Filing Volume
2	1.059	0.553	0.182	0.137	1.178
3	1.130	0.553	0.193	0.132	1.111
4	1.141	0.544	0.206	0.126	1.092
5	1.216	0.539	0.232	0.114	1.109
6	1.268	0.531	0.243	0.098	1.043
7	1.356	0.528	0.244	0.085	1.034
Average	1.191	0.542	0.215	0.116	1.092

Panel B: Regressions of Strategic Trading and Consistent Trading on Reporting Lag

	Log of Consistent Trading			Log of Strategic Trading			Abnormal Filing Window		
	All	Negative News	Positive News	All	Negative News	Positive News	All	Negative News	Positive News
Constant	-0.705***	-0.734***	-0.791***	-0.237***	-0.263***	-0.273***	1.120***	1.032***	0.874**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.007)	(0.012)
Reporting Lag	0.071***	0.068***	0.074***	0.020***	0.019***	0.022***	-0.022***	-0.021***	-0.017**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.003)	(0.019)
Abs. Market Adjusted Return	-0.328***	0.148	-0.586***	0.118***	0.218***	0.095**	6.529***	9.304***	5.129***
	(0.000)	(0.203)	(0.000)	(0.003)	(0.000)	(0.037)	(0.000)	(0.000)	(0.000)
Negative News Indicator	0.033***			-0.018***			-0.012		
	(0.000)			(0.000)			(0.461)		
Return on Assets	0.057	0.060	0.000	0.000	-0.002	-0.007	-0.216	0.137	-0.393**
	(0.243)	(0.340)	(0.998)	(0.993)	(0.956)	(0.810)	(0.145)	(0.518)	(0.041)
Equity Return Volatility	0.783	-0.113	1.978***	-0.044	-0.085	0.085	-3.058***	-3.021*	-2.738*
	(0.152)	(0.839)	(0.005)	(0.868)	(0.779)	(0.792)	(0.006)	(0.072)	(0.069)
Book-to-Market	0.008	0.018**	-0.000	0.002	0.000	0.004	-0.018	-0.013	-0.009
	(0.175)	(0.012)	(0.983)	(0.588)	(0.983)	(0.534)	(0.377)	(0.734)	(0.677)
Leverage	0.012	-0.047	0.100*	-0.009	-0.000	-0.022	0.023	0.018	0.099
	(0.796)	(0.403)	(0.097)	(0.691)	(0.998)	(0.466)	(0.859)	(0.925)	(0.565)
Log Market Value of Equity	0.237***	0.245***	0.244***	0.058***	0.060***	0.058***	0.006	-0.005	0.033
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.864)	(0.923)	(0.465)
Analysts Following	0.000	0.003	-0.002	0.001	0.001	0.000	-0.003	0.004	-0.004
	(0.893)	(0.271)	(0.419)	(0.412)	(0.460)	(0.922)	(0.578)	(0.574)	(0.544)
Observations	61,304	31,303	30,001	61,304	31,303	30,001	42,751	21,664	21,087
R-squared	0.094	0.091	0.106	0.026	0.026	0.026	0.024	0.033	0.019

The table reports results of strategic and consistent trading by institutional investors, and institutional trading volume during the 8-K filing window. Panel A reports the mean of the trading variables by reporting lag. Panel B presents the regression results. The dependent variables are the Log of Total Strategic Trading, Log of Total Consistent Trading, and Inst. Abnormal Filing Volume, respectively. The regressions are estimated using OLS with firm, year, and item fixed effects. Standard errors are clustered by firm. p values are reported in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1%, respectively.

Table 5: Overall Volume, Bid-Ask Spread, and Equity Return Volatility

	Overall Trading Volume			Equity Return Volatility			Bid-Ask Spread		
	Full Sample	Negative Events	Positive Events	Full Sample	Negative Events	Positive Events	Full Sample	Negative Events	Positive Events
Constant	-0.632***	-0.622***	-0.624***	0.143***	0.142***	0.141***	5.785***	5.795***	5.784***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
DayM2	-0.009*	-0.011**	-0.017***	0.002*	0.002	-0.000	0.032***	0.033***	0.033***
	(0.064)	(0.033)	(0.001)	(0.076)	(0.283)	(0.873)	(0.000)	(0.001)	(0.000)
DayM1	0.008*	0.006	0.001	0.006***	0.005***	0.004***	0.027***	0.033***	0.025***
	(0.090)	(0.249)	(0.914)	(0.000)	(0.001)	(0.009)	(0.001)	(0.001)	(0.005)
Day_0	0.122***	0.124***	0.111***	0.038***	0.039***	0.033***	0.032***	0.035***	0.035***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Day_1	0.207***	0.202***	0.202***	0.057***	0.057***	0.053***	0.012	0.017	0.014
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.152)	(0.107)	(0.146)
Day_2	0.109***	0.104***	0.103***	0.016***	0.015***	0.013***	0.016*	0.024**	0.011
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.071)	(0.035)	(0.298)
Day_3	0.081***	0.071***	0.079***	0.009***	0.007***	0.006***	0.017*	0.020	0.017
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.006)	(0.089)	(0.111)	(0.150)
Day_4	0.065***	0.052***	0.067***	0.004*	0.001	0.002	0.030**	0.042***	0.021
	(0.000)	(0.000)	(0.000)	(0.067)	(0.580)	(0.567)	(0.013)	(0.007)	(0.156)
FDay_0	0.109***	0.080***	0.128***	0.018***	0.005***	0.027***	0.004	0.020*	-0.011
	(0.000)	(0.000)	(0.000)	(0.000)	(0.006)	(0.000)	(0.632)	(0.063)	(0.279)
FDay_1	0.064***	0.032***	0.085***	0.000	-0.013***	0.010***	-0.003	0.018	-0.023**
	(0.000)	(0.000)	(0.000)	(0.853)	(0.000)	(0.000)	(0.752)	(0.118)	(0.035)
Observations	13,601,416	12,988,112	12,935,806	13,601,346	12,988,050	12,935,747	13,405,137	12,797,441	12,745,324
R-squared	0.049	0.048	0.048	0.032	0.032	0.032	0.148	0.148	0.148

The table reports regressions of trading variables around the 8-K reporting period. Trading Volume is volume scaled by number of shares outstanding (in 00). Bid-Ask Spread is computed as the difference between the bid and ask divided by the midpoint of the spread in percentage terms. Equity Return Volatility is the market adjusted return squared. The regressions include firm level control variables (see Table 2), and firm, year, and item fixed effects. Standard errors are clustered by firm. p values are reported in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1%, respectively.

Table 6 - Abnormal Volume, Equity Return Volatility and Bid-Ask Spread during the Filing Window, and the Reporting Lag

Panel A: Univariate Statistics

Reporting Lag	Abnormal Trading Volume	Abnormal Equity Return Volatility	Abnormal Bid Ask Spread
2	1.306	1.146	0.979
3	1.254	1.190	0.979
4	1.208	1.124	0.981
5	1.155	1.078	0.976
6	1.128	1.052	0.981
7	1.122	1.012	0.988
Average	1.190	1.089	0.982

Panel B: Regressions

	Abnormal Trading Volume			Abnormal Equity Return Volatility			Abnormal Bid Ask Spread		
	Full Sample	Negative Events	Positive Events	Full Sample	Negative Events	Positive Events	Full Sample	Negative Events	Positive Events
Constant	1.380***	1.264***	1.727***	1.287***	0.829***	1.663***	0.980***	0.960***	0.979***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Reporting Lag	-0.030***	-0.027***	-0.030***	-0.022***	-0.017***	-0.026***	0.002*	0.002	0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.084)	(0.117)	(0.399)
Negative News Indicator	-0.081***			-0.225***			-0.002		
	(0.000)			(0.000)			(0.466)		
Return on Assets	0.043	0.044	0.023	-0.025	-0.032	-0.037	0.003	-0.008	-0.000
	(0.139)	(0.233)	(0.623)	(0.581)	(0.561)	(0.623)	(0.852)	(0.703)	(0.985)
Equity Return Volatility	-0.547*	-0.369	-0.704	-0.760*	-1.474***	-0.216	-0.264*	-0.399*	-0.140
	(0.071)	(0.344)	(0.123)	(0.081)	(0.007)	(0.754)	(0.087)	(0.061)	(0.537)
Book-to-Market	-0.013**	-0.021***	0.003	-0.003	-0.007	0.005	-0.007**	-0.004	-0.008**
	(0.018)	(0.000)	(0.683)	(0.656)	(0.428)	(0.627)	(0.011)	(0.374)	(0.023)
Leverage	-0.009	0.009	-0.057	0.006	0.003	0.019	0.001	-0.012	0.024

	(0.728)	(0.802)	(0.174)	(0.897)	(0.957)	(0.805)	(0.935)	(0.563)	(0.289)
Log Market Value of Equity	-0.042***	-0.020**	-0.060***	-0.019*	0.009	-0.046***	0.003	0.004	0.005
	(0.000)	(0.017)	(0.000)	(0.058)	(0.469)	(0.003)	(0.351)	(0.378)	(0.300)
Analysts Following	0.001	0.000	0.002	-0.001	0.001	-0.002	0.001	0.001	0.001
	(0.357)	(0.877)	(0.173)	(0.668)	(0.755)	(0.519)	(0.111)	(0.259)	(0.404)
Observations	171,805	89,010	82,795	171,805	89,010	82,795	171,805	89,010	82,795
R-squared	0.015	0.014	0.013	0.007	0.007	0.003	0.003	0.004	0.002

The table reports regressions of trading variables around the 8-K reporting period. The regressions include firm, year, and item fixed-effects. Standard errors are clustered by firm. p values are reported in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1%, respectively.

Table 7: Matching Analysis

Panel A: Mean Covariates across High and Low Filing Lag Samples

	Total Cumulative Market Adjusted Return	Log Market Value of Equity	Equity Return Volatility	Book-to-Market	Return on Assets	Leverage	Analysts Following
High Filing Lag	0.004	6.478	0.033	0.664	-0.028	0.239	8.712
Low Filing Lag	0.003	6.482	0.033	0.665	-0.028	0.240	8.765
Difference	0.000	-0.004	0.000	-0.002	0.000	-0.001	-0.053

Panel B: Regressions of Trading Variables during the Filing Window on the Filing Lag

	Log of Total Strategic Trading	Log of Total Consistent Trading	Inst. Abnormal Filing Volume	Abnormal Filing Volume - Overall	Abnormal Equity Volatility	Abnormal Bid Ask Spread
Constant	-0.269***	-0.820***	1.145**	1.050***	1.079***	0.976***
	(0.001)	(0.000)	(0.035)	(0.000)	(0.000)	(0.000)
High Filing Lag	0.098***	0.312***	-0.100***	-0.141***	-0.139***	0.005
	(0.000)	(0.000)	(0.007)	(0.000)	(0.000)	(0.490)
Total Cumulative Market Adjusted Return	0.129***	-0.090	-0.205	0.970***	0.984***	-0.274***
	(0.001)	(0.247)	(0.531)	(0.000)	(0.000)	(0.000)
Return on Assets	0.015	0.056	-0.074	0.029	-0.070	-0.019
	(0.723)	(0.505)	(0.782)	(0.615)	(0.464)	(0.562)
Equity Return Volatility	-0.034	1.390*	-3.527*	-1.169**	-1.822	-0.506
	(0.928)	(0.067)	(0.092)	(0.049)	(0.104)	(0.179)
Book-to-Market	0.005	0.022*	0.065	0.016	-0.013	-0.015**
	(0.469)	(0.071)	(0.292)	(0.219)	(0.520)	(0.022)
Leverage	-0.040	-0.013	0.093	0.006	-0.109	0.002
	(0.331)	(0.860)	(0.673)	(0.916)	(0.327)	(0.942)
Log Market Value of Equity	0.064***	0.275***	-0.006	-0.021	0.015	0.003
	(0.000)	(0.000)	(0.932)	(0.126)	(0.507)	(0.720)
Analysts Following	-0.000	-0.002	-0.008	-0.000	-0.003	-0.000

	(0.848)	(0.428)	(0.354)	(0.900)	(0.429)	(0.850)
Observations	28,141	28,141	24,624	87,481	87,481	87,481
R-squared	0.033	0.105	0.003	0.021	0.005	0.002

The table reports regressions of institutional and overall trading variables for a matched sample. The matching analysis is executed as follows: We first restrict the sample to the most frequent 8-K items – item 1.01, 5.02, 8.01 after 2004, and item 5 prior to 2004. We define High (Low) Filing Lag as those forms with filing lag of 6 or 7 days (2 or 3 days). Within each item and year, we match forms with High Filing Lag (treatment sample) with forms of Low Filing Lag (control sample). We facilitate the matching by estimating the CBPS propensity scores using the filing firm-level control variables (profitability, size, book-to-market, equity return volatility, leverage, and number of analysts), and the total economic magnitude of the event, which is computed as the cumulative market adjusted return from the event date through the day after the filing date (inclusive). We select the match from the control sample based on the closest propensity score with replacement. The regressions include firm, year, and item fixed-effects. Standard errors are clustered by firm. p values are reported in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1%, respectively.

Table 8 – Economic Significance Analysis

Panel A: Impact of Filing Lag on Economic Effect of the News – Descriptive Statistics

Reporting Lag	Volume Ratio	Volatility Ratio
2	0.456	0.437
3	0.436	0.428
4	0.412	0.405
5	0.409	0.405
6	0.344	0.337
7	0.238	0.233
Average	0.365	0.356

Panel B: Multivariate Regressions of Volume and Volatility Ratios

		Full Sample			Matched Sample	
	Volume	Volume	Volatility	Volatility	Volume	Volatility
Constant	0.456***	0.385***	0.397***	0.328***	0.403***	0.414***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Reporting Lag	-0.035***		-0.033***			
	(0.000)		(0.000)			
Reporting Lag_3		-0.020***		-0.009***		
		(0.000)		(0.002)		
Reporting Lag_4		-0.041***		-0.029***		
		(0.000)		(0.000)		
Reporting Lag_5		-0.043***		-0.028***		
		(0.000)		(0.000)		

Reporting Lag_6		-0.106***		-0.092***		
		(0.000)		(0.000)		
Reporting Lag _7		-0.188***		-0.173***		
		(0.000)		(0.000)		
High Filing Lag					-0.153***	-0.144***
					(0.000)	(0.000)
Abs. Market Adjusted Return	0.695***	0.694***	1.688***	1.686***	0.118***	0.220***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Negative News Indicator	-0.006***	-0.007***	-0.016***	-0.016***	-0.001	-0.013***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.726)	(0.001)
Return on Assets	0.003	0.002	0.019***	0.018***	-0.011	-0.006
	(0.487)	(0.646)	(0.006)	(0.009)	(0.326)	(0.692)
Equity Return Volatility	-0.501***	-0.489***	-1.222***	-1.209***	-0.064	-0.138
	(0.000)	(0.000)	(0.000)	(0.000)	(0.598)	(0.432)
Book-to-Market	-0.001	-0.001	-0.003**	-0.003**	0.000	-0.004
	(0.357)	(0.451)	(0.037)	(0.048)	(0.827)	(0.140)
Leverage	0.004	0.006	0.020***	0.023***	-0.020*	-0.013
	(0.412)	(0.196)	(0.003)	(0.001)	(0.071)	(0.451)
Log Market Value of Equity	-0.001	-0.001	-0.002	-0.002	0.000	-0.003
	(0.500)	(0.542)	(0.275)	(0.297)	(0.900)	(0.470)
Analysts Following	-0.000	-0.000	-0.000	-0.000	0.000	-0.000
	(0.903)	(0.880)	(0.606)	(0.582)	(0.248)	(0.629)
Observations	177,177	177,177	177,369	177,369	85,498	85,513
R-squared	0.144	0.157	0.116	0.123	0.141	0.056

The table reports result of economic significance analysis of the impact of the reporting lag on volume and volatility during the filing window. We compute the Volume and Volatility Ratios as follows. We first estimate the overall economic impact of the news using two proxies: sum of daily market adjusted equity return squared during from the event date through the day after the filing date (Total Volatility) and sum of trading volume scaled by total number of shares outstanding over the same period (Total Volume). We then compute the ratio of total daily market adjusted equity return squared during the filing window to Total Volatility, and similarly, the ratio of the sum of trading volume scaled by total number of shares outstanding during the filing window to Total Volume. The Matched Sample is the same sample used in Table 7. Reporting _Lag_i (i=3-7) is and indicator with 1 if the filing lag equals to i. The regressions include firm, year, and item fixed-effects. Standard errors are clustered by firm. p values are reported in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1%, respectively.

Table 9 – Trading Volume and Profit of Informed Investors and Noise Trading

Panel A: Descriptive Statistics

	Mean	Q1	Medina	Q3
Trading_Volume_Event_Winodw	0.373	0.003	0.019	0.125
Trading_Volume_Filing_Window	0.461	0.005	0.033	0.198
Trading_Volume_Ratio	14.910	0.122	0.667	3.200
Profit	0.016	-0.006	0.009	0.030
Noise Demand	0.274	0.028	0.178	0.467

Panel B: Profit and Trading Volume Regressions

	Full Sample			Positive 8-K News			Negative 8-K News		
	Profit	Trading Volume Filing Window	Trading Volume Event Window	Profit	Trading Volume Filing Window	Trading Volume Event Window	Profit	Trading Volume Filing Window	Trading Volume Event Window
Constant	-0.008	-0.067	-0.432	0.001	0.067	0.112	-0.021	0.148	-0.592
	(0.594)	(0.834)	(0.186)	(0.955)	(0.885)	(0.801)	(0.358)	(0.710)	(0.181)
Noise Demand	0.003**	0.068**	-0.134***	0.004**	0.118**	-0.049	0.001	0.023	-0.178***
	(0.030)	(0.046)	(0.000)	(0.042)	(0.016)	(0.357)	(0.449)	(0.658)	(0.001)
Abs. Market Adjusted Return	0.662***	1.758***	0.517	0.584**	2.018***	0.847	0.793***	2.092***	0.120
	(0.000)	(0.000)	(0.365)	(0.000)	(0.003)	(0.348)	(0.000)	(0.000)	(0.842)
Reporting Lag	0.001***	0.012**	0.056***	0.001**	0.016**	0.058***	0.001**	0.014*	0.054***
	(0.002)	(0.021)	(0.000)	(0.004)	(0.041)	(0.000)	(0.020)	(0.076)	(0.000)
Return on Assets	-0.011	0.127	0.073	-0.011	0.197	0.283	-0.006	-0.087	-0.275
	(0.134)	(0.476)	(0.743)	(0.351)	(0.520)	(0.405)	(0.547)	(0.738)	(0.388)
Equity Return Volatility	0.185***	-2.183*	0.762	0.196*	-0.912	-0.045	0.167**	-2.875	1.796
	(0.005)	(0.093)	(0.611)	(0.051)	(0.603)	(0.982)	(0.034)	(0.135)	(0.429)
Book-to-Market	0.002	0.011	-0.069*	0.002	-0.042	-0.083	0.001	0.061	-0.088
	(0.311)	(0.740)	(0.099)	(0.311)	(0.317)	(0.104)	(0.823)	(0.309)	(0.219)
Leverage	0.000	0.153	-0.163	-0.006	0.172	-0.227	0.004	-0.075	-0.285
	(0.964)	(0.312)	(0.227)	(0.452)	(0.526)	(0.266)	(0.640)	(0.570)	(0.127)
Log Market Value of Equity	-0.000	0.022	0.070**	-0.002	0.005	0.002	0.002	0.018	0.106**
	(0.971)	(0.503)	(0.035)	(0.391)	(0.920)	(0.963)	(0.439)	(0.671)	(0.026)
Analysts Following	0.000	0.002	-0.001	0.000	-0.004	-0.002	0.000	0.004	-0.002
	(0.388)	(0.568)	(0.759)	(0.524)	(0.412)	(0.760)	(0.591)	(0.359)	(0.748)
	32,352	32,352	32,352	16,638	16,638	16,638	15,714	15,714	15,714
Observations	0.187	0.004	0.007	0.174	0.006	0.008	0.222	0.005	0.011

Table 9, Panel A presents descriptive statistics. Trading_Volume_Event_Window (Treading)Volume_Filing_Window) is the ratio of the number shares traded during the event (filing) window scaled by the number of shares owned by the informed investor on the day prior to the 8-K event date. Trading_Volume_Ratio is the ratio of Trading_Volume_Filing_Window to Trading_Volume_Event_Window. Profit is the change in the share price, it is measured as the average share price during the filing window scaled by the average share price during the event window minus 1. If the informed trader takes a short position in the event window then Profit is measured as the average share price during the event window scaled by the average share price during the filing window minus 1. Noise Demand is the proportion of share volume traded by 'Noise' traders relative to total share volume traded during the event window. 'Noise' traders are defined those institutions who buy (sell) shares when the market reacts positively (negatively) to the 8-K news. Panel B shows the regressions results.