



Further evidence on the strategic timing of earnings news: Joint analysis of weekdays and times of day[☆]

Roni Michaely^{a,b}, Amir Rubin^{b,c,*}, Alexander Vedrashko^c

^a Johnson Graduate School of Management, Cornell University, Ithaca, NY 14853, USA

^b Interdisciplinary Center, Herzelia, 4610101, Israel

^c Beedie School of Business, Simon Fraser University, Burnaby, BC V5A 1S6, Canada

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ABSTRACT

Using combinations of weekdays and times of day (before, during, and after trading hours) of earnings announcements, we examine whether managers attempt to strategically time these announcements. We document that the worst earnings news is announced on Friday evening and find robust evidence that only Friday evening announcements represent managers' rational opportunistic behavior. Friday evening announcements are followed by insider trading in the direction of earnings news and the largest post-earnings announcement drift. Managers also attempt to reduce interaction with investors and hide more than just earnings news by announcing on Friday evening. We find that Friday evening announcements occur later in the evening than announcements on other evenings, firms have a reduced propensity to hold conference calls, and major firm restructuring events are relatively more likely to occur after Friday evening announcements.

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1. Introduction

How firms disseminate information to financial markets, how the market responds to this information, and how the mechanism of information dissemination affects the market response are of great importance (e.g., Grossman and Stiglitz, 1980; Merton, 1987). Perhaps the most common and most important vehicle by which firms release information to the market is through their earnings announcements. In particular, one of the decision variables is the exact timing of the earnings release. If the timing of the release affects the market's response to firms' earnings, then firms may release news strategically, for instance, to hide bad news. Prior studies examining the choice of weekday and, separately, time during the day for earnings announcements show that there is a higher concentration of bad news on Friday than on other weekdays (Penman, 1987; Damodaran, 1989; DellaVigna and Pollet, 2009; Doyle and Magilke, 2009; deHaan, Shevlin, and Thornock,

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* Corresponding author: Tel.: +1 778 782 5834; fax: +1 778 782 4920.

E-mail addresses: rm34@cornell.edu (R. Michaely), arubin@sfu.ca (A. Rubin), awv@sfu.ca (A. Vedrashko).

2015) and in the evening (after trading hours) than at other times of day (Patell and Wolfson, 1982; Doyle and Magilke, 2009; deHaan et al., 2015). Recent studies have recognized that the mere concentration of bad news on Friday and in the evening is not sufficient to establish the existence of strategic announcement timing. Doyle and Magilke consider opportunistic announcement switching and find no evidence that managers switch announcements of bad earnings news to Friday or evening. deHaan, Shevlin, and Thornock analyze variation in investor attention and find evidence consistent with rational strategic announcing in the evening but not on Friday.

Our study extends the existing literature and contributes to the debate of whether and when firms strategically announce their earnings news in two ways. First, because firms choose the weekday and time of their announcements jointly, we introduce the analysis of day-time combinations to the literature on opportunistic announcement timing. Second, we provide new implications of strategic announcing, with a special focus on whether managers have potential benefits from their announcement timing.

The analysis of announcement timing at the level of day-time combinations provides us with new insights about managers' strategic timing behavior. The higher concentration of bad news on Friday and, separately, in the evening found in the prior studies leads to a natural conjecture: Announcements on Friday evenings, which are the intersection of Fridays and evenings, have the worst news and, thus, are the most susceptible to opportunistic announcing behavior. This conjecture is also consistent with both the popular wisdom that firms and even government agencies tend to release bad news on Friday afternoon after 4 PM (Penman, 1987) and common knowledge in the financial industry that analysts and other professional investors are less likely to be at work on Friday evenings (e.g., Quenqua, 2010). We find that Friday evening announcements indeed contain by far the worst news of all day-time combinations.

In support of the strategic announcing hypothesis, we find that firms switch to Friday evening when they have bad news. A host of additional findings concerning the post-earnings announcement drift (PEAD), insider trading, delistings, and conference calls point out that strategic announcing occurs only on Friday evening. We also find that managers benefit from their strategic choice through reduced market scrutiny and delayed market response to news announced on Friday evening. The PEAD after Friday evening announcements allows managers to profit through post-announcement buying and selling of the company's stock in the direction of the surprise. The delayed market response to bad news can also provide managers with greater job security and benefits associated with continued employment in the firm (Kothari et al., 2009).

To analyze day-time combinations, we divide earnings announcements into three time-of-day slots—morning (between midnight and 9:30 AM), during-trading (between 9:30 AM and 4 PM), and evening (between 4PM and midnight)—and five weekdays, which creates a matrix of 15 timing cells. We use a comprehensive dataset of earnings announcement timestamps for the period from 1999 to 2013, which we hand-collect from newswires to avoid the systematic errors in IBES timestamps (Bradley et al., 2014; Michaely et al., 2014). The timing cell resolution allows us to uncover new patterns in opportunistic announcements, and it also puts in perspective the well-documented results regarding bad news on Friday and in the evening. We find that Friday evening announcements are responsible for a disproportionately large portion of the bad news on Fridays documented in the literature—Friday evening announcements constitute 17% of Friday announcements but produce one third of the negative difference in earnings surprise between Fridays and other weekdays. We also find that while evenings have only marginally worse news than other times of the day, without Friday evening announcements in the sample, the evening effect completely disappears.

By itself, the high concentration of bad news at one time is insufficient to conclude that strategic announcement timing is occurring. We answer the question whether and when strategic announcement timing exists by focusing on firms' decisions to switch the times and weekdays of their announcements depending on their earnings surprise. We begin by analyzing to which timing cells firms switch when they have worse news relative to the previous quarter (Doyle and Magilke, 2009). We also conduct a difference-in-differences test to examine whether firms that switch to a given cell have a greater decline in earnings surprise than firms that do not switch, i.e., that have stayed in this cell since the previous quarter. We find that among all weekdays, times of day, and timing cells, only Friday evening robustly indicates strategic switching behavior.

Next, we test an important implication of the opportunism motive that managers are rational when they time earnings announcements, which means that they can ultimately benefit from timing such announcements. Successfully hiding news implies that the market does not fully incorporate the news into prices and has a delayed reaction to the earnings announced at a given timing cell. Further, opportunistic announcements may allow insiders to benefit from trading the company's shares after the public information is released and before the information is fully impounded into prices. While the literature typically views opportunistic announcements as a strategy related to bad news, insiders can also benefit from buying shares before a delayed market reaction to good news. To test the conjecture that firms making announcements strategically can benefit from delayed market reaction, we analyze the PEAD and document patterns in it after announcements at different combinations of weekdays and times of day.

We find that both positive and negative news on Friday evening are followed by the largest drift in comparison to other timing cells. The PEAD after good news on Friday evening lasts for up to 13 months, and the PEAD after bad news is longer, approximately 2 years. A strategy with a long position in firms that announce positive news and a short position in firms that announce negative news yields 24.4% in 13 months for Friday evening versus the average of 4.2% over all fifteen timing cells. Our analysis of insider trading suggests that executives may be aware of the drift following Friday evening announcements. We find that, after these announcements, insiders tend to trade in the direction of the surprise, in contrast to the overall pattern of contrarian trading by insiders (Huddart et al., 2007; Jenter, 2005).

The finding that Friday evening stands out among other timing cells led us to survey investment managers regarding their thoughts about announcing earnings on Friday evening. The main message in the survey results is that announcing earnings on Friday evening is interpreted as an attempt to hide bad news. Another important point that was made is that many analysts have already left for the weekend when firms announce their earnings on Friday evening. Building upon the intuition of the survey results, we find further evidence suggesting that firms intend to reduce the number of analysts who review their announcements on Friday evening. The time distribution of announcements on Friday evening is different from other evenings in that Friday evening announcements are made relatively late, while other weekday evening announcements are strongly concentrated immediately after the market closes.

Besides earnings figures, firms tend to concurrently release other performance measures and soft information about their current and future endeavors. This raises a possibility that firms' management tends to announce on Friday evening to hide not only earnings news but other information as well. Following the intuition of this conjecture, firms should also be less likely to hold conference calls and, furthermore, give less notification time about upcoming conference calls. Our analysis of the distribution of conference calls associated with earnings announcements strongly supports this hypothesis for Friday evening. For example, Friday evening announcements are followed by half as many conference calls and associated with 2–3 times fewer days between the announcements and actual dates of conference calls than other timing cells.

Finally, based on the findings that firms interact with analysts less at the time of Friday evening announcements and receive less market scrutiny as a result, we can identify events other than earnings news that managers may want to hide through opportunistic timing of earnings announcements. Firms would be most inclined to proceed with opportunistic timing to hide information associated with the most critical events in a firm's life. Two such events are when a firm goes bankrupt or is acquired, both of which typically lead to stock delisting. A firm in financial distress would wish not to elaborate on the extent of its difficulties to avoid further exacerbating the distress situation. Similarly, a firm being too forthcoming can disrupt the firm's negotiations with prospective acquirers, causing managers to lose their unscheduled stock option grants (Fich et al., 2011) or leading to financial liability, such as a termination fee (Bates and Lemmon, 2003). We find that it is Friday evening announcements that are more likely to be followed by these two types of delisting events. In particular, a firm is five times more likely to be liquidated or its stock to be dropped from the exchange in the 120 days following a Friday evening announcement compared with announcements in other timing cells. A firm is also more than twice as likely to be acquired and, as a result, delisted during this period after Friday evening announcements.

Our findings support that Friday evening earnings announcements are motivated by managerial opportunism. This raises a question how pervasive and important such opportunistic behavior is among publicly traded U.S. firms. One perspective is that only 1.1% of earnings announcements are made on Friday evening, suggesting that managerial opportunism in the timing of earnings announcements is not a widespread phenomenon. At the same time, we note that the number of firms (11% of firms in our data) that made announcements on Friday evening is comparable to the number of firms with accounting restatements, particularly, those due to intentional misreporting (e.g., Hennes et al., 2008). A natural question is then what differentiates the firms engaging in strategic announcement timing. We find that firms that announce earnings on Friday evening are smaller, have lower institutional ownership, are followed by fewer analysts, and have a higher book-to-market ratio than firms that have never announced on a Friday evening. The first three characteristics suggest that firms that announce earnings on Friday evening are less visible than other firms. This low visibility may explain why the management of such firms can hide news announced on Friday evening and why these firms are perhaps less concerned with "annoying the Street", which our survey respondents suggest that Friday evening announcements do. Because Friday evening announcers are different from other firms on several observed and, possibly, unobserved characteristics, we control for this fact to ensure that our results are not driven by selection bias.

The paper contributes to the literature on managerial opportunism concerning the timing of earnings releases along several dimensions. First, in light of the mixed evidence on Friday and evening announcements in the literature, we suggest that strategic announcing can be studied by analyzing announcements at the timing cell resolution and find that when Fridays as a whole or all evenings are examined, firms show no strategic behavior. Rather, the strategic behavior concentrates on Friday evening alone. Second, we contribute to the literature on the market's inattention to earnings news announced on Friday. DellaVigna and Pollet (2009) find evidence of market inattention on Friday, whereas more recent papers by deHaan et al. (2015) and Michaely et al. (forthcoming) find no such evidence. Our results are in agreement with the latter two studies in that there is no market inattention on Friday. We also refine the findings in deHaan, Shevlin, and Thornock that investors pay relatively less attention to evening announcements and show that investor inattention is present not on all weekday evenings but only on Friday evening. Third, we discover evidence that managers' timing of earnings announcements is related to not only earnings news itself but also the disclosure of other information to analysts.

The rest of the paper is structured as follows. Section 2 describes the data. Section 3 analyzes the relation between announcement timing and the sign of earnings surprise. Section 4 conducts tests of opportunism by analyzing time switching patterns, the profitability of PEAD trading strategies, and insider trading evidence. Section 5 provides evidence on corporate events that occur after earnings announcements. Section 6 discusses what distinguishes firms that make Friday evening announcements from other firms. Section 7 concludes.

Table 1

Distribution of announcements across weekday and time-of-day pairs.

The sample includes 140,795 earnings announcements for the period from 1999 to 2013. The table reports the percentages of announcements for weekdays, time slots, and timing cells.

	Morning	During-trading	Evening	Total percent on weekdays
Monday	4.65	1.14	7.42	13.21
Tuesday	10.97	1.88	11.17	24.03
Wednesday	10.44	1.97	13.07	25.48
Thursday	16.05	2.22	12.72	30.99
Friday	4.37	0.85	1.08	6.29
Total percent in time-of-day slots	46.47	8.07	45.46	

2. Data

Our study requires us to clearly identify the time of earnings announcements. The initial sample consists of all quarterly earnings announcements in IBES from January 1999 to June 2013 that also have daily return data in CRSP.¹ Because there are errors in IBES timestamps (Bradley et al., 2014; Michaely et al., 2014), we verify the IBES timestamps by using the newswires. The newswires are Business Wire, PR Newswire, Dow Jones News, Reuters, and all other news sources in Factiva and LexisNexis. First, we download all earnings announcements with their timestamps from the newswires during the sample period. Next, using the full or partial firm name and, if necessary, the ticker, we run an algorithm that matches each announcement in IBES with the newswire announcements in the seven-day window around the announcement date in IBES. We then manually identify the correct matches and choose the time with the earliest newswire timestamp.

Stock price and daily returns data are taken from CRSP. Standardized unexpected earnings (SUEs), which measure earnings surprise, are defined as the difference between announced earnings per share and the median analyst forecast as reported by the IBES Summary file, normalized by the stock price five trading days prior to the announcement date. Earnings estimates and actual earnings are adjusted for splits by using the daily cumulative adjustment factor from CRSP (Glushkov and Robinson, 2006). Throughout the analysis, we control for five firm characteristics—size, book-to-market, institutional ownership, number of analysts, and leverage. Size is the market value of the firm's equity at the end of the quarter prior to the announcement quarter based on Compustat. Book-to-market ratio is stockholder equity minus the preferred stock plus deferred taxes divided by the market value of equity. Institutional Ownership is the fraction of common shares outstanding that are owned by institutional investors at the end of the quarter, and the data for this variable are obtained from the Thomson-Reuters Institutional Holdings (13F) Database. The number of analysts is the number of analysts who made forecasts of the quarter's earnings; the data for this variable are obtained from the IBES Summary file. We delete the observations in which institutional ownership is greater than 100% or missing or the number of forecasts is zero (2.5% of the sample). Leverage is the ratio of total book debt to book assets.

The data on insider trades is from the Thomson Insider database. We follow the procedure of Cohen et al. (2012) and divide insiders in the routine and opportunistic trader groups. Routine traders are defined as traders who traded in the same calendar month in the previous three years. Their trades are discarded because they are not assumed to trade on information. An insider who does not have any trades in the previous three years cannot be defined as either a routine or opportunistic trader; therefore, we also discard these observations. We also exclude repetitive records in the dataset, i.e., records with the same insider, transaction date, number of shares, and transaction type, because such repetition in the dataset is an error according to Jeng et al. (2003). We further reduce the noise effect of relatively uninformative trades by excluding trades of less than \$500 or fewer than 100 shares. Next, we sum the net dollar value² of trades for each insider in a given firm during the period from one day to 90 days after earnings announcements.

The delisting dates and category codes are taken from the CRSP stock event file. Non-merger delistings are those with CRSP delisting codes starting with 4, 5, and 7, and delistings due to mergers are those with CRSP delisting codes starting with 2. The conference call data are from Capital IQ (announcement code 48) and start from April 2004.

3. Distributions of announcement timing and the sign of earnings surprise

3.1. Distribution of weekdays, times of day, and timing cells of earnings announcements

Table 1 provides the distribution of the timing of earnings releases across the weekdays and time slots (morning, during-trading, evening). The partitioning of announcements in three time slots is as follows: Morning is the period from midnight to 9:30 AM EST; During-trading represents the period during which the market is open, from 9:30 AM EST to 4 PM EST; and

¹ Our sample begins in 1999, the first year when IBES began providing timestamps, because our search algorithm uses the timestamps in IBES as an initial input to search the newswires.

² A purchase is defined as a positive dollar amount, and a sale is defined as a negative dollar amount.

Evening is the period from 4 PM EST to midnight. If announcements were randomly assigned to weekdays, then the unconditional percentage of announcements per weekday would be 20% (if we ignore holidays). However, we observe in the totals in the rows of Table 1 that this is not the case. The percentage of announcements is higher than 20% for Tuesday–Thursday and lower for Monday and, especially, Friday, with 13.2% and 6.3%, respectively. Thus, the earnings release weekday is not random. From the totals of the columns, we note that relatively few announcements are made during trading hours; however, morning and evening announcements are divided evenly with approximately 45% of announcements made at each of these time slots. Two timing cells stand out as those with relatively few announcements compared to their respective weekday and time slot—the frequencies of Monday morning and Friday evening announcements are a mere 4.65% and 1.08%, respectively.

3.2. Announcement timing and the sign of earnings surprise

To put our methodology and findings in the context of the literature, Table 2 summarizes studies on the strategic timing of earnings announcements that examine the distribution of good and bad earnings news across weekdays and times of day. Panel A covers the studies that compare earnings news across weekdays (Penman, 1987; Damodaran, 1989; DellaVigna and Pollet, 2009; Doyle and Magilke, 2009; deHaan et al., 2015), and Panel B lists the studies that compare earnings news across different times of day (Patell and Wolfson, 1982; Doyle and Magilke, 2009; deHaan et al., 2015). Panel A reports that the frequencies of Friday announcements are similar in the studies after the 1990s. Friday announcements are more common in Penman (1987) and Damodaran (1989) possibly because of the different information environment and because their data sources were not as comprehensive as IBES. Fridays are associated with negative news in terms of SUE and MBE (the

Table 2

Summary of prior literature.

The table summarizes the frequency, SUE, and MBE of announcements at different weekdays and times of day reported in the literature. *SUE* is the actual quarterly EPS value minus the consensus estimate normalized by the stock price. *Earnings Surprise* is the actual quarterly EPS value minus the consensus estimate. *MBE* is the percentage of announcements with non-negative SUEs. *MBE (time series, annual)* is the percentage of announcements whose annual EPS increased relative to the previous year. *MBE (time series, quarterly)* is the percentage of announcements whose quarterly EPS increased or remained unchanged relative to the corresponding quarter in the previous year.

Panel A. Fridays versus other weekdays					
Study	Sample period	Frequency of Friday Announcements (%)			Statistics describing earnings news
Penman (1987)	1971–1982	17.5			Higher probability of negative announcement returns on Fridays
Damodaran (1989)	1982–1985	14.0			MBE (time series, quarterly): 48.8% (Friday) versus 53.6% (Monday–Thursday)
DellaVigna and Pollet (2009)	1995–2006	5.7			SUE: –0.0043 (Friday) versus –0.0016 (Monday–Thursday)
Doyle and Magilke (2009)	2000–2005	4.3			Earnings Surprise: Friday is more negative than Monday–Thursday
deHaan, Shevlin, and Thornock (2015)	2000–2011	7.6			MBE: 64.5% (Friday) versus 72.5% (Monday–Thursday)
This study	1999–2013	6.3			SUE (in firms that switched to/from Friday): –0.0033 (Friday) versus –0.0022 (Monday–Thursday)
					SUE: –0.0043 (Friday) versus –0.0014 (Monday–Thursday)
					MBE: 57.5% (Friday) versus 67.6% (Monday–Thursday)
Panel B. Evenings versus other times of day					
Study	Sample period	Frequency (%)			Statistics describing earnings news
		Morning	During-trading	Evening	
Patell and Wolfson (1982)	1976–1979	18.3	66.5	15.2	MBE (time series, annual): 57.6% (evening) versus 85.7% (morning and during-trading)
Doyle and Magilke (2009)	2000–2005	51.8	–	48.2	Earnings Surprise: evening is more negative than morning
deHaan, Shevlin, and Thornock (2015)	2000–2011	42.3	8.7	49.0	MBE: 72.7% (evening) versus 71.8% (morning)
This study	1999–2013	46.5	8.1	45.5	SUE (in firms that switched to/from evening): –0.0027 (evening) versus –0.0020 (morning)
					SUE: –0.00160 (evening) versus –0.00158 (morning and during-trading)
					MBE: 67.6% (evening) versus 66.5% (morning and during-trading)

percentage of announcements meeting or beating analysts' earnings forecasts).³ The time of day distribution of announcements in Panel B is much different in [Patell and Wolfson \(1982\)](#) than in the more recent studies, including ours, because during-trading announcements have become much less common after the 1990s ([Michaely et al., 2014](#)). Panel B also shows that evenings have a higher proportion of negative news in terms of SUE than mornings and during-trading, though [Doyle and Magilke \(2009\)](#) find the opposite in terms of MBE.

Next, we analyze the distribution of earnings news across weekdays, time of day slots, and timing cells in our sample. In analyzing the pattern of news announcements across day and time slots, it is important to monitor the reference point. For example, for a test whether SUEs are different on Friday, the reference point is the average of the other weekdays. Similarly, to test SUEs in one of the three time slots (morning, during-trading, evening), the reference point is the average SUE of the other two time slots. For the analysis of a timing cell, which is an intersection of a weekday and a time slot, the reference point can be either the average SUE of all other timing cells or the average SUE of timing cells with the same weekday and time slot as the given timing cell. The model that estimates SUEs for weekdays is expressed in Eq. (1), the model for time slots is expressed in Eq. (2), and the models for timing cells are expressed in Eqs. (3) and (4).

[Table 3](#), Panel A reports the effects of the weekday on the earnings news distribution estimated with the following model:

$$SUE_{i,t} = \alpha_0 + \alpha_1 W_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t} \quad (1)$$

where $SUE_{i,t}$ is the actual quarterly EPS value minus the consensus estimate normalized by the stock price. $W_{i,t}$ is an indicator variable that equals one if earnings news is released on the respective weekday and zero otherwise, and $X_{i,t}$ denotes control variables consisting of firm size, the number of analysts' estimates, institutional ownership, the debt-to-asset ratio, and the book-to-market ratio. The models explaining SUE also include year and firm fixed effects. A positive (negative) and significant α_1 implies that a given weekday is associated with better (worse) news.

[Table 3](#), Panel A reveals that the average SUE value for the sample is -0.0016 , and there is large variation across weekdays. Friday is associated with the largest negative surprise of -0.0043 , and Monday follows with -0.0022 . Tuesday, Wednesday, and Thursday are all associated with better surprise than the sample's average. The MBE percentage provides the same ranking of weekdays. These findings are consistent with the literature on bad news on Friday in Panel A of [Table 2](#). The last column of [Table 3](#), Panel A provides the coefficient α_1 of Eq. (1) and shows results consistent with the average SUEs. The strongest economic and statistical association with good news is on Wednesday, and the strongest statistical association with bad news is on Friday.

In Panel B of [Table 3](#), we investigate the distribution of earnings news by the time-of-day slots. The analysis is similar to that in Panel A, but the indicator $W_{i,t}$ for weekdays is replaced with the indicator $T_{i,t}$ for time slots, which equals one if the earnings news is released at the respective time of day (morning, during-trading, or evening) and zero otherwise:

$$SUE_{i,t} = \alpha_0 + \alpha_1 T_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t} \quad (2)$$

We find that the average SUE is -0.0020 , and the MBE is 63.7% for the during-trading time slot, which are significantly different from the full-sample average SUE of -0.0016 and full-sample MBE of 67%, whereas these univariate statistics in the morning and evening cells are not different from the full sample average. A similar lack of unequivocal evidence of worse news in the evening in univariate tests is found in [Doyle and Magilke \(2009\)](#), as [Table 2](#) reports. Nevertheless, after controlling for firm characteristics, we find that the coefficient α_1 for during-trading announcements is positive, whereas the coefficient for evening announcements weakly suggests that evenings have worse news.

In Panel C of [Table 3](#), we study the relation between timing cells and SUEs. The panel provides the coefficient α_1 of the following two regression specifications:

$$SUE_{i,t} = \alpha_0 + \alpha_1 W_{i,t} T_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t} \quad (3)$$

$$SUE_{i,t} = \alpha_0 + \alpha_1 W_{i,t} T_{i,t} + \alpha_2 W_{i,t} + \alpha_3 T_{i,t} + \sum_{i=1}^5 \alpha_{i+3} X_{i,t} + \epsilon_{i,t} \quad (4)$$

where $W_{i,t}$ and $T_{i,t}$ are indicators for weekdays and time slots, making the interaction term $W_{i,t} T_{i,t}$ an indicator variable that equals one if the announcement is made in a given timing cell and zero otherwise. Specification (3) captures the effect of the timing cell compared with all other timing cells or "unconditionally". Specification (4), in contrast, is conditioned on both the time-of-day and weekday information; therefore, its α_1 presents the conditional effect of a specific timing cell after the variation across weekdays and time slots is considered. This specification allows us to emphasize a timing cell that is significantly different from what is expected given its weekday and time slot. This specification may be especially important if there is considerable variation in SUEs across weekdays and time slots (as seen in Panels A and B), which leads to a large

³ To measure earnings news, [deHaan, Shevlin, and Thornock \(2015\)](#), [DellaVigna and Pollet \(2009\)](#), and [Doyle and Magilke \(2009\)](#) calculate SUE and MBE as in our paper, while the earlier studies in this table calculate earnings news based on time-series changes in EPS rather than analysts' forecasts.

Table 3

Earnings surprise and announcement timing.

The table provides the average SUEs, meet or beat percentages (MBE), and the coefficient α_1 with its t -statistics in parentheses in the following models:

$$(1) SUE_{i,t} = \alpha_0 + \alpha_1 W_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t}, \text{ (Panel A)}$$

$$(2) SUE_{i,t} = \alpha_0 + \alpha_1 T_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t}, \text{ (Panel B)}$$

$$(3) SUE_{i,t} = \alpha_0 + \alpha_1 W_{i,t} T_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t}, \text{ (Panel C – unconditional coefficient)}$$

$$(4) SUE_{i,t} = \alpha_0 + \alpha_1 W_{i,t} T_{i,t} + \alpha_2 W_{i,t} + \alpha_3 T_{i,t} + \sum_{i=1}^5 \alpha_{i+3} X_{i,t} + \epsilon_{i,t} \text{ (Panel C – conditional coefficient),}$$

where $SUE_{i,t}$ is the actual quarterly EPS value minus the median consensus estimate normalized by the stock price, $W_{i,t}$ is an indicator variable that equals one if the earnings announcement is made at the respective weekday and zero otherwise, $T_{i,t}$ is an indicator that equals one if the earnings announcement is made at the respective time slot and zero otherwise, and $X_{i,t}$ denotes firm size, the number of analysts' earnings forecasts, institutional ownership, leverage, and book-to-market ratio. Size is the market value of the firm's equity. The number of analysts' forecasts is the number of analysts who made forecasts of this quarter's earnings. Institutional ownership is the fraction of common shares outstanding that are owned by institutional investors at the end of the previous calendar quarter. Leverage is the ratio of total book debt to book assets. Book-to-market ratio is stockholders' equity minus the preferred stock plus deferred taxes divided by the market value of equity. Size, leverage, and book-to-market are calculated at the end of the quarter prior to the announcement quarter. The meet or beat percentage (MBE) is the percentage of announcements with non-negative SUEs. Firm and year fixed effects are included in all regressions. The standard errors are clustered by firm. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: SUEs for weekdays					
	Average SUE (MBE%)	Coefficient (<i>t</i> -statistic)			
Monday	−0.0022 (64.9)	−0.0002 (− 1.37)			
Tuesday	−0.0013 (68.4)	0.0003*** (2.57)			
Wednesday	−0.0011 (68.4)	0.0004*** (2.98)			
Thursday	−0.0013 (67.6)	0.0001 (0.63)			
Friday	−0.0043 (57.5)	−0.0019*** (− 7.10)			
Full Sample	−0.0016 (67.0)				
Panel B: SUEs for time slots					
Morning		During-trading		Evening	
Average SUE (MBE%)	Coefficient (<i>t</i> -statistic)	Average SUE (MBE%)	Coefficient (<i>t</i> -statistic)	Average SUE (MBE%)	Coefficient (<i>t</i> -statistic)
−0.0015 (67.0)	0.0001 (0.84)	−0.0020 (63.7)	0.0004* (1.75)	−0.0016 (67.6)	−0.0003* (− 1.83)

Panel C: SUEs for timing cells

	Morning			During-trading			Evening		
	Average SUE (MBE%)	Unconditional coefficient (t-statistic)	Conditional coefficient (t-statistic)	Average SUE (MBE%)	Unconditional coefficient (t-statistic)	Conditional coefficient (t-statistic)	Average SUE (MBE%)	Unconditional coefficient (t-statistic)	Conditional coefficient (t-statistic)
Monday	−0.0023 (63.6)	−0.0003 (−0.99)	−0.0002 (−0.55)	−0.0025 (61.8)	0.0004 (0.74)	0.0003 (0.58)	−0.0021 (66.1)	−0.0003 (−1.20)	0.0001 (0.30)
Tuesday	−0.0012 (68.2)	0.0004** (2.28)	0.0001 (0.55)	−0.0015 (67.2)	0.0007** (2.19)	0.0002 (0.66)	−0.0014 (68.8)	0.00001 (0.37)	−0.0002 (−0.86)
Wednesday	−0.0013 (68.4)	0.00003 (0.16)	−0.0006*** (−2.82)	−0.0013 (64.3)	0.0009*** (2.85)	0.0005 (1.35)	−0.0010 (69.0)	0.0004*** (2.76)	0.0005** (2.11)
Thursday	−0.0012 (67.8)	0.0003* (1.95)	0.0004* (1.76)	−0.0017 (64.8)	0.0001 (0.22)	−0.0004 (−1.00)	−0.0015 (68.0)	−0.0003 (−1.27)	−0.0003 (−1.28)
Friday	−0.0032 (60.8)	−0.0010*** (−3.55)	0.0027*** (4.35)	−0.0045 (53.9)	−0.0016** (−2.44)	−0.0002 (−0.34)	−0.0086 (46.6)	−0.0053*** (−6.37)	−0.0040*** (−4.58)

variation among timing cells. In this case, we should expect to find significant coefficients for many timing cells, which makes drawing overall conclusions regarding timing strategies difficult if we compare a specific timing cell to all other timing cells, as model (3) does.

Panel C reports the average SUEs, average MBEs, the coefficient α_1 of Eq. (3), which we label as “unconditional”, and the coefficient α_1 of Eq. (4), which we label as “conditional”. Two points are notable. First, Friday evening has by far the most negative news, and it is the only cell that has this property in terms of all four measures. Friday evening has the average earnings surprise of -0.0086 , which is economically and statistically different (5 times greater in absolute value) from the overall average and 2–8 times greater than SUEs in other timing cells. The Friday evening MBE is 46.6%, which is the smallest among the timing cells and lower by one third than the full sample MBE. Concerning the coefficient α_1 of specification (3), we find that half of the timing cells (8 out of 15) have a significant unconditional effect on SUEs. Nevertheless, if one considers the magnitude of the coefficients, it is clear that Friday evening stands out as having the most economic significance. Specifically, Friday evening has an effect on SUEs of -0.0053 , which is 3 times higher than the second largest negative coefficient, for Friday during-trading. The conditional coefficient (α_1 in Eq. (4)) reveals that there are only five timing cells that have a significant effect on the timing cell on SUEs after we account for weekday and time slot effects, and only two timing cells have a negative effect. Again, the Friday evening timing cell has the most negative news.

The timing cell resolution we implement provides new insights on the timing distribution of earnings news. By analyzing weekdays and times of day separately, prior literature implicitly assumes that Fridays and evenings are homogeneous in terms of earnings surprise. By relaxing this assumption, we find that Friday evening stands out as the timing cell that can drive the prior findings of the worst earnings news on Friday and, separately, in the evening. First, we find that announcements on Fridays are very heterogeneous depending on their time—the conditional coefficients in Panel C of Table 3 show that Friday morning actually has relatively positive news once we control for Friday and morning announcements. Further, if one excludes Friday evening announcements (which constitute 17% of Friday announcements) from the sample, the coefficient for Friday and its t-statistic drop by a third. Thus, Friday evening announcements account for a disproportionately large part of the overall bad news on Fridays reported in the extant literature. Second, Friday evening announcements are unique relative to other evenings. When we exclude Friday evening announcements from the sample, evenings do not exhibit a negative regression coefficient (Panel B of Table 3).

4. Is there an opportunistic announcement timing?

Based on the SUE analysis, Friday evening announcements stand out as having especially negative news. This does not necessarily prove strategic announcing behavior because Friday evening can be the most negative cell among the fifteen cells by chance with a probability of 6.6%. To evaluate whether strategic announcement timing is responsible for a relatively high concentration of bad news on a certain weekday, time slot, or timing cell, one needs to identify the incentives for managers to announce according to this pattern, which is the objective of this section.⁴

4.1. Switching of announcement timing and changes in earnings surprise

Following Doyle and Magilke (2009), we suggest that firms that are susceptible to opportunism are expected to change the time and/or day of the announcement when they have significantly worse news to announce compared with that in the previous quarter. A switch triggered by negative earnings news would imply strategic behavior. We also introduce a difference-in-differences test that compares changes in earnings news between firms that switched and the firms that did not switch their announcement timing cells.

In Table 4, we analyze the signs of changes in earnings news for firms that switched and did not switch their announcement times. The switched announcements have an announcement timing cell this quarter that differs from the previous quarter; the previous announcement is defined as no more than 120 calendar days prior to the current announcement.⁵ The non-switched announcements occur in the same timing cell in both the current and the previous quarter. Announcements without such a match (i.e., the previous announcement is more than 120 trading days before the current announcement in the dataset) are excluded. For each weekday, time slot, and timing cell, we provide information regarding the percentage of announcements that switched their timing cells and the change in SUEs (compared with the previous quarter's SUEs) for both the switched and non-switched announcements.

Table 4 presents results from two tests of opportunistic announcement switching. The first test follows the method proposed in Doyle and Magilke, which assumes that firms that switch their announcement time or day when they have bad

⁴ A related line of literature on strategic timing of earnings announcements considers firms timing their good (bad) earnings news early (late) relative to the expected announcement date. The initial studies in that literature (e.g., Kross, 1982; Kross and Schroeder, 1984; Begley and Fischer, 1998; Bagnoli, Kross, and Watts, 2002) document the relation between the sign of earnings surprise and announcement timing. Subsequent studies (Bowen et al., 1992; Donelson et al., 2012) take the next step and engage in testing economic motives for firms to advance or delay the dates of their announcements.

⁵ The 120-day window eliminates announcements that are significantly delayed because their timing cell may not be a free choice for the managers but, rather, constrained by external factors. Applying the 120-day cutoff deletes 3.9% of announcement pairs. These delayed announcements have much more negative SUE than the rest of the sample, and we verify that returning them to the sample does not affect the results in this subsection.

Table 4

Announcement time switching and change in earnings surprise.

In column (1), the table reports the percentage of announcements for each day, time slot, and timing cell that have switched the timing of their announcement in the current quarter compared with the previous quarter. The previous quarter announcements are those that took place no more than 120 calendar days prior to the current announcement. Columns (2) and (3) report the changes in SUEs relative to the previous quarter's SUEs for announcements whose timing has switched and not switched, respectively. Column (4) reports the difference in means between columns (2) and (3) and provides the t-statistic of the difference in means test in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	% Switched announcements (1)	SUE change if switched (2)	SUE change if not switched (3)	Difference (t-statistic) (4)
Monday	57.78	−0.00023	−0.00044*	0.00022 (0.64)
Tuesday	50.91	0.00027*	−0.00048***	0.00075*** (3.47)
Wednesday	47.75	−0.00021	−0.00035***	0.00013 (0.65)
Thursday	42.07	−0.00002	−0.00018*	0.00012 (0.84)
Friday	63.55	−0.00113***	−0.00048	−0.00064 (−1.14)
Full sample	48.93	−0.00011	−0.00034***	0.00023** (2.06)
Morning	11.66	−0.00033	−0.00022***	−0.00011 (0.44)
During-trading	45.41	0.00063*	0.00002	0.00061 (1.50)
Evening	11.44	−0.00042	−0.00029***	−0.00013 (−0.54)
Full sample	13.93	−0.00014	−0.00024***	0.00023 (0.62)
Monday morning	65.32	−0.00020	−0.00017	−0.00003 (−0.05)
Tuesday morning	54.41	0.00030	−0.00044**	0.00075** (2.31)
Wednesday morning	54.45	−0.00054**	−0.00040*	−0.00015 (−0.45)
Thursday morning	44.76	−0.00005	−0.00030*	0.00024 (0.96)
Friday morning	64.22	−0.00028	−0.00049	0.00021 (0.32)
Monday during-trading	76.20	0.00111	0.00009	0.00102 (0.71)
Tuesday during-trading	69.86	0.00077	−0.00018	0.00095 (1.15)
Wednesday during-trading	69.68	0.00044	0.00003	0.00041 (0.48)
Thursday during-trading	70.60	0.00034	0.00026	0.00008 (0.09)
Friday during-trading	80.14	−0.00119	−0.00019	−0.001 (−0.61)
Monday evening	59.93	−0.00045	−0.00072**	0.00027 (0.58)
Tuesday evening	54.14	0.00005	−0.00060***	0.00064** (2.02)
Wednesday evening	48.23	−0.00005	−0.00036**	0.00031 (1.15)
Thursday evening	46.07	−0.00013	−0.00005	−0.00008 (−0.26)
Friday evening	71.82	−0.00490***	−0.00042	−0.00448** (−2.29)
Full sample	53.57	−0.00012	−0.00034***	0.00022** (2.02)

news to announce do so strategically.⁶ Implemented in column (2), the test is that if a negative SUE change is accompanied by switching to a particular timing cell, that cell is associated with opportunistic announcement timing. The second test relaxes Doyle and Magilke's assumption in that it is motivated by the understanding that opportunism is not the only reason for firms to switch their announcement timing when the SUE change is negative. There is a host of reasons why firms announce on certain days or times, for example, industry peers' announcement schedules or large institutional holders' preferences. If the relevant firm characteristics change, firms can be expected to change their announcement timing regardless of earnings news. In such cases of benign switching, the earnings surprise of the firm's switching to a given cell and the earnings surprise of the firms that already populate the cell (the non-switchers) should be similar. More generally, if there is no strategic announcing, there should be no difference between switching and non-switching firms' earnings surprises. Therefore, our test to distinguish opportunistic from benign switching entails examining whether the firm that switches to a given cell has worse news than the non-switching firms that stay in this cell. In essence, comparing to our first test, our second test provides a reference point for the magnitude of the switchers' SUE change. The second test also controls for firm characteristics that influence the timing decision because it compares switchers and non-switchers in the same timing cell. The test in column (4) is implemented such that if a SUE change for switched announcements is more negative than a SUE change for non-switched announcements (which can be described as a difference-in-differences test), then announcements are switched opportunistically to the timing cell under consideration.

The analysis of weekdays in Table 4 reports that approximately half of the observations on weekdays are switching observations. Importantly, although Friday announcements of switchers tend to be associated with significantly worse news (the SUE change is −0.00113) according to column (2), i.e., the first test implies opportunistic switching, this result is not supported by the second test of the difference between the switched and the non-switched announcements in column (4). Tuesday is the only weekday for which both tests agree with each other, but we find that firms switch to Tuesday when they have positive, rather than negative, news. The middle portion of the table analyzes switching across times of day and shows that firms tend to keep the time of their announcements in the morning or evening (only 11% of announcements at these

⁶ The same assumptions apply to strategic announcements of good news. For example, a firm may want to switch to a "high attention cell" to receive higher market attention.

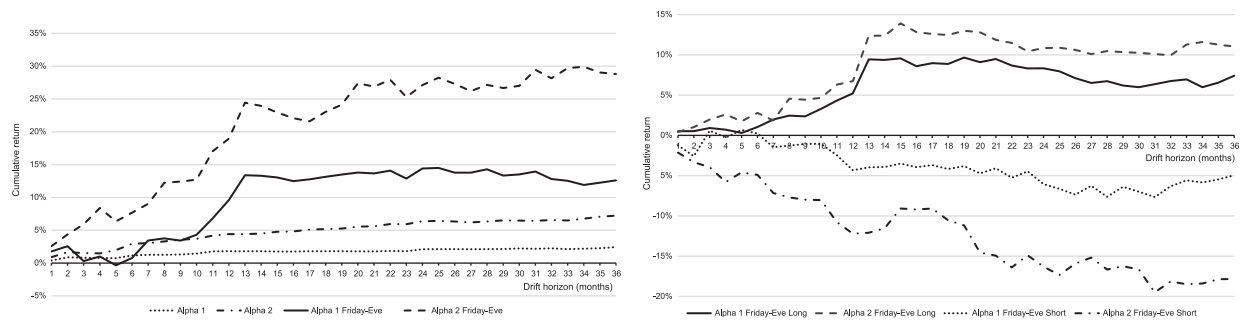


Fig. 1. Panel A. Cumulative post-announcement returns of the long minus short strategy for the full sample and Friday evening announcements. Panel B. Cumulative post-announcement drift for 1–36-month horizons following earnings announcements. Cumulative post-announcement drift shows the cumulative drift for 1–36-month horizons following earnings announcements. Announcements in the long (short) portfolios are those with positive (negative) SUE, and the Alpha 1 and Alpha 2 strategies are defined in Table 5. The horizontal axis is the drift horizon, which is the number of months a stock is held in the calendar-time portfolio. The monthly equally-weighted portfolio returns are regressed on the four Fama-French-Carhart factors. The cumulative drift is calculated as the intercept of the regression multiplied by the portfolio's horizon. Panel A shows the graphs of the long minus short strategy for the full sample and Friday evening announcements, and Panel B shows the performance of the long and short strategies for Friday evening announcements.

time slots are announcements that switched their times). The first test of opportunistic switching across times of day shows that firms that switched to during-trading tend to have an improvement in earnings news (the SUE change is 0.00063), but this result does not survive the second test in the last column. The weekday and time of day analysis overall is consistent with Doyle and Magilke (2009), who find no evidence of opportunism in moving to Friday announcements and from morning to evening announcements.

The most important result of the switching analysis is at the timing cell resolution. We find that Friday evening is the only cell that fully satisfies both our tests of opportunistic switching. Based on the first test (column (2)), we find that Wednesday morning and Friday evening are the only two cells that are associated with switching when the firm has worse news in the current quarter than in the previous quarter. However, the second, difference-in-differences test (column (4)) does not support opportunistic switching behavior for Wednesday morning. In contrast, the two tests agree for the Friday evening cell: switching to Friday evening is accompanied by the biggest SUE decline (-0.0049) relative to the previous quarter than for any other timing cell, and Friday evening is the only cell in which SUE declines more (by -0.00448) for switching announcements than non-switching announcements. To summarize, Friday evening announcements are the only ones that indicate opportunistic announcing of bad news according to the switching tests.

4.2. Post-earnings announcement drift and a long-short trading strategy

Our next question is whether the patterns of earnings announcement timing reported in the previous subsection are rational for managers. Opportunistic timing is rational if the market underreacts to the bad news announced by the firm because the delayed reaction diffuses the effect of bad news. This allows the firm's managers to benefit from greater job security, as well as protect their future employment opportunities, post-retirement benefits, and the value of their equity-based compensation (Kothari et al., 2009). By definition, a delayed reaction is revealed by a PEAD in the direction of the announcement news.

Fig. 1 shows the cumulative drift for post-announcement horizons from 1 to 36 months for Friday evening and the full sample. In Table 5, we analyze the 1-year drift following earnings announcements on all weekdays, time slots, and timing cells. To calculate the drift, we use the calendar-time portfolio approach.⁷ Because recent studies show that the PEAD is largely driven by relatively illiquid stocks (Sadka, 2006; Ng et al., 2008) and limits to arbitrage (Chung and Hrazdil, 2011), we eliminate small stocks from the sample for the PEAD analysis. Specifically, we restrict the portfolios only to stocks whose market value is above \$100 million five days before the earnings announcement. Firms smaller than \$100 million often have days without trading (Foerster and Keim, 2000) and can have a peculiar PEAD regardless of announcement timing because they tend to be mispriced and have a low institutional investment in them (Bartov et al., 2000; Bhushan, 1994). Penny stocks are also typically dropped in event studies due to their illiquidity, and we note that the \$100 million filter eliminates stocks with prices less than \$1 five days before the announcement from our sample.

We refer to Alpha 1 as the monthly alphas of the portfolios constructed according to the following simple strategy: firms that make earnings announcements with positive (negative) SUEs enter the long (short) portfolio at the end of the month (or the following month if the announcement is made on the last trading day of the month). A stock remains in the portfolio

⁷ The calendar-time approach has two main advantages over the matching portfolio approach in the timing cell setting. First, it addresses potential bias in t-statistics (Mitchell and Stafford, 2000) that can arise in the matching portfolio approach due to the clustering of good or bad news announcements through time in certain timing cells (e.g., Friday evening announcements of bad news by different firms are likely to cluster during relatively bad economic times). Second, because firms in the same timing cell have similar characteristics (as we find in Table 10 for the Friday evening cell), the matching portfolio, e.g., a firm size decile portfolio, is likely to be contaminated with firms whose announcements are in the same timing cell as the event firm.

Table 5

Long-term returns following earnings announcements.

The table provides monthly alphas obtained by the calendar-time portfolio approach for the one-year horizon. Alpha 1 is the percentage abnormal return from a strategy that is long positive SUEs and short negative SUEs. For the calculation of Alpha 2, the empirical distribution of SUEs at year $t-1$ is used to calculate the cut-off values of the top and bottom 50% of positive and negative SUE values, respectively; the strategy is then to go long if SUE is above the positive cut-off and short if SUE is below the negative cut-off. A stock enters a long or short portfolio at the beginning of the month following the month of the announcement and is held for 12 months. Panel A provides the results in the full sample and for weekdays, Panel B provides time-of-day results, and Panels C reports timing cell results. The excess returns in the portfolios are equally-weighted every month, and the resulting portfolio returns are regressed on the four Fama-French-Carhart factors. The reported alphas are the intercepts of these regressions. The standard errors are calculated by using the Newey-West procedure with 3 lags. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A. 1-year post-announcement drift across weekdays

		Alpha 1	Alpha 2
Full sample	Long	0.24***	0.28***
	Short	0.11	−0.07
	Long-Short	0.13**	0.35***
Monday	Long	0.14	0.18
	Short	0.02	−0.14
	Long-Short	0.12	0.32*
Tuesday	Long	0.29***	0.32***
	Short	0.10	−0.15
	Long-Short	0.18*	0.48***
Wednesday	Long	0.30***	0.39***
	Short	0.17	−0.01
	Long-Short	0.13	0.40***
Thursday	Long	0.25***	0.31***
	Short	0.07	−0.14
	Long-Short	0.18***	0.45***
Friday	Long	0.16	0.20*
	Short	0.10	−0.13
	Long-Short	0.06	0.32*

Panel B. 1-year post-announcement drift across time slots

	Morning		During-trading		Evening	
	Alpha 1	Alpha 2	Alpha 1	Alpha 2	Alpha 1	Alpha 2
Long	0.24***	0.29***	0.14	0.17	0.24**	0.26*
Short	0.07	−0.18	−0.12	−0.62**	0.14	0.01
Long-Short	0.17**	0.47***	0.26*	0.79***	0.10	0.24**

Panel C. 1-year post-announcement drift across timing cells

		Morning		During-trading		Evening	
		Alpha 1	Alpha 2	Alpha 1	Alpha 2	Alpha 1	Alpha 2
Monday	Long	0.09	0.07	−0.17	−0.34	0.22*	0.30*
	Short	−0.01	−0.18	−0.20	−0.54	0.07	−0.04
	Long-Short	0.11	0.26	0.03	0.21	0.15	0.35
Tuesday	Long	0.34***	0.38***	0.23	0.30	0.25*	0.27
	Short	0.08	−0.19	−0.20	−0.76*	0.10	−0.07
	Long-Short	0.26**	0.57**	0.43	1.06**	0.15	0.34*
Wednesday	Long	0.30***	0.45***	0.35**	0.57***	0.31***	0.32**
	Short	0.01	−0.28*	−0.31	−0.91**	0.27***	0.24
	Long-Short	0.29**	0.74***	0.66***	1.48***	0.04	0.08
Thursday	Long	0.26***	0.31***	0.23	0.25	0.27**	0.31
	Short	−0.01	−0.23	−0.01	−0.62	0.13*	−0.05
	Long-Short	0.26**	0.54***	0.24	0.87**	0.14	0.35**
Friday	Long	0.18	0.20	−0.06	0.12	0.44**	0.58*
	Short	0.20	0.04	0.35	−0.87	−0.37*	−1.02***
	Long-Short	−0.03	0.16	0.29	0.99	0.81**	1.59***

for n months during the period that starts in month $t+1$ and ends in month $t+n$ (inclusive), where t is the announcement month.⁸ Excess returns (a stock return minus the risk free rate) are equally-weighted each month, and the monthly portfolio returns are regressed on the three Fama and French (1993) and momentum Carhart (1997) factors. The calendar time portfolio alphas in Fig. 1 and Table 5 are the intercepts of these regressions.⁹

Alpha 2 denotes the alphas of a more sophisticated strategy that creates portfolios depending on the magnitude of earnings surprise. To avoid the effects of seasonality in earnings, we use the empirical distribution of SUEs during the full year before the announcement year to calculate the medians of the positive and negative SUE values. Then, we construct portfolios by going long shares of firms whose SUE value is above the median of the positive SUE distribution and short shares of firms whose SUE value is below the median of the negative SUE distribution.¹⁰ Because we rely on the SUE distribution in the year before the announcement year, the trading strategy becomes available one year after the beginning of our sample, i.e., the portfolio time series for Alpha 2 begins in January 2000.

Fig. 1 provides the cumulative post-announcement returns for the long minus short strategy for Friday evening and full sample (Panel A) and the long and short strategies for Friday evening announcements separately (Panel B). For example, in Panel A, an investor in the long minus short Alpha 2 strategy would earn an abnormal return of 24.4% by holding the stocks for 13 months after the announcement month for Friday evening announcements, where the cumulative 24.4% return is calculated as 13 months multiplied by a monthly alpha of 1.88% obtained from the 13-month calendar-time model. Consistent with the literature (Foster et al., 1984; Bernard and Thomas, 1990), most of the long-term PEAD in the full sample is accumulated during the first 6 months.¹¹ We show, however, that the PEAD depends on the announcement weekday, time of day, and timing cell. According to Panel A, the long minus short PEAD for Friday evening greatly exceeds the full sample PEAD at all horizons (with an exception of the Alpha 1 strategy in the 3–6 month horizon range). Remarkably, more than half of the return earned by the long minus short strategy for Friday evening accumulates between months 6 and 13, in contrast to the full sample PEAD. Panel B explores the components of the long minus short PEAD on Friday evening by considering the PEAD after positive and negative news separately. The PEAD for stocks with positive SUE peaks at 13–15 months and becomes close to zero afterwards. In contrast, the figure shows that approximately two years is required for the market to internalize bad news associated with Friday evening announcements. The longer drift after bad news than after good news could be due to the short sale constraint.

Panels A–C of Table 5 report the results for a 1-year drift across all weekdays (Panel A), time slots (Panel B), and timing cells (Panel C), which complement Fig. 1 showing only the full sample and Friday evening PEADs. According to both Alpha 1 and Alpha 2 strategies for all weekdays and time slots (except Alpha 2 for during-trading), long positions have positive significant alphas, but short portfolios have nonsignificant alphas. The long minus short portfolios in Panels A and B do not lose money and almost always have statistically significant alphas. The drifts for Friday and evening are not different from the drifts on other weekdays and times of day, respectively.¹²

Table 5, Panel C presents the results of a PEAD analysis for the fifteen timing cells. Analyzing Alphas 1 and 2 yields the same conclusions about Friday evening, which suggests that our findings in Panel C are robust. The takeaway from the table is that Friday evening announcements are followed by an exceptionally large drift for both positive and negative earnings surprises. We find that half of the timing cells have a positive drift in the long portfolio and that the largest long position drift is that of Friday evening (e.g., Alpha 1 of 0.44% and Alpha 2 of 0.58%). More important, the only negative significant Alpha 1 of a short position is that of Friday evening, and the most negative Alpha 2 of a short position is that of Friday evening (–1.02%). Overall, the most significant long minus short alpha is that for Friday evening, which yields a monthly abnormal return of 0.81% (with an annual abnormal return of 9.7%) for Alpha 1 and 1.59% (with an annual abnormal return of 19.1%) for Alpha 2.¹³

⁸ We conduct a similar analysis such that if a firm in a portfolio has another announcement with a nonzero SUE during the portfolio's horizon, then the portfolio is adjusted accordingly to reflect the new information. For example, suppose that the holding period of a stock following a positive SUE announcement is one year, and a firm announces a negative SUE on March 15, 2010 and then a positive SUE on June 15, 2010. In this case, the stock will be included in the short portfolio during April, May, and June of 2010, and it will then be transferred to the long portfolio from July 2010 to June 2011. Therefore, at no time is a stock present in both portfolios. Although this approach is not common in the literature, the results of this analysis are qualitatively similar to the results that we report in this paper.

⁹ A regression for the “long minus short” portfolio produces a similar alpha to the alpha that is obtained by subtracting the alpha of the short portfolio from the alpha of the long portfolio.

¹⁰ We note that implementing a strategy that goes long the top SUE decile and short the bottom SUE decile, as is often done in the literature (e.g., Bernard and Thomas, 1990), is not feasible in the timing cell framework because of the insufficient number of stocks in some timing cells at short horizons.

¹¹ The 1-year long minus short return from the Alpha 2 strategy in the full sample is 4.2%. Abarbanell and Bernard (1992) use the matching firm portfolio approach to calculate the PEAD and find a 12-month PEAD in the direction of earnings surprise, with a long-short strategy based on this PEAD yielding 8% a year.

¹² DellaVigna and Pollet (2009) is the only prior study to consider a relation between announcement timing and the PEAD, and they find that a 90-day drift is greater on Friday than on other weekdays. However, we find that their result can be explained by their using a partially incorrect formula for abnormal returns, which should have included the intercept of the asset pricing model (e.g., Campbell et al., 1997; MacKinlay, 1997). Michaely et al. (forthcoming) also show that the differential PEAD on Friday in DellaVigna and Pollet disappears after correcting for selection bias.

¹³ The implementation of trading strategies for Friday evening announcements is likely to incur relatively high transaction costs because we find in Section 6 that firms that announce on Friday evening are relatively small. Using trading cost estimates in Novy-Marx and Velikov (2016), we conservatively calculate that the annual transaction costs for the PEAD strategy are 1–3% for Friday evening announcements. Accounting for transaction costs indicates that the economically significant PEAD for Friday evening is attainable.

Table 6

Insider trading after earnings announcements.

The dependent variable is the net dollar value of trades (the dollar value of purchases minus the dollar value of sales) by individual insiders in the firm during the period starting on the second day after the earnings announcement and ending 90 calendar days after the announcement. An announcement is defined as Positive news or Negative news based on the sign of earnings surprise. The table reports the coefficient α_1 of the model: $Value_{i,t} = \alpha_0 + \alpha_1 W_{i,t} T_{i,t} + \alpha_2 W_{i,t} + \alpha_3 T_{i,t} + \alpha_4 SUE_{i,t} + \sum_{j=1}^5 \alpha_{j+4} X_{j,t} + \epsilon_{i,t}$. The model is estimated separately on the samples with positive and negative news. The independent variables are defined in Table 3. The dependent variable is normalized by the total absolute value of transactions by the insider in this firm during the sample period and stated in percentage. The model includes firm and year fixed effects. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Morning		During-trading		Evening	
	Positive	Negative	Positive	Negative	Positive	Negative
Monday	0.0001	−0.005	0.001	0.056**	−0.0001	−0.012
Tuesday	−0.002	−0.007	−0.013	−0.017	0.005	0.013
Wednesday	−0.001	0.007	−0.007	0.034*	0.002	−0.019*
Thursday	0.005	0.008	0.010	−0.078***	−0.008	0.017
Friday	−0.024*	−0.014	0.023	0.076***	0.037*	−0.043*

These results highlight a potentially greater market inefficiency for announcements on Friday evening during our sample period. Furthermore, the delayed market reaction on Friday evening implies that managers can retain job security benefits by timing their announcements to hide bad news on Friday evening.

4.3. Insider trading following earnings announcements

An additional way for managers to benefit from delayed market reaction to earnings announcements is through insider trading soon after the announcements, even if the firm has a trade blackout policy before the earnings announcement. Insiders can sell shares to exploit the subsequent delayed market reaction to bad news. Similarly, insiders can buy shares after good news to profit from the subsequent positive drift. If the analysis of insider trading data shows that managers attempt to gain from the drift on Friday evening by trading in the direction of the earnings surprise, such a finding would be powerful confirmation for the Friday evening opportunism hypothesis.¹⁴

Table 6 reports the regression results for the relation between announcement timing and insider trades. For expositional purposes, the results for weekdays and time of day slots are in the Appendix A (Table A1), and we focus our analysis on the conditional timing cell results. The dependent variable is the net dollar value of trades by insider i in a given firm during 90 days following an announcement at time t , $Value_{i,t}$. Because the insiders' wealth varies considerably across firms, we normalize the dependent variable by the total absolute value of transactions by the insider in the firm during the sample period. The structure of independent variables is the same as in Eq. (4), with the addition of SUE as an explanatory variable. The model includes year and firm fixed effects, and the results are unaffected by replacing firm fixed effects with insider-firm fixed effects.

The table provides separate analysis for positive and negative news based on the sign of SUE. It shows that the only timing cell that is associated with trades in the direction of the surprise for both good and bad news is the Friday evening cell. Insiders tend to increase their net buying by 3.7% and net selling by 4.3% after positive and negative news on Friday evening, respectively. Besides Friday evening, there are only two other timing cells with significant net selling activity after bad news, and no other timing cell with net buying activity after positive news. The result that insiders trade in a way that benefits them from the market underreaction after Friday evening announcements provides further support for the opportunism hypothesis for Friday evening announcements.

5. Good time to hide any news?

5.1. The executive survey

To achieve a better understanding of why firms may decide to announce on Friday evening, we conduct a small survey to gather the opinions of market participants on this issue. Table 7 summarizes the responses of fourteen Cornell Business

¹⁴ Huddart et al. (2007) show that the general tendency of insiders is to be a contrarian and trade in the opposite direction of the earnings news. In our study, we consider the possibility that insider trading patterns can differ across timing cells and that insiders can trade in the direction of the news if it is profitable for them to do so. The standard test of the profitability of insiders' trades in the literature is whether insiders buy before an increase and sell before a decline in a stock price (e.g., Eckbo and Smith, 1998). Jeng, Metrick, and Zeckhauser (2003) estimate insiders' profits by forming calendar-time portfolios after insiders' trades, which suggests that our long and short PEADs calculated using the calendar-time approach proxy for insiders' profits from announcement timing.

Table 7

Summary of answers to the survey.

The table summarizes the responses to the open-ended questionnaire completed by fourteen Cornell University alumni (a response rate of 77.8%) who work in public corporations at either the executive or financial branch of the company. The respondents were allowed to offer multiple answers to the question.

Do you think releasing earnings news on Friday after trading hours is a good idea, and why or why not?	
Bad idea – analysts are not around	4
Bad idea – annoys the Street	4
Bad idea – means the company is trying to hide bad news	6
Bad idea – no press coverage	4
Bad idea – not sure what the point is	1

School alumni who work in public corporations at the executive or financial branch. We ask these individuals to answer the following open-ended question: “Do you think releasing earnings news on Friday after trading hours is a good idea and why or why not?” Although the small sample size of the survey precludes a meaningful analysis of answer frequencies, the survey results are informative about the typical answers and the executives’ perception of Friday evening announcements. All the respondents stated that releasing earnings news on Friday evening is a bad idea and provided various rationales for why it is bad—for instance, because “analysts are not around”. The respondents also think that Friday evening announcements imply that managers are trying to hide bad news.

5.2. The release of earnings news on Friday evening compared with other evenings

The survey results point to the perception that managers try to hide earnings news by announcing it on Friday evening. However, the ability to hide news on Friday evening depends on the presence of fewer analysts and other market participants and/or the relatively less attention devoted to the earnings news after the market closes. We therefore conjecture that another implication of the Friday evening opportunism hypothesis is that Friday evening announcements are made later in the evening compared with announcements on other evenings, so that they are observed by fewer market participants.

Fig. 2 provides histograms of announcement times in the morning (the left-hand side figures) and in the evening (the right-hand side figures). In each of the time slots, we also divide announcements between announcements made on Monday–Thursday (the top row) and announcements made on Friday (the bottom row). The figure shows relatively small differences between Friday morning and other weekday mornings. In contrast, Friday evening has a much different distribution from the other evenings. From Monday to Thursday, more than 55% of evening announcements occur between 4:00 and 4:30, whereas only 28% of Friday evening announcements occur at that time. Overall, compared with announcements on other evenings, Friday evening announcements are clearly delayed, which supports our conjecture that managers try to hide earnings news on Friday evening.

5.3. Earnings announcement timing and post-announcement events

Our findings so far support the hypothesis that managers successfully try to hide bad earnings news on Friday evening. The survey results and the relatively late time of Friday evening announcements also suggest that firms’ management tends to announce on Friday evening to avoid or reduce its interaction with market participants. This suggests that firms can try to hide more than just earnings news on Friday evening because the previous quarter’s earnings is not the only type of information that is released at the time of an earnings announcement. Firms commonly include other performance measures, have a conference call with soft information, or combine the earnings announcement with a managerial forecast (Atiase et al., 2005; Matsumoto et al., 2011; Rogers and Van Buskirk, 2013). Conference calls are a form of voluntary disclosure that is often held immediately after earnings announcements. During conference calls, analysts have an opportunity to receive valuable information in the question and answer session (Matsumoto et al., 2011), potentially uncovering information that is not publicly released through other formal channels. If Friday evening earnings announcements are associated with managers’ desire to avoid market scrutiny, one can expect to find a lower propensity of conference calls happening after these announcements.

Panel A of Table 8 reports the percentages of earnings releases that are followed by a conference call and provides the coefficients on the timing cell effect (the results for weekdays and times of day are in Table A2 of the Appendix A) conditional on the weekday and time-of-day effects in a probit model, whose explanatory variables are as in Eq. (4). The Friday evening cell has a much lower percentage of conference calls (26.6%) compared to the overall average (58.0%). The conditional coefficient for Friday evenings is negative and highly significant (−22.8%). The two other negative and statistically significant coefficients are in the Monday morning and Friday during-trading timing cells, but their magnitudes (−2.1% and

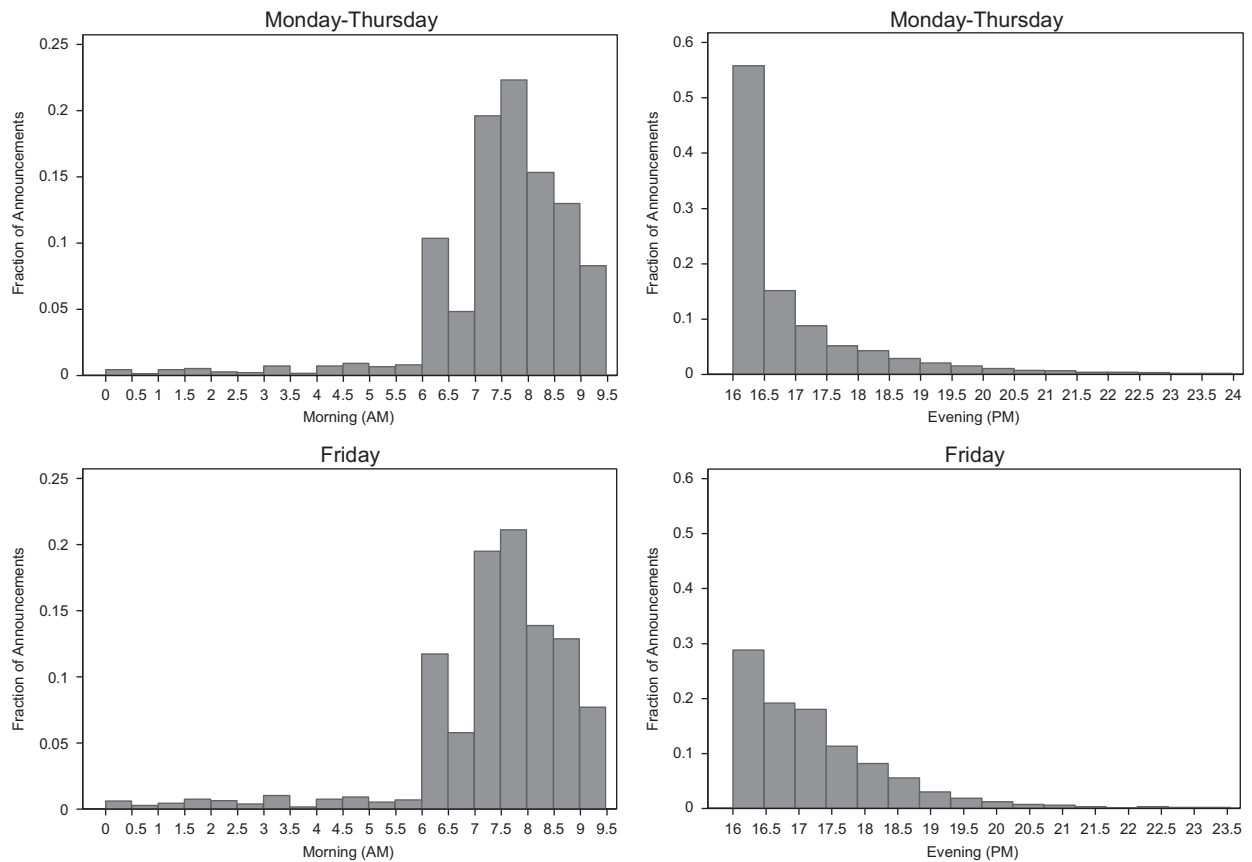


Fig. 2. Distribution of earnings announcement times in the morning and evening of Monday–Thursday and Friday.

–4.3%, respectively) are much smaller and less significant. Thus, Friday evening announcements tend to be followed by fewer conference calls.

Further, if managers intend to reduce analysts' participation in a conference call, they can try to provide less advanced warning for analysts by making a conference call announcement closer to the actual date of the conference call.¹⁵ We conjecture that this opportunistic behavior is strongest for Friday evening earnings announcements. The analysis in Panel B of Table 8 reports the number of days between the date on which the firm announces a conference call and the actual date of the conference call. This conference call announcement lead time is the dependent variable in a Tobit regression, whose explanatory variables are the same as in Eq. (4). The average number of days between the announcement and actual dates of conference calls for Friday evening earnings announcements is 7.4 days, while all other timing cells average in the range of 14–21 days. The conditional coefficient suggesting a shorter conference call notification time for Friday evening is also highly statistically significant in the Tobit regression framework.

The empirical findings in this section support the hypothesis that firms attempt to hide more than just earnings news on Friday evening. Next, we provide further evidence of this by identifying events about which firms avoid communicating by announcing on Friday evening. Intuitively, firms would resort to announcing at such an unusual time to hide information that can affect the outcomes of critical events in the firms' lives, such as when firms go bankrupt or are acquired. Leading to delistings, these events are much more important for the firm than routine corporate events and decisions, and firms can benefit much more from opportunistic announcement timing to hide them.

We analyze the likelihood of delistings occurring after earnings announcements and distinguish between delistings due to negative events with the firm (delistings by the SEC or the stock exchange or due to liquidation) and delistings after the firm is acquired in a merger. A firm in financial distress may wish not to elaborate on the extent of its difficulties to investors because that may increase negative sentiment among investors, bringing the firm closer to bankruptcy or a delisting caused by not meeting the exchanges' regulations (\$1 per share for 30 days at the NYSE and \$1 million market capitalization at Nasdaq). Similarly, analysts' questions about the firm and its endeavors may inconvenience the firm's management if the firm is negotiating a merger deal, regardless of whether the initial announcement of the merger deal has been made public. Management may want to limit communication with analysts before the merger is finalized to avoid making statements

¹⁵ The intuition of this hypothesis is similar to the tests of earnings announcement scheduling lead times in deHaan et al. (2015).

Table 8

Conference calls.

The sample consists of earnings announcements and corresponding conference calls. Panel A reports the percentages of earnings announcements that are accompanied by a conference call on the announcement day or the three following trading days and the marginal probability effect (in percentage) for the coefficient α_1 in probit models $C_{i,t} = \alpha_0 + \alpha_1 W_{i,t} T_{i,t} + \alpha_2 W_{i,t} + \alpha_3 T_{i,t} + \sum_{i=1}^5 \alpha_{i+3} X_{i,t} + \epsilon_{i,t}$, where $C_{i,t}$ is a conference call indicator that equals one if a conference call occurred on the announcement day or during the three trading days after the earnings announcement and zero otherwise. Panel B reports the average number of days between conference call announcements and the dates of the corresponding conference calls following earnings announcements in each timing cell, as well as the coefficient α_1 in the Tobit model $N_{i,t} = \alpha_0 + \alpha_1 W_{i,t} T_{i,t} + \alpha_2 W_{i,t} + \alpha_3 T_{i,t} + \sum_{i=1}^5 \alpha_{i+3} X_{i,t} + \epsilon_{i,t}$, where $N_{i,t}$ is the number of days between a conference call announcement and the date of the actual conference call. The independent variables are defined in Table 3. Year fixed effects are included in all models. The standard errors are clustered at the firm level. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: The distribution of earnings announcements with conference calls						
	Morning		During-trading		Evening	
	Frequency (%)	Conditional coefficient	Frequency (%)	Conditional coefficient	Frequency (%)	Conditional coefficient
Monday	57.6	−2.08*	37.2	0.28	60.3	2.23**
Tuesday	59.3	−1.37	45.1	1.32	60.0	0.71
Wednesday	60.2	−0.48	43.6	1.53	59.5	−0.19
Thursday	59.2	−0.25	44.6	1.02	60.5	−0.80
Friday	50.9	6.86***	22.5	−4.26**	26.6	−22.82***

Panel B: The number of days between conference call announcements and conference call dates						
	Morning		During-trading		Evening	
	Days	Conditional coefficient	Days	Conditional coefficient	Days	Conditional coefficient
Monday	19.3	1.10	19.3	1.55	17.1	−1.32
Tuesday	21.4	0.62	19.2	0.23	19.7	−0.65
Wednesday	20.2	0.16	14.2	−4.44**	19.4	0.31
Thursday	20.2	−0.49	20.0	2.87	19.0	0.23
Friday	18.3	3.17	15.0	−1.44	7.4	−7.60***

that may later turn out to be inaccurate, that may reveal too much information to arbitrageurs, or that may harm the chance of the deal's completion. More generally, firms want to avoid situations when they have to withhold some information and not answer investors' questions because that is typically interpreted as negative news about the firm by investors (Dye, 1985; Hollander et al., 2010).

Table 9 provides the univariate statistics on the frequency of earnings announcements followed by non-merger (Panel A) and merger (Panel B) delisting events and the marginal probability of coefficients α_1 in the probit models, which follow Eq. (4), for the timing cells. The dependent variable in the probit models is a delisting event indicator that equals one if this event occurs during the 120 days after the earnings announcement date and zero otherwise. (The analysis of delisting events for weekdays and time slots is in Table A3 of Appendix A.) According to Panel A of Table 9, Friday evening announcements are 5.1 (0.82/0.16) times more frequently followed by a non-merger delisting event than announcements in all timing cells (the delisting frequency in the full sample is 0.16) and have a significant positive marginal effect on the delisting probability. In fact, the 0.54% increase in the probability of delistings after Friday evening announcements is 27 times greater than the other significant positive coefficient in the panel (Tuesday morning). These findings regarding hiding delistings associated with negative events are consistent with the notion that firms concentrate bad earnings news on Friday evening and imply that managers try to hide bad news by announcing it at that time.

We next consider delistings due to merger events in Panel B of Table 9. Unlike the delisting events unrelated to mergers, which are certainly bad news, merger completion events are predominantly good news for target firms that are to be delisted. How the market perceives the merger does not affect our conjecture that firms may seek to strategically time earnings announcements to avoid additional scrutiny about the merger deal before it is finalized. The unconditional frequency of merger events in the 120 calendar days following an earnings announcement is 1.6% (therefore, about once every 63 earnings announcements or once every 16 years for the average firm). Friday evening and during-trading announcements have the highest univariate frequency of subsequent merger delisting events. However, the marginal effect for Friday during-trading announcements is not significant after we control for the Friday and during-trading indicators (during-trading announcements are found to be associated with more merger delistings in Table A3 of Appendix A) and firm characteristics. In contrast, Friday evening announcements are prominent because they are 2.35 (3.75/1.6) times more likely

Table 9

Post-announcement delistings.

The table reports the frequency of earnings announcements followed by non-merger delistings (CRSP delisting codes starting with 4, 5, 7) in Panel A and followed by delistings due to mergers (CRSP delisting codes starting with 2) in Panel B, as well as the marginal probability effect (in percentage) for the coefficient α_1 in probit models in which the dependent variable (D_{it}) is a delisting indicator that equals one if a delisting occurred during the 120 days after the earnings announcement and zero otherwise. The probit model specification is $D_{it} = \alpha_0 + \alpha_1 W_{it} T_{it} + \alpha_2 W_{it} + \alpha_3 T_{it} + \sum_{i=1}^5 \alpha_{i+3} X_{it} + \epsilon_{it}$. The independent variables are defined in Table 3. All models include year fixed effects. The standard errors are clustered at the firm level. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Non-merger delistings across timing cells						
	Morning		During-trading		Evening	
	Frequency (%)	Conditional coefficient	Frequency (%)	Conditional coefficient	Frequency (%)	Conditional coefficient
Monday	0.23	−0.01	0	0	0.29	0.10
Tuesday	0.17	0.02*	0.09	0.04	0.11	−0.06**
Wednesday	0.12	−0.01	0.04	−0.04	0.12	0.02
Thursday	0.18	0.02	0.11	0.04	0.14	−0.02
Friday	0.11	−0.06**	0.31	0.40	0.82	0.54**

Panel B: Merger delistings across timing cells						
	Morning		During-trading		Evening	
	Frequency (%)	Conditional coefficient	Frequency (%)	Conditional coefficient	Frequency (%)	Conditional coefficient
Monday	1.84	0.22	2.44	0.01	1.70	−0.18
Tuesday	1.47	0.39*	1.89	−0.12	1.37	−0.25
Wednesday	1.45	0.08	1.76	−0.33	1.56	0.09
Thursday	1.34	−0.27*	2.21	0.23	1.59	0.29
Friday	1.84	−0.49***	3.74	0.21	3.75	1.27***

to be followed by a merger event than other announcements, and their marginal effect of 1.27% on the merger probability is highly significant. These results indicate that managers announce on Friday evening to avoid revealing additional information about an upcoming merger completion.¹⁶

Our findings that Friday evening announcements are made later in the evening, that firms have fewer conferences calls following Friday evening announcements, and that these calls are publicized less, suggest that firms may use Friday evening announcements to strategically hide other information besides earnings news. Further, some firms seem to use Friday evening announcements to avoid tough questions about pending mergers or financial difficulties. These findings can also explain the additional time required for this information to be internalized by the market, as manifested by a longer drift after Friday evening announcements.

6. Are there any distinguishing characteristics of firms that make earnings announcements on Friday evening?

Given the small number of Friday evening announcements (Table 1), most firms clearly never announce on Friday evening. Therefore, firms that announce on Friday evening may have different characteristics that allow them to make Friday evening announcements that subject them to less negative publicity than other firms would receive if they announced on Friday evening. For example, a visible company, such as Apple, may not be able to hide bad news by announcing it on Friday evening, but a less visible firm may be able to do so and sneak under the radar. Therefore, we examine the characteristics that distinguish firms that choose to announce on Friday evening from other firms.

Table 10 indeed shows that Friday evening announcers (i.e., firms with at least one announcement on Friday evening in our sample) have different characteristics than non-Friday evening announcers. In particular, Friday evening announcers have a smaller firm size, lower number of analysts' quarterly earnings forecasts, less institutional ownership, and, to a lesser extent, a larger book-to-market ratio. The smaller size, lower institutional ownership, and a smaller analyst following of Friday evening announcers suggest that these firms have more information asymmetry and a lower quality of corporate governance. The findings concerning the differences in characteristics also suggest that, on average, it is low visibility firms that tend to make their earnings announcements on Friday evening.

¹⁶ For robustness purposes, we verify that excluding earnings announcements followed by delistings does not affect the PEAD results for Friday evening and other timing cells.

Table 10

Characteristics of Friday evening and non-Friday evening announcers.

The table compares the mean values of firm characteristics for Friday evening announcers and non-Friday evening announcers. Friday evening announcers are firms that had at least one Friday evening announcement, and non-Friday evening announcers are the remaining firms. The other variables are defined in Table 3.

	Friday evening announcers	Non-Friday evening announcers	Difference in means <i>t</i> -statistic
Number of forecasts	4.44	7.45	–58.40***
Institutional ownership (%)	46.7	58.6	–45.27***
Size (\$B)	1.55	5.06	–22.00***
Book-to-market	0.908	0.747	7.08***
Leverage	0.218	0.220	–0.97
Number of firms	899	7,959	
Number of observations	16,456	124,339	

Because Friday evening announcers have different characteristics than non-Friday evening announcers, a possible concern is that our results for Friday evening suffer from selection bias (Michaely et al., *forthcoming*). For example, Friday evening announcers can have a more negative SUE or be less likely to conduct conference calls regardless of the time of their announcements. While we include the controls for the five observed firm characteristics distinguishing Friday evening announcers in all models, such an approach cannot control for unobserved firm characteristics of Friday evening announcers. Controlling for both unobserved and observed firm characteristics can be accomplished with either firm fixed effects or a Friday evening announcer indicator that captures all common characteristics of Friday evening announcers. We use firm fixed effects in the models for SUE (Table 3) and insider trading (Table 6), but including firm fixed effects in binary and Tobit models would lead to biased estimates (e.g., Greene, 2004). Therefore, we conduct a robustness check of the results of conference calls (Table 8) and delistings (Table 9) by adding the Friday evening announcer dummy to these models, and the coefficients on Friday evening retain their significance (untabulated).

We also conduct a separate test for whether the different drift that follows Friday evening announcements (Table 5) arises from differences in observed and unobserved firm characteristics of Friday announcers, rather than opportunistic timing. If so, the drift that follows announcements by these firms would be greater not only when they announce on Friday evening but also when they announce at any other time. In untabulated results, we test this possibility by calculating the drift that follows these firms' announcements made not on Friday evening, i.e., in the remaining fourteen timing cells.¹⁷ Alphas 1 and 2 for the short and long positions in the Friday evening announcer firms are very small and nonsignificant if their announcements are not made on Friday evening. Therefore, we conclude that the results regarding the drift for Friday evening announcements are not a manifestation of systematic differences in firm characteristics but are attributed to the timing of the announcements on Friday evening.

7. Conclusion

To determine whether managers opportunistically time earnings announcements, two condition should be met. First, firms should have an incentive to time the news, for example, to hide bad earnings. Second, this opportunistic behavior should be effective. In this paper, we find evidence for both. Because the announcement timing decision concerns a weekday and time of day simultaneously, we divide the trading week into 15 timing cells based on weekday and time of day choices. We find that Friday evening is the only timing cell associated with strategic announcing.

The Friday evening timing cell tends to be associated with more negative earnings news than any other timing cell, including other evening or Friday announcements. Although the concentration of negative news on Friday evening indicates the possibility of making opportunistic announcements at that time, rational managers would only engage in such opportunistic behavior if they can benefit from it. We find that compared with the announcements for all other 14 timing cells, Friday evening announcements are associated with the highest positive and negative drifts following positive and negative news, respectively. Because Friday evening news is not fully reflected in prices immediately, according to our analysis, insiders seem to exploit this trading opportunity. Additional results show that Friday evening announcements are made later in the evening, more likely to be followed by a delisting event or merger completion, and less likely to be accompanied by a conference call, suggesting that managers announce on Friday evening to avoid market scrutiny.

Appendix A

See Tables A1–A3.

¹⁷ From Tables 1 and 10, 90.8% ((16,456–1,514)/16,456) of announcements by the Friday evening announcers are not on Friday evening.

Table A1

Insider trading after earnings announcements.

The dependent variable is the net dollar value of trades (the dollar value of purchases minus the dollar value of sales) by individual insiders in the firm during the period starting on the second day after the earnings announcement and ending 90 calendar days after the announcement. An announcement is defined as Positive news or Negative news based on the sign of earnings surprise. In Panel A, the table provides the coefficient α_1 in the regression specification: $Value_{i,t} = \alpha_0 + \alpha_1 W_{i,t} + \alpha_2 SUE_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t}$, where $Value_{i,t}$ is the net dollar trading value, and the other variables are defined in Table 3. Panel B provides the coefficient α_1 of the same model with the indicator $W_{i,t}$ replaced with the indicator $T_{i,t}$. The model is estimated separately on the samples with positive and negative news. The dependent variable is normalized by the total absolute value of transactions by the insider in this firm during the sample period and stated in percentage. All model specifications include firm and year fixed effects. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Insider trading after different weekdays					
			Positive news		Negative news
Monday			−0.047		0.005
Tuesday			0.040		0.001
Wednesday			−0.002		−0.005
Thursday			0.001		0.004
Friday			−0.003		0.012
Panel B: Insider trading after different time slots					
Morning		During-trading		Evening	
Positive	Negative	Positive	Negative	Positive	Negative
−0.010***	−0.014**	−0.007	0.017	0.014***	0.013*

Table A2

Conference calls.

The sample consists of earnings announcements and corresponding conference calls. Panels A and B report the percentages of earnings announcements that are accompanied by a conference call on the announcement day or the following three trading days and the marginal probability effect (in percentage) for the coefficient α_1 in probit models $C_{i,t} = \alpha_0 + \alpha_1 W_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t}$, where $C_{i,t}$ is a conference call indicator that equals one if a conference call occurred on the announcement day or during the three trading days after the earnings announcement and zero otherwise; the weekday indicator $W_{i,t}$ in Panel A is replaced with the time slot indicator $T_{i,t}$ in Panel B. Panels C and D report the average number of days between conference call announcements and the dates of the corresponding conference calls following earnings announcements in each timing cell, as well as the coefficient α_1 in Tobit models $N_{i,t} = \alpha_0 + \alpha_1 W_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t}$, where $N_{i,t}$ is the number of days between a conference call announcement and the actual date of the conference call; the weekday indicator $W_{i,t}$ in Panel C is replaced with the time slot indicator $T_{i,t}$ in Panel D. The independent variables are defined in Table 3. Year fixed effects are included in all models. The standard errors are clustered at the firm level. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: The distribution of earnings announcements with conference calls across weekdays					
	Frequency (%)	Coefficient			
Monday	57.9	−1.1**			
Tuesday	59.0	0.8*			
Wednesday	59.1	1.6***			
Thursday	59.2	1.6***			
Friday	44.6	−12.2***			
Full sample	58.0				
Panel B: The distribution of earnings announcements with conference calls across time slots					
Morning		During-trading		Evening	
Frequency (%)	Coefficient	Frequency (%)	Coefficient	Frequency (%)	Coefficient
58.4	0.6	40.5	−20.7***	59.3	2.7***

Panel C: The number of days between conference call announcements and conference call dates across weekdays

	Days	Coefficient
Monday	18.4	−0.69
Tuesday	20.7	0.98
Wednesday	19.7	−0.26
Thursday	19.7	0.14
Friday	18.0	−1.75*
Full sample	19.7	

Panel D: The number of days between conference call announcements and conference call dates across time slots

Morning		During-trading		Evening	
Days	Coefficient	Days	Coefficient	Days	Coefficient
20.2	1.51*	18.1	0.25	19.0	−1.59*

Table A3

Post-announcement delistings.

The table reports the frequency of earnings announcements followed by non-merger delistings (CRSP delisting codes starting with 4, 5, 7) in Panels A and B and followed by delistings due to mergers (CRSP delisting codes starting with 2) in Panels C and D, as well as the marginal probability effect (in %) for the coefficient α_1 in probit models in which the dependent variable ($D_{i,t}$) is a delisting indicator that equals one if a delisting occurred during the 120 days after the earnings announcement and zero otherwise. In Panels A and C, the probit regression specification is $D_{i,t} = \alpha_0 + \alpha_1 W_{i,t} + \sum_{i=1}^5 \alpha_{i+1} X_{i,t} + \epsilon_{i,t}$. Panels B and D have the same specification with the weekday indicator $W_{i,t}$ replaced with the time slot indicator $T_{i,t}$. The independent variables are defined in Table 3. All models include year fixed effects. The standard errors are clustered at the firm level. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Non-merger delistings across weekdays

	Frequency (%)	Coefficient
Monday	0.24	0.071*
Tuesday	0.14	−0.010
Wednesday	0.11	−0.044*
Thursday	0.16	0.011
Friday	0.25	0.028
Full sample	0.16	

Panel B: Non-merger delistings across time slots

Morning		During-trading		Evening	
Frequency (%)	Coefficient	Frequency (%)	Coefficient	Frequency (%)	Coefficient
0.16	0.014	0.09	−0.065***	0.17	0.039

Panel C: Merger delistings across weekdays

	Frequency (%)	Coefficient
Monday	1.83	0.19
Tuesday	1.46	−0.15*
Wednesday	1.53	−0.10
Thursday	1.51	−0.09
Friday	2.43	0.92***
Full sample	1.60	

Panel D: Merger delistings across time slots

Morning		During-trading		Evening	
Frequency (%)	Coefficient	Frequency (%)	Coefficient	Frequency (%)	Coefficient
1.49	−0.10	2.21	0.24*	1.60	0.02

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