

Announcing the Announcement

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Abstract

What drives attention to earnings news? We study how far in advance earnings calendars are pre-announced and find that investors are more attentive to earnings news when such details are disclosed well ahead of time. This variation in investors' attention affects short-run and long-run stock returns, thereby creating incentives for firms to strategically pre-announce the report date on short notice when the earnings news is bad. Consistent with this idea, firms pre-announce their report dates well ahead of time when earnings are good and do it at the very last moment when earnings are bad.

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Introduction

The earnings release process involves two steps. First, public notice is given about the date and time of the release. Second, earnings are disclosed to market participants. This paper explores the role of the notification step prior to the earnings release. We show that attention to earnings news increases when market participants are notified further in advance. This increase in attention affects the market response to the earnings release. We then ask whether managers are aware of this effect and adjust the notice period to maximize the price impact of the news. Consistent with this idea, good news releases are notified further in advance, whereas bad news releases are systematically notified on shorter notice.

What drives investors' attention is of great importance to understanding how earnings information diffuses in financial markets. During the earnings announcement season, investors have to process news from numerous companies in a very short period of time. At the peak of the season, about 250 firms announce their earnings on the same day. There is now evidence suggesting that investors cannot process that many signals at the same time and need to focus on a selected few at the expense of the others, which impacts asset prices (Hirshleifer, Lim, and Teoh (2009)). Yet two important questions remain. First, how do investors select which signals they will process first? Second, do firm managers act strategically to influence the outcome of this selection process?

To shed light on these questions, this paper studies how managers prepare their audiences for the forthcoming earnings release. Earnings disclosures are typically scheduled in advance. Firms announce the date and time of an earnings report as well as how to access the earnings conference call a number of days before the event (hereafter, the "advance notice period").¹ We investigate the effect of the length of this advance notice period. Our hypothesis is that earnings signals notified further in advance lead to more investors' attention when earnings are announced. Managers wanting to maximize the price impact of earnings news should then notify good news well ahead of time and bad news at the very last moment.

¹ For the sake of clarity, we call the action of communicating the date, time, and any other organizational detail about earnings releases "notice of earnings". We call the action of disclosing quarterly earnings information "earnings announcement", "earnings release" or "earnings report". As illustrated in Figure 1, we define the "advance notice period" as the number of calendar days between the date of the first notice of earnings and the earnings announcement date.

There are three reasons why early notices of earnings could increase investors' attention to earnings news. First, when multiple firms announce their earnings during a day, investors need to determine in advance which earnings to focus on. Sending earnings notices early increases the probability that the announcing firm will be on market participants' agenda. Second, processing earnings news requires basic knowledge about the firm, which can be acquired by doing some preparation work ahead of the announcement day. Investors may be reluctant to begin this preparation work until there is certainty about the date and hour of the event. In this case, the audience of the firm on the earnings announcement date will be on average better prepared and more able to process the news when the advance notice period is long. Third, earnings notices can coincide with earnings announcements by other firms. If investors are distracted by simultaneous earnings announcements made by other firms at the time of the earnings notice, they could miss this notification. Because this overlap problem is more likely to occur when the notice period is short, a longer advance notice period increases the probability that investors will include the event in their agenda and pay attention to it.²

Our paper uses a new dataset that contains the date at which approximately 53,000 press releases were issued to notify market participants about the date, the time, the conference call number, and other details about the organization of the actual earnings release. This dataset covers more than 80% of all U.S. listed firms over the 2007–2012 period. On average, notice is given 15 days before the event, but there is significant variation both across and within firms.

Consistent with our predictions, we find that an increase in the advance notice period leads to higher attention to earnings news. We proxy for investors' attention using a variety of indicators, namely, the number of participants on the earnings conference call, the likelihood that the firm's stock is reported as a "stock on watch" by the Wall Street Journal, the abnormal volume of Google searches for the firm's ticker, and more traditional measures, such as abnormal trading volume. Controlling for known determinants of investors' attention as well as firm fixed-effects, all four indicators increase when the date and time of the earnings release are communicated earlier.

² Figure 2 very clearly illustrates this possibility of overlapping dates between both types of news. Because earnings announcements cluster over time, the likelihood of overlap is high when the advance notice period is short.

Next, we investigate whether the variation in the advance notice period affects the speed of earnings news incorporation into stock prices. Hirshleifer and Teoh (2003), Peress (2008), and DellaVigna and Pollet (2009) predict that higher inattention leads to a lower immediate stock price reaction and a higher post-earnings announcement drift. Consistent with their predictions, we find that a longer advance notice period increases the immediate reaction to earnings announcements and decreases the post-earnings announcement drift. The economic magnitude of this effect is large. For a given firm, the stock price incorporates earnings news twice as fast if notice is given ten days earlier.

Because firm managers have full discretion to decide when to notify the market, we examine whether they behave strategically. Managers who want to maximize the price impact of the news at the time of the announcement should give more notice when earnings are good and less notice when earnings are bad. Consistent with this hypothesis, we find that for a given firm, the earnings surprise increases on average by nearly two cents when the notice of earnings is sent one week earlier. In other words, within-firm variation in the advance notice period predicts the earnings surprise. This correlation is economically meaningful. A 10-day increase in the notice period explains about 14% of the within-firm variation in the earnings surprise. This finding holds after controlling for delays in earnings releases or when focusing on the subsample of firms that consistently report their earnings on the same date. Therefore, our effect is not driven by the well-documented behavior that managers tend to announce good news early and bad news late (e.g. Bagnoli, Kross and Watts (2002)). Although it is consistent with the "good news early, bad news late" practice that is documented in the accounting literature, our finding differs from this strand of research by showing that managers' communication ahead of the earnings announcement day also conveys information about earnings news that is not contained in the choice of the announcement date.

Next, we investigate how managers' responses to investors' inattention vary across firms. First, not all managers can exploit investors' inattention. In particular, managers of highly visible firms whose stock is consistently scrutinized by the market do not have this possibility. Consistent with this hypothesis, we find that a change in the advance notice period is much more informative about the earnings surprise for less visible firms, i.e., firms with low analyst coverage and small-cap companies. Second, some managers may care more about

the short-term value of their firm's stock. For instance, managers who plan to issue new equity should focus more on maximizing their current stock price, as should managers of firms with short-term-oriented shareholders. Consistent with this intuition, we find that a change in the advance notice period is more informative about the earnings surprise when firms issue equity in the subsequent quarter or when their share turnover was high at the end of the previous quarter. Third, prior literature shows that the risk of shareholder litigation increases in cases of sudden stock price drops. Therefore, managers who plan to announce bad news may be willing to smooth the negative effect of the news to minimize this risk. Consistent with this idea, we find that the advance notice period is more predictive of the news when the risk of litigation is high. Overall, this second set of results suggests that firm managers respond strategically to investors' limited attention by shortening or lengthening the advance notice period when it is in their interest to do so.

Finally, we study whether investors anticipate the implication of earnings notifications on future earnings surprises. Investors may detect that firms strategically choose their advance notice period. If they do, they should react positively to early notices and negatively to late notices. In this case, the market reaction to the notice of earnings should be positively correlated with the advance notice period. We fail to find such a correlation, which suggests that investors do not perceive the implications of a change in the advance notice period. Consistent with this interpretation, we show that it is possible to build a trading strategy that takes advantage of the predictive power of the within-firm variation in the advance notice period. This strategy consists of (i) buying stocks when earnings notice is given earlier than usual, and (ii) selling stocks when this earnings notice is issued later. This strategy yields abnormal returns of 7 basis points per day (1.2% per month) before transaction costs.

To the best of our knowledge, this paper is the first to examine how long in advance the date and time of earnings announcement events are made public and to study how this notification process affects asset prices and corporate decision making. Our contribution is twofold. First, we show that stock prices incorporate earnings news more efficiently when the date and time of earnings releases are made available earlier. Second, we show that firms actively manage investors' attention and thus shape their trading environments. In prior research on investors' attention, sources of distraction, such as the Friday effect, and the

number of simultaneous announcements are given and firms cannot modify this external environment. By contrast, our study shows that this trading environment can be modified, and that the cost of doing so is low. Our paper also has regulatory implications. Our results suggest that firms could be required to notify the market about their forthcoming earnings announcement at least one week before the event. The cost of such a regulation would be relatively small, and as we demonstrate in this study, would have desirable effects on investors' ability to process earnings information in a timely manner.³

The rest of the paper is organized as follows. Section 1 reviews the literature and discusses our contribution. Section 2 provides a background description of the earnings release process in the U.S. and develops our hypothesis. Section 3 describes the data. Section 4 examines whether the advance notice period influences investors' attention to earnings news. Section 5 examines whether corporate managers use the advance notice period strategically. Section 6 tests whether investors infer the relationship between the advance notice period and the subsequent earnings surprise. Section 7 discusses alternative interpretations and possible endogeneity concerns. Section 8 concludes.

1. Literature Review

Our paper builds on three streams of research. First, we contribute to the literature on investors' attention (see Lim and Teoh (2010) for a comprehensive review). This paper relates in particular to DellaVigna and Pollet (2009), Hirshleifer, Lim, and Teoh (2009), and Peress (2008), which show that attention affects how earnings news is incorporated into stock prices. We provide evidence consistent with their results and add to them by shedding new light on the mechanism that drives investors' attention to earnings news. Specifically, our paper suggests that this mechanism is a two-step process. In the first step, investors identify a subset of news that they will consider. In the second step, they process only news within this consideration set. This result is new and has important implications. For instance, in most existing asset pricing and information disclosure models, the information is released in a one-

³This type of regulation already exists for other corporate events, such as shareholder annual meetings. Under the law of Delaware, for instance, public notice of the place, date, and time of a meeting has to be made 10 to 60 days before the event, and courts may intervene if it can be shown that the meeting date was set to the advantage of managers or the disadvantage of a shareholder.

step process.⁴ News is made available to the agent directly, without prior notice. In this framework, giving prior notice does not matter because investors are assumed to consider and process the available information at the same time. Our finding that the notification process ahead of the news release matters is difficult to reconcile with this assumption. Instead, this finding suggests that investors consider and process the available information separately. Interestingly, this result is consistent with the marketing literature.⁵

We also contribute to a growing body of literature that studies how investors' limited attention affects corporate decision making. A first body of research examines whether managers time the release of information by disclosing bad news preferentially when attention is low. Consistent with this idea, early studies show that earnings released after the market closes or on Fridays are more likely to contain bad news (Patell and Wolfson 1982; Penman 1987; Damodaran 1989; Bagnoli, Clement, and Watts 2005). However, recent papers find weak evidence that this empirical regularity is attributable to managers' attempts to exploit investors' inattention (Doyle and Magilke (2009); Michaely, Rubin, and Vedrashko (2013)a; Michaely, Rubin, and Vedrashko (2013)b).⁶ As noted by Niessner (2014), one possible reason for this lack of evidence is that earnings announcements dates are known in advance. Indeed, investors may react to the choice of the earnings release date before the event. If they do, it reduces the benefit of changing the report date.⁷ Consistent with this view, we find that investors react to the choice of the report date when it is pre-announced. However, we find no reaction to the choice of this pre-announcement date, and we show that the timing of this pre-announcement is consistent with a strategic response to investors' inattention constraints. Our results thus support the idea of more subtle strategic behavior through the choice of the notification process ahead of the news release.

A related body of research explores alternative channels that firm managers may use to influence attention. Solomon (2012) and Ahern and Sosyura (2014) study the effects of

⁴ One notable exception is Chemmanur and Tian (2012), who study the decision to pre-announce dividend cuts.

⁵ The marketing literature provides strong and extensive evidence that consumers who face multiple alternative products use a "consider-then-choose" decision-making process in which they first identify a set of products for further assessment and then choose from this subset only (see Hauser (2014)).

⁶ For instance, Doyle and Magilke (2009) focus on the subsample of firms that switch their disclosure timing and find no evidence that these firms opportunistically report worse news on Fridays.

⁷ Niessner (2014) revisits this question by focusing on *non-earnings* news and finds evidence that managers opportunistically release bad (non-scheduled) news on Fridays. Solomon (2012) makes a very similar point to explain why investor relations firms' ability to spin the news is smaller for earnings announcements.

media coverage, and Lou (2014) and Madsen and Niessner (2014) examine the role of advertising. Our paper adds to this area by showing that the organization and planning of corporate events is an alternative and important driver of investors' attention. A related paper is by Li and Yermack (2014), who study how firms schedule their annual shareholder meetings. They find that the choice of a remote location is a negative signal about the future performance of the firm. Interestingly, they also find that this signal is not fully reflected in the stock price at the time of the notification.

Finally, our paper is related to the literature on the timing of earnings announcements. Previous research has consistently identified that managers release bad news late (Kross (1982), Givoly and Palmon (1982), Kross and Schroeder (1984)) and that the market reaction to earnings news is negative when such a delay occurs (Begley and Fischer (1998), Bagnoli, Kross, and Watts (2002), So (2014)). In this paper, we control for delays in earnings releases and also verify that our results systematically hold when focusing on the subsample of firms that consistently report their earnings on the same date. We contribute to this literature by emphasizing a new dimension of the timing of earnings announcements. We show that the notification process ahead of the earnings announcement date conveys information about the news that is not contained in the choice of the earnings announcement date.

2. Notice of Earnings: Legal requirements, Practices and Hypothesis Development

A “notice of earnings” is a press release that announces the date and time of the earnings release. In this section, we briefly describe the legal issues surrounding the disclosure of this piece of information and develop our hypothesis.

2.1. Legal Requirements

“If an issuer wants to make public disclosure of material non-public information under Regulation FD (...), how far in advance should notice be given?”

(...) Public notice should be provided a reasonable period of time ahead of the conference call. For example, for a quarterly earnings announcement that the issuer makes on a regular basis, notice of several days would be reasonable. We recognize, however, that the period of notice may be shorter when unexpected events occur and the information is critical or time sensitive." (U.S. Security Exchange Commission - June 4, 2010)⁸

Pursuant to the 2002 Sarbanes-Oxley Act and the 2004 Regulation Fair Disclosure (*Reg FD*), public companies' quarterly earnings announcements are highly regulated under the strict control of the SEC. In particular, the SEC mandates that quarterly earnings releases that are disclosed by means of a press release trigger the filing of an 8-K form and that the earnings conference call (if any) be held shortly thereafter and be easily available to investors (e.g., through a real-time webcast). However, as the quote above highlights, the SEC has very few requirements regarding the notice of earnings disclosure; consistent with *Reg FD*, details on when and how to access earnings news must be made widely available to all investors, but there are no constraints on when to publicize this information.

2.2. Practices

In the absence of any specific guidelines, legal advisors recommend that the notification be made at least one week before the earnings announcement.⁹ Anecdotal evidence suggests that earnings schedules are known late in the process and that short notice is an issue for market participants. In a letter to the SEC, for instance, the CFA Institute complains about the notification process (or the lack thereof) and asks the SEC to issue "additional statements [...] that encourage companies to announce reasonably ahead of time when earnings will be released".¹⁰ It also expresses its concern that a short notice period may disadvantage some market participants in accessing information related to earnings announcements.¹¹ To help market participants overcome this problem, the NASDAQ has

⁸ <http://www.sec.gov/divisions/corpfin/guidance/regfd-interp.htm>. Compliance and Disclosure Interpretations of Regulation FD (Question 102.01).

⁹ "The Earnings Release : Legal Requirements and Best Practices", Insights, March 2008, Aspen Publishers

¹⁰ Available at <http://www.sec.gov/comments/s7-23-08/s72308-9.pdf>

¹¹ "We would welcome additional statements by the SEC that encourage companies to announce reasonably ahead of time when earnings will be released. While some companies already engage in this practice, others continue to release earnings

developed algorithms that forecast in advance the predicted dates of earnings releases.¹² Financial data providers, such as Capital IQ and Wall Street Horizon, sell this information. Selling forecasts of earnings announcement times would not be possible without a real demand for such, which suggests that the dates and times of earnings announcements are not always made available in a timely manner.

In this paper, we call the action of communicating the date, time and any other organizational detail about earnings releases the “notice of earnings”. We call the action of disclosing quarterly earnings information an “earnings announcement”, “earnings release”, or “earnings report”. As illustrated in Figure 1, the “advance notice period” is the number of calendar days between the date of the first notice of earnings and the earnings announcement date. Appendix A provides an example of a notice of earnings issued by Agilent Technologies on November 2, 2009. In this press release, “Agilent Technologies to Host Webcast of Fourth-Quarter Fiscal Year 2009 Financial Results Conference Call”, the firm indicates that it will release its fourth-quarter earnings on November 13, 2009. In that case, the earnings announcement date was made available to market participants eleven days in advance.

2.3. Hypothesis development

We first hypothesize that the advance notice period affects investors’ attention to earnings news. This leads to the following testable prediction:

H1: Investors’ attention on earnings announcement day is positively correlated with the advance notice period.

As shown by Hirshleifer and Teoh (2003) and DellaVigna and Pollet (2009), lower attention affects the speed of earnings news incorporation into stock prices - as long as market frictions prevent sophisticated investors from arbitraging the mispricing caused by the lack of attention. Thus, *H1* leads to the following corollary:

statements without any prior notice, which may disadvantage those without the dedicated means to consistently track this information"

¹² The NASDAQ website reports an earnings schedule calendar for firms listed on the NASDAQ based on an “expected date” for earnings release, i.e., an estimation derived from past years’ release date rather than the true date of the earnings release. Available at <http://www.nasdaq.com/earnings/earnings-calendar.aspx?>

H2: A longer advance notice period increases the sensitivity of the announcement abnormal return to earnings surprises, and decreases the sensitivity of the post-announcement abnormal return to earnings surprises.

H2 implies that managers whose objective function is to maximize the short-term value of their stock prices have an incentive to notify goods news early (to maximize the positive effect of the news) and to notify market participants on very short notice when they plan to announce bad news (to minimize the negative effect of the news). This leads to the following prediction:

H3: Within-firm, the earnings surprise is positively correlated with the advance notice period.

H3 requires that managers care about the value of their stock in the short run. Under *H3*, managers want not only to maximize the price impact of the news but also to maximize this impact immediately. This motivation should emerge naturally as long as the delayed response to the news release can be difficult to attribute to the action of the manager only. Indeed, stock prices reflect not only the action of the manager but also the effect of external factors. Stakeholders who aim to infer the quality of the manager from the performance of the stock should therefore distinguish between these two effects. This distinction is typically easier to make at the time of the announcement when the stock price reacts to the information released by the manager rather than after the announcement when the stock price potentially reacts to other external factors. In this context, it is optimal for the manager to maximize the immediate reaction to the news beyond the overall price reaction. Doing so allows managers to self-attribute as much as possible the merit of good earnings while leaving open the possibility of blaming external factors in case of bad earnings.

The cost of changing the advance notice period to gain more or less visibility is small, but it is not zero. Once the notice of earnings is released, firms have no choice but to respect the expected reporting date, and they lose the option to postpone their earnings announcement

date.¹³ This means that after the notification, managers have no extra time to modify their financial communication if an unexpected event occurs before the earnings announcement date. Thus, increasing the advance notice period carries a cost in terms of loss of flexibility. Conversely, decreasing the advance notice period is also costly. A number of actions to be taken (e.g., validating the press release by the audit committee, sending the press release to wire services, NASDAQ, the NYSE, etc.) can be done only when the notice of earnings has been issued. Therefore, those actions have to be undertaken more rapidly if the advance notice period is shorter than usual. As a result, corporate managers may trade off the benefits of higher or lower visibility against the cost of changing the timing of the notice of earnings. This leads to the following testable predictions:

H4: The correlation between the earnings surprise and the advance notice period decreases for firms that are more visible (*H4a*) and increases when the manager's horizon is short (*H4b*) or when the litigation risk is high (*H4c*).

Indeed, changing the advance notice period to gain more or less visibility carries no benefits at all for firms that are constantly scrutinized by the market (*H4a*). In contrast, this strategic behavior benefits managers whose horizons are short and who care more about the current value of their stock (*H4b*). In the same vein, as suggested by Donelson et al. (2012), managers of firms with high shareholder litigation risk have more incentive to smooth the impact of negative news to reduce possible litigation costs (*H4c*).

3. Data Collection and Descriptive Statistics

This section describes the data and provides descriptive statistics about the length of the advance notice period.

3.1. Notice of Earnings Data

We obtain corporate press releases announcing the date and time of the forthcoming earnings releases for U.S. companies from the Thomson Reuters Archives website, which

¹³ Failure to respect the reporting date without a good explanation leads to extremely negative market reactions (Duarte-Silva et al. (2013)) and increases the risk that sell-side analysts will stop their coverage of the stock.

gives unlimited access to all articles published on the Reuters newswire during the 2007–2012 period. We focus on firm-initiated press releases that explicitly schedule an earnings announcement (see Appendix A for an example). We systematically identify those press releases by writing a PERL script that matches the string patterns that express the future action of releasing or announcing earnings, such as *[to announce/to report/ to release/to host/ to webcast] [conference call]*.¹⁴ To match those press releases with firm-level data, we also require the press release to include a valid company ticker, i.e., any characters in the press release that match the patterns *(NYSE:)* or *(NASDAQ:)*. We obtain a sample of 62,896 press releases. Sometimes, a notice of earnings coincides with the release of other relevant information, such as a dividend announcement (254 observations), a management guidance (253), or preliminary results (168). We exclude these observations from our sample.

We obtain data on earnings announcement dates from Compustat and I/B/E/S. We start with all quarterly earnings announcements from Compustat with a corresponding record in I/B/E/S, and when the earnings announcement dates between the two sources differ, we apply the procedure described in DellaVigna and Pollet (2009) and take the earlier date as the correct one. Finally, we match each press release of notice with the corresponding notified earnings announcement. The detail of this data step is provided in Appendix B.1. The final sample comprises 52,871 notices of earnings (corresponding to 3,897 distinct firms) that could be matched with their corresponding earnings announcements.

One question is whether the earnings announcement date notified to the market is actually met by the firm. In other words, we want to explore whether firms consider the date communicated to the market to be binding. We address this question by checking whether the earnings announcement date announced in the press release effectively matches the actual date of announcement. To do so, we compare the announcement date notified to the market with the announcement date that is recorded in either Compustat or I/B/E/S.¹⁵ We find that for about 9% of our observations the announcement date notified in the press release does not match the recorded date. We further explore this issue by drawing a random sample of 1% of

¹⁴ Other significant string patterns include *[announces] [webcast/conference call] or [schedules/will announce] [earnings results]*

¹⁵ See more details about our procedure for performing this comparison in Appendix B.2.

the unmatched observations and manually collect the actual dates of earnings announcement from Factiva. In all cases, firms respect the announcement dates they announce, but the recorded dates in Compustat or I/B/E/S are wrong (often by a day or two). We conclude that all firms in our sample respect the earnings announcement date that they notify to the market, and that failure to do so is exceptional.

Another question is whether firms systematically issue notices of earnings or if alternatively, they do it only when they deviate from their usual report date. First, we find that even firms that systematically announce their earnings on the same date pre-announce the report date by issuing a notice of earnings. In fact, approximately 10,499 notices of earnings in our sample are issued by firms that do not change their report dates. This is not surprising. Indeed, the “notice of earnings” includes not only information about the date of the report but also information on how to access the earnings conference call (i.e., the number to call into the conference), and this information may vary from one quarter to another even when the report date does not change. Second, we investigate why the notice of earnings is sometimes missing in our sample of 3,897 firms (18,788 observations out of 71,659). We find that in the vast majority of cases, a notice of earnings was issued but the press release was not reported in the Reuters database or could not be matched with Compustat because the ticker changed. Pre-announcing the report date is therefore a widespread and systematic practice, even for firms that consistently report earnings on the same date.

3.2. Other data sources

Analyst EPS estimates and actual earnings are taken from the I/B/E/S files. We use quarterly data and define the earnings surprise as the difference between actual earnings and the most recent consensus analyst forecast from the I/B/E/S consensus file, scaled by the firm’s stock price.

To mitigate the effects of outliers, we remove observations for which the earnings surprise is larger (in absolute terms) than one, and we trim observations with earnings surprises in the top and bottom 1% of the distribution. Finally, we collect stock returns and trading volumes from the CRSP dataset and accounting data from the Compustat dataset. All

variables are winsorized at 1% in each tail. Descriptive statistics for the main variables used in our tests are presented in Table 1.

3.3. Descriptive Statistics

We define the advance notice period as the difference in calendar days between the earnings announcement date and the first notice of earnings. The distribution of this variable is displayed in Figure 3.

[Insert Figure 3 and Table 1 here.]

The distribution exhibits five modes: the first one corresponds to notices made approximately one week before the earnings announcement; the second one, two weeks before; the third one, three weeks before, etc. On average, firms make public notice of the date, time and other details about their forthcoming earnings announcement in the range of 15 calendar days before the event. Panel A of Table 1 shows that this advance notice period varies significantly across and within firms. Although part of the total standard deviation (8.7) is driven by cross-sectional differences (7.4), the *within-firm* standard deviation (5.0) shows that there exists significant variation in the advance notice period for the same firm over time. In this paper, we focus exclusively on the *within-firm* variation in advance notice periods. This mitigates the concern that the variation in the advance notice period captures (time-invariant) unobserved differences across firms (e.g., the efficiency of their internal reporting processes).

One issue is whether focusing on firms that are covered by Reuters introduces a bias in the selection of our sample. Since our sample covers nearly 80% of firms in the Compustat database, this possibility is unlikely. Yet, we verify that this is not the case and study how the characteristics of the firms in our sample compare with firm characteristics in the Compustat universe. In Panel B of Table 1, we find that our sample is very similar to the Compustat universe across many dimensions. One related question is whether firms that are not covered by Reuters have different practices in terms of notification processes. To address this question, we draw a random sample of 100 firms from Compustat that are not in our sample and examine their notification processes. We find that 83 firms pre-announce their report

dates one week or two weeks before the event, as is the case in our sample. However, 17 firms are revealed to have a slightly different process: eight firms (e.g., Dupont) pre-announce their earnings calendar far in advance (more than one year), six firms pre-announce their earnings calendars on their websites only and do not issue press releases and three firms do not pre-announce their report dates. We conclude that pre-announcing the report date in the weeks preceding the news report is the most usual practice.

4. Advance Notice Period And Attention To Earnings News

This section shows that the advance notice period predicts investors' attention to earnings news and affects short-run and long-run stock prices.

4.1. Advance Notice Period and Attention to Earnings News

We use four proxies to measure investors' attention to earnings news. Our first proxy is the (log-transformed) number of participants on the earnings conference call.¹⁶ We obtain this information from earnings conference call transcripts, which report the names of all persons who participate on the call, including sell-side and buy-side equity analysts, institutional investors, and/or investment bankers. Ideally, we would like the information on all the people who *listen* to the conference call—not only those who *speak*, but since the former measure is not available, we assume that the number of people who speak is correlated with the number of people who listen and adopt the latter. Our second proxy is a dummy variable that is equal to one if the stock is reported as "on-watch" by *The Wall Street Journal* on the earnings announcement date.¹⁷ *The Wall Street Journal* identifies a stock as "on-watch" whenever a major announcement is expected by the company. The list of stocks "on-watch" is updated on a daily basis. Stocks can remain "on-watch" up to four days. We obtained these data from the website of *The Wall Street Journal*. Our third proxy is the abnormal volume of

¹⁶ Other papers study the organization of earnings conference calls (Hollander, Pronk, and Roelofsen (2010), Cohen, Lou, and Malloy (2013), Jung, Wong, and Zhang (2014)), but we are the first to use the number of participants as an indication of attention to earnings news. In additional tests reported in Appendix D, we verify that this measure provides results that are consistent with the existing literature. Appendix D-column 1 shows that the number of attendants decreases by 2.63% when the call is on a Friday, and decreases by 2% when 100 firms announce their earnings on the same day (100×-0.02).

¹⁷ <http://blogs.wsj.com/moneybeat/>

Google searches for the companies' tickers, as in Da, Engelberg, and Gao (2011) and Madsen and Niessner(2015). The abnormal volume of Google searches for company k on day t is calculated in the following way:

$$AbSearches_{k,t} = \log(1 + SVI_{k,t}) - \left(\frac{\sum_{i=21}^{40} \log(1 + SVI_{k,t-i})}{20} \right)$$

where $SVI_{k,t}$ is the Search Volume Index for the ticker of company k on day t as provided by Google Trends.¹⁸ We compute the abnormal search volume around the earnings announcement as the mean abnormal search volume over a $[0;+1]$ window around the earnings announcement day. Finally, we also use the abnormal trading volume as a proxy for attention to verify that our results still hold when we use a measure of investors' attention that is more commonly used in the literature (e.g. Gervais, Kaniel, and Mingelgrin (2001), Barber and Odean (2008), Hou, Xiong, and Peng (2009)). The abnormal trading volume for company k on day t is calculated in the following way:

$$AbVol_{k,t} = \log(vol_{k,t}) - \left(\frac{\sum_{i=21}^{40} \log(vol_{k,t-i})}{20} \right)$$

where $vol_{k,t}$ is the number of shares traded on day t for company k . We compute the abnormal trading volume around the earnings announcement as the mean abnormal trading volume over a $[-1;+1]$ window around the earnings announcement.

Our baseline regression to estimate the effect of the advance notice period on investors' attention to earnings news is the following:

$$Y_{k,t} = \beta Advance\ Notice\ Period_{k,t} + \zeta Controls_{k,t} + \sum_{j=1}^{10} DS_{j,k,t} + \alpha_k + \alpha_t + \varepsilon_{k,t}$$

where $Y_{k,t}$ is the variable used as a proxy for attention, k indexes firm, and t indexes time.

¹⁸ See Madsen and Niessner (2015) for the procedure to follow to get comparable daily search results. We thank Marina Niessner for proving us with the daily SVI data.

We include firm fixed effects to control for unobserved (time-invariant) differences across firms. Report date fixed effects (one dummy variable for *each* earnings announcement date) are used to compare firms that announce on the *same* date only. This *within-date* comparison allows us to control for common sources of distraction on a given date (number of announcements by other firms, proximity of the week end, etc.). Because different types of news may lead to different degrees of attention, we also control for the earnings surprise in the regression. We have no strong prior about the form of the relation between our proxy for attention and the earnings surprise. In particular, the relation may or may not be linear. For instance, it is possible that investors pay much more attention to extremely bad news than to very good news. Therefore, we divide the earnings surprises into deciles and include one dummy variable for each decile of surprise. Finally, we use time-varying control variables to capture the effects of size, age, and market-to-book as well as the possibility that attention varies because the earnings announcement date changes. Indeed, most firms in our sample do not consistently announce their earnings on the same date. Therefore, it is possible that attention to earnings news changes because firms announce on a different date. Specifically, our concern is not that attention varies by day of announcement given that this variation is already absorbed by the report date fixed effects. Instead, our concern is that less (or more) attention could be paid to the news because firms deviate from their usual practice in their choice of a report date. To control for this effect, we include two additional variables in the regression.¹⁹ The first variable is *reporting lag*, which is equal to the number of days between the closing date of the last balance sheet and the earnings announcement date. The second variable is *date surprise*, which is equal to the difference (in number of days) between the actual report date and the expected report date estimated based on historical data (and divided into deciles) and multiplied by -1 so that a delay in the report date corresponds to a negative surprise.²⁰ The results of this analysis are shown in Table 2.

[Insert Table 2 here.]

¹⁹ Alternatively, we verify that the results in Table 2 are robust when focusing on the subsample of firms that consistently report their earnings on the same date. Those results are not reported here for brevity, but they are available on demand.

²⁰ The expected report date is derived from the earnings calendar of the previous year, assuming that for a given quarter, earnings will be reported on the same day of the week and in the same week of the year (e.g., a third-quarter report on Monday, October 17, 2011, means the next fiscal year's third-quarter report will be made on Monday, 15, October, 2012) as in Bagnolli, Kross and Watts (2002).

Table 2 shows that *within* firm, the variation in the advance notice period positively predicts market participants' attention on earnings announcement date, and this positive correlation holds across all proxies for attention.

In column 1, the dependent variable used as a proxy for attention is the (log-transformed) number of participants to the earnings conference call. The coefficient on the advance notice period is positive and statistically significant at the 1% level. This coefficient indicates that a 10-day increase in the notice period leads to a 1.6% increase in the number of call participants, which explains about 5% of the within-firm variation in the log-number of call participants. In additional tests reported in Appendix D, we show that this coefficient should only be taken as a lower bound estimate for two reasons. First, most conference call participants who speak during the call are sell-side analysts whose job is to closely follow a limited portfolio of stocks. Hence, the effect is small here because the timing of the notice of earnings matters less for this subpopulation of financial experts. Consistent with this argument, we find that the effect is three times greater for small firms that are less likely to be covered by sell-side analysts (Appendix D, column 2). Second, this effect is nonlinear; increasing the notice period from 1 day to 10 days has a much greater impact on attendance than increasing this period from 10 days to 20 days. When we add a quadratic term to the regression, this term is negative and statistically significant (Appendix D, column 3). Therefore, the OLS coefficient underestimates the impact of a small increase in the advance notice period. When accounting for this nonlinearity, the impact of a 10-day increase is indeed much greater. For small firms, this 10-day increase leads to an increase in the number of call participants by approximately 6% (Appendix D, column 4), i.e., nearly 20% of the within-firm variation in the log-number of call participants ($6\%/0.3$).

In column 2, the dependent variable that is used as a proxy for attention is a dummy that is equal to one if the stock is reported as a stock "on-watch" by the *Wall Street Journal*. The coefficient on the advance notice period is again positive and statistically significant. In terms of economic magnitude, increasing the advance notice period by one week leads to an increase in the probability of its being reported as a "stock on watch" by 0.3 percentage points. Because the unconditional probability of being on watch is 3%, this means that a one-

week increase in the advance notice period increases the probability of being “on-watch” by 10%.

In column 3, the dependent variable that is used as a proxy for attention is the abnormal volume of Google searches for the firm’s ticker around its earnings announcement date. Again, the regression indicates that the advance notice period positively predicts this outcome. The magnitude of the regression coefficient is large. Specifically, the number of searches increases by 2.2 percentage points when firms pre-announce the report date 10 days earlier than usual. Since the average (unconditional) surge in the volume of searches at the time of the earnings release is 6% or so, this result indicates that attention increases by roughly 36.7% ($2.2/6$) when the advance notice period is 10 days longer than usual. Finally, column 4 uses the abnormal trading volume as a proxy for investor attention and shows that a longer advance notice period leads to more trading volume on earnings announcement date, with the coefficient being statistically significant at the 1% level.

Taken together, these results suggest that the advance notice period positively affects how much market participants pay attention to earnings news.

4.2. Advance notice period and stock price reaction to earnings news

If market participants pay less attention when the advance notice period is short, then it is possible that the advance notice period also affects the speed at which earnings news is incorporated into stock prices (DellaVigna and Pollet 2009; Hirshleifer, Lim, and Teoh 2009). Therefore, we test whether a longer advance notice period leads to more immediate reaction on the earnings announcement date and less post-earnings announcement drift.

To test this, we first compute cumulative abnormal returns for different windows on the date of the earnings announcement. Denoting $r_{k,t}$ as the return for company k on day t , we define the cumulative abnormal return $CAR[\tau, T]$ over a $[\tau, T]$ window as $\prod_{t=\tau}^T (1 + r_{k,t}) - \prod_{t=\tau}^T (1 + r_{p,t})$, where $r_{p,t}$ is the characteristics-adjusted portfolio return based on a monthly matching of stocks that belong to the same size/book-to-market/momentum quintiles in the spirit of Daniel, Grinblatt, Titman, and Wermers (1997). We then estimate whether the

sensitivity of the market reaction to a given earnings surprise varies with the length of the advance notice period. We follow the specification proposed by DellaVigna and Pollet (2009) and Hirshleifer, Lim, and Teoh (2009) and estimate the following equation:

$$CAR[\tau, T]_{k,t} = \alpha_t + \alpha_k + \beta DS_{k,t} + \gamma Advance\ Notice\ Period_{k,t} + \delta DS_{k,t} \times Advance\ Notice\ Period_{k,t} + \zeta Controls_{k,t} + \varepsilon_{k,t},$$

where $DS_{k,t}$ is the earnings surprise for firm k at quarter t divided into ten deciles of surprise. Our main coefficient of interest is δ . This coefficient measures the sensitivity of the stock price response to the earnings surprise conditional on the level of the advance notice period. We include time-varying control variables in the regression to ensure that what we capture in our estimation is not driven by a spurious correlation between the advance notice period and other variables that are known to affect the market reaction to earnings news. Specifically, we control for the effects of size, market-to-book, age, leverage, reporting lag, date surprise, and the number of analysts. We also control for the effects of the day of the week as well as the presence of simultaneous announcements by other firms. We use report date fixed effects (one dummy variable for *each* earnings announcement date) to control for common sources of distraction on a given day and firm fixed effects to control for unobserved differences across firms. All our control variables are interacted with the level of earnings surprise.

[Insert Table 3 here.]

Table 3 presents the results of this analysis. In the first two columns, we run our estimation without the set of standard control variables. In column 1, we examine the effect of the advance notice period on the immediate reaction to the earnings release. In column 2, we focus on the post-earnings announcement drift. The coefficient on the interaction term between the advance notice period and the decile of surprise is positive in column 1 and negative in column 2, and both coefficients are statistically significant. Hence, a longer advance notice period increases the immediate reaction to the earnings release and decreases the post-earnings announcement drift. The sensitivity of the immediate response to earnings

news increases on average by 6 basis points when market participants are notified 10 days earlier, whereas the sensitivity of the post-earnings announcement drift decreases by 7 basis points. Including the whole set of standard control variables does not alter our estimation (column 2 and column 3).

Some of our previous results suggest that the positive effect of the advance notice period on investors' attention decreases marginally. Therefore, we should expect the relationship between the advance notice period and the market response to the earnings release to be nonlinear as well. We test this conjecture in columns 5 and 6. We repeat the same analysis as in columns 1 and 2 and add a quadratic term to the regression. Again, a longer advance notice period increases the immediate reaction (column 5) and decreases the post-earnings announcement drift (column 6), and as expected, both effects decrease marginally as the notice period becomes longer.

The magnitude of the effect of the notice period on the speed of incorporating earnings news as estimated in columns 5 and 6 is large. On average, the (unconditional) delayed response accounts for approximately 33% of the total stock price reaction ($42.2/(42.3 + 83.4)$). When the advance notice period increases by 10 days, column 5 indicates that the immediate reaction increases by 16.0bp ($2 \times 10 - 0.04 \times 10^2$), and column 6 indicates that the delayed reaction decreases by 21.2bp ($-2.7 \times 10 + 0.06 \times 10^2$). After incorporating the effect of the longer advance notice period, the delayed response only represents 17.4% of the total stock price reaction ($(42.2 - 21.2)/(42.2 - 21.2 + 83.4 + 16.0)$). Therefore, increasing the notice period by 10 days decreases the share of the delayed reaction by 48%. All else being equal, this result implies that after the announcement, the time required to incorporate the information that was not immediately impounded in the stock price will be half as long. Hence, columns 5 and 6 suggest that for a given firm, when notice is made 10 days earlier than usual, stock prices incorporate earnings news twice as quickly.²¹

Taken together, these findings are consistent with our hypothesis that a longer advance notice period makes it easier for investors to process earnings news. Because earnings news is

²¹ Adding the set of standard control variables leads to the same estimation

more easily processed when investors are notified earlier, this news is more rapidly incorporated into stock prices. As illustrated in Table 3, this effect leads to greater immediate reactions on the earnings announcement date and less post-earnings announcement drift. The economic magnitude of this effect is large, which suggests that the notification process ahead of the news release is a major driver of investors' attention to earnings news.

5. Advance Notice Period and News Disclosure

This section examines whether firms strategically choose the date on which they send the notice of earnings to attract (escape) investors' attention when they plan to issue good (bad) news.

5.1. Advance notice period and earnings surprise

If managers' objective function is to maximize the short-term value of the stock price, they have an incentive to increase the advance notice period when they plan to announce good news to maximize the effect of the news on the stock price, and to reduce the advance notice period when they are about to disclose bad news to minimize this effect. If they do so, then the advance notice period should be positively correlated with the earnings surprise.

[Insert Figure 4 here.]

We first investigate whether this correlation holds in the data using a graphical analysis. The result of this analysis is displayed in Figure 4. The figure shows the average change in the Earnings Per Share (EPS) surprise for firms that change their advance notice period relative to the same quarter of the previous year. We partition our sample according to the variation in the advance notice period. When the advance notice period does not change, the firm is assigned to the category "0" (7,657 obs). When the advance notice period increases, firms are divided into four categories depending on the magnitude of the increase: category "+2" if the increase is less than 2 days (5,340 obs), category "+4" if the increase is strictly higher than 2 days but less than 4 days (2,785 obs), category "+6" if the increase is strictly higher than 4 days but less than 6 (2,594 obs), and category "+8 and more" if the

increase is strictly higher than 6 days (4,877 obs). We adopt symmetric partitioning when the advance notice period decreases. The graph shows that the change in EPS surprise relative to the same quarter in the previous year increases with the variations in the advance notice period. When firms increase the advance notice period by more than eight days, the surprise relative to the same quarter of the previous year increases by 0.6 cents. By contrast, when firms decrease the advance notice period by eight days or more, then the EPS surprise that will be announced is on average lower than the one announced a year ago by about 1.4 cents. In other words, the variation in the advance notice period contains information that predicts the news that is to be announced.

We next investigate whether this correlation holds in a multivariate setting. To do so, we regress the normalized EPS surprise on the advance notice period, controlling for firm fixed-effects, time fixed-effects, as well as a set of time-varying control variables that may also affect the EPS surprise.

[Insert Table 4 here.]

The results of this analysis are presented in Table 4. In column 1, we regress the earnings surprise on the advance notice period with no time-varying control variables but controlling for firm fixed effects, fiscal quarter fixed effects, and time fixed effects. Consistent with the strategic behavior hypothesis, we find that the advance notice period predicts the earnings surprise.

We investigate the robustness of this result in the rest of the table. A first concern is the possibility that the advance notice period is correlated with a change in the earnings announcement date. Firms do not systematically announce on the same date, and when they change their announcement date, this conveys information about the news they intend to announce. In particular, the news is generally bad when the date comes later than expected and good when it comes earlier (Kross and Schroeder, 1984, Begley and Fischer, 1998, Bagnoli, Kross, and Watts, 2002). To ensure that this effect does not drive the correlation between the earnings surprise and the advance notice period, we control for the date surprise (i.e., the difference between the actual report date and an ‘expected announcement date’ that

we estimate using historical announcements, multiplied by -1 so that a delay in the report date corresponds to a negative surprise) and the reporting lag (i.e., the difference between the date of announcement and the quarter-end date). We also control for the effects of size, age, market-to-book, *RoA* (lagged by 1 quarter) and leverage. In column 2, our main result remains unchanged: the advance notice period positively predicts the earnings surprise.

To further mitigate the concern that our finding is driven by firms' announcing bad earnings late, we focus on the subset of firms that consistently announce their earnings on the same date. We consider that a firm always announces on the same date if the actual report date matches the expected report date (i.e., *Date Surprise* is equal to zero) at least 8 times out of ten over the sample period. We still find a positive correlation between the advance notice period and the earnings surprise (column 3).

Because the effect of the advance notice period on investors' attention and stock returns is nonlinear, one question is whether the advance notice period predicts the earnings surprise in a nonlinear way. Indeed, if corporate managers are aware of the effect of the notification process on investors' attention, they may also know that this effect decreases marginally and that increasing the length of the notice period beyond a certain point carries little additional benefits in terms of visibility. Managers should then be reluctant to increase the notice period beyond this critical point even if the news to be disclosed is very good. If this is the case, the advance notice period should be marginally less informative. Column 4 shows that this is exactly what is happening in the data. When we add a quadratic term to the regression, we find that this term is negative and statistically significant. Therefore, the notice period positively predicts the earnings surprise, but this effect decreases marginally. The regression coefficients indicate that a 10-day increase in the advance notice period increases the surprise by 0.23 percentage points ($10 \times 0.023 - 10^2 \times 0.0003$). Within-firm, the standard deviation of the surprise normalized by the stock price is 1.65%. As a result, a 10-day increase in the notice period explains about 14% of this variation ($0.23\% / 1.65\%$).

Finally, we check for the robustness of this correlation by using alternative definitions of the earnings surprise: A dummy variable that is equal to one if the surprise is positive (column 5) and the EPS surprise before normalization (column 6). This last estimation

(column 6) is also useful for obtaining a better sense of the economic magnitude of the correlation between the advance notice period and the earnings surprise. The coefficients of 0.214 and -0.003 indicate that for a given firm, a 10-day increase in the advance notice period leads to a 1.84-cent increase in the EPS surprise.

5.2. Cross-sectional results

Next, we examine how the relation between the advance notice period and the earnings surprise varies with the costs and benefits associated with a change in the notification process.

We first examine whether the magnitude of the correlation between the advance notice period and the earnings surprise varies according to the degree of firm visibility. Indeed, being able to attract or escape investors' attention should be less of an issue for more visible firms, which are consistently scrutinized by the market, and much more of an issue for less visible firms. We use two proxies to measure firm visibility: (i) the analyst coverage of the firm and (ii) the firm's market capitalization. For each criterion, we divide our sample into two categories of visibility, and we place a firm into the high (low) visibility category if the criterion is above (below) the sample average during the quarter. We then estimate whether the correlation between the advance notice period and the EPS surprise decreases when firms are more visible. The results are displayed in the first two columns of Table 5. The interaction coefficient between the advance notice period and the high visibility dummy is negative and significant for both visibility measures. This suggests that the advance notice period is much less predictive of the earnings surprise when the firm's visibility is high. These results are consistent with our hypothesis that firms do not behave strategically when they receive little benefit for doing so.

[Insert Table 5 here.]

Second, we examine the effect of managers' horizons. Since the effect of a change in the advance notice period on the stock price is only temporary, managers with long horizons have fewer incentives to behave strategically. In contrast, managers who care more about the current value of the stock price because their shareholders are more short-term oriented, or

because they plan to issue equity in a short run, have more incentives to notify market participants strategically. In this case, the correlation between the advance notice period and the earnings surprise should be stronger. Columns 3 and 4 of Table 5 display the results. In column 3, we use the presence of an SEO in the subsequent quarter as a proxy for the manager's horizon. The variable short horizon is equal to one if the firm issues equity in the subsequent quarter and zero otherwise. In column 4, we follow Polk and Sapienza (2009) and assume that high share turnover signals short-term-oriented shareholders. We use the share turnover during the last month of the previous quarter as a proxy for the manager's horizon. Consistent with our conjecture, the correlation between the advance notice period and the earnings surprise is stronger when managers care more about the short-term value of the stock. For each measure of short horizon, the interaction term is positive and statistically significant.

Third, we look at the cross-section of firms regarding litigation risk. Indeed, prior literature shows that the risk of shareholder litigation increases in cases of sudden drops in the firm's stock price (Donelson et al. (2012)). Therefore, managers who plan to announce bad news may be willing to smooth the negative effect of the news in order to minimize this risk. In our setting, one way to do so is to reduce the advance notice period to lessen the immediate negative impact of the news on the stock price. Because the cost of changing the notice of earnings is not nil, corporate managers may be willing to do this only when the risk of shareholder litigation is a serious source of concern. In this case, the correlation between the advance notice period and the earnings surprise should be stronger. The results of this test are displayed in the last two columns. In column 5, we use the presence of the word "litigation" in the proxy statement to identify firms that have ongoing litigation with their shareholders and whose managers may be more concerned about this risk. The variable *High Litigation* equals one if the word "litigation" is mentioned more than two times in the proxy statement. In column 6, we follow Kim and Skinner (2012) and use the volatility of the firm's stock price as a measure of future shareholder litigation risk. The variable *High Litigation Risk* equals one if the volatility of the stock price over the last calendar year is above the sample average. Consistent with our conjecture, the correlation between the advance notice period and the earnings surprise is stronger when the risk of shareholder litigation is more likely to

be a concern. For each measure of high shareholder litigation risk, the interaction term is positive and statistically significant.

6. Market Reaction to Notices of Earnings

If corporate managers notify good news and bad news strategically, then it is possible that investors detect this strategic behavior. We examine this question in this section.

6.1. Stock price reaction at the notice of earnings

If firms behave strategically, investors may detect this strategy. In this case, they should react positively to a longer advance notice period (indicative of a future positive earnings surprise) and negatively to a shorter notice period (indicative of a future negative earnings surprise). The market reaction at the time of notice of earnings should then be positively correlated with the advance notice period.

[Insert Table 6 here.]

To test whether this correlation exists in the data, we compute the immediate reaction on the date of notification as the cumulative abnormal return over a $[-1;+1]$ window centered around the date of the notice of earnings ($CAR[-1;1]$). We then regress the immediate stock price reaction on *Advance Notice Period* and a set of control variables. Table 6 displays the results and shows that the coefficient on *Advance Notice Period* is positive, but not statistically different from zero.

Interestingly, the coefficient on *Date Surprise* is positive and both statistically and economically significant. *Date Surprise* corresponds to the difference between the actual earnings announcement date (disclosed at the time of the notice of earnings) and the expected earnings announcement date, multiplied by -1 so that a delay in the report date corresponds to a negative surprise. The positive coefficient on *Date Surprise* means that the market reacts positively when the earnings announcement date comes earlier than expected and negatively when it comes later. This result is important for two reasons. First, it shows that investors react to the choice of the earnings announcement date ahead of time. This reaction confirms

that the release of the notice of earnings is an important channel to look at when investigating how firms disclose earnings news and how investors react to it. Second, this result also shows that investors react to the information content of the press release at the time of the notice of earnings and that they negatively interpret any earnings release date that falls after the usual announcing date, consistent with the findings in the accounting literature (Bagnoli, Kross, and Watts 2002).

Taken together, these results suggest that investors process the information contained in the notices of earnings only partially. They correctly infer the information conveyed by the choice of the earnings announcement date, but, surprisingly, they fail to detect that the choice of the advance notice period also conveys information about earnings news that is not contained in the choice of the report date.

6.2. Information updating before earnings disclosure

Finding no reaction to the advance notice period at the time of the notice of earnings is surprising and requires additional investigations to ensure that our finding that the advance notice period contains information about earnings news is correct.

It could be possible, for instance, that (i) the length of the advance notice period is not informative but is correlated with the likelihood of other events' occurring ahead of the earnings announcement date that are informative (e.g., "profit warnings") and (ii) that financial analysts do not immediately update their earnings forecasts to capture the information conveyed by those other events. In this case, we should find no market reaction to the advance notice period at the time of the notice of earnings. However, we may still observe a correlation between the advance notice period and the earnings surprise constructed from the consensus of analysts because those forecasts are not updated in a timely manner. To examine whether this explanation is correct, we perform two analyses.

First, we screen the news issued by firms before the earnings announcement date to identify the firms that disclose preliminary results (including "profit warnings") ahead of the earnings announcement date. During the 2007–2012 period, we find in Factiva 1,115 articles that correspond to the preliminary results released by 631 distinct U.S. firms. On average,

these preliminary results are issued 20 days before the earnings announcement date. We first test whether the likelihood of issuing preliminary results within-firm is correlated with the advance notice period. It is not; the correlation is near zero (t-stat of -0.7). Second, we test whether the correlation between the advance notice period and the earnings surprise still holds when we exclude all firms that at least once issued some preliminary results during the period of our sample. We find *exactly the same* results.²²

Second, we implement a trading strategy to test if the advance notice period conveys real information about the news. If the advance notice period conveys information that is not incorporated into the stock price, then it should be possible to trade on it and make “abnormal” profits. By contrast, if the advance notice period contains no real information, then this trading strategy should not be profitable.

6.3. Trading Strategy

Our trading strategy exploits the fact that if the advance notice period positively predicts the earnings surprise, then (i) a notice of earnings that is issued earlier than usual is a good signal, and (ii) a notice of earnings that is issued later than usual is a bad signal.

The way we build our strategy is similar in spirit to the strategy of Barber, Lehavy, and Trueman (2007), who take advantage of analysts’ upgrades and downgrades. In comparison with their strategy, we ‘upgrade’ a stock when the notice of earnings is made earlier than it was one year ago and we ‘downgrade’ the stock otherwise. Thus, we form two distinct “buy” and “sell” portfolios. Our strategy consists of (i) buying stocks when the notice of earnings is issued earlier than the notices of earnings that were issued in the past for the same fiscal quarter and (ii) selling stocks otherwise. Implementing this strategy only requires keeping track of historical notices of earnings, which is public information at the time of the trading decision.

Both “buy” and “sell” portfolios are real calendar-time portfolios that invest one dollar at date d , the date at which we observe that an earnings release is notified earlier than usual or

²² For the sake of brevity, those tests are not reported here, but they are available on demand.

will be notified later than usual. Let $x_{k,t}$ denote the compounded daily return on stock k from date d through date t . The value-weighted portfolio return on date t is given by:

$$\frac{\sum_{k=1}^{n_t} x_{k,t-1} R_{k,t}}{\sum_{k=1}^{n_t} x_{k,t-1}}$$

where n_t is the number of stocks held in the portfolio at date t and $R_{k,t}$ is the return of stock k on date t .

A stock is added to the buy portfolio when we observe that the date of the notice of earnings comes earlier than usual. Specifically, we construct a variable *notice lag* that is equal to the difference between the notice of earnings and the quarter-end date. We then consider that a notice of earnings is issued earlier than usual if, at the date of the notice of earnings, the *notice lag* is strictly lower than the average *notice lag* observed over the past three years (for the same fiscal quarter). The stock is held in the portfolio until the earnings are announced to capture the effect of the good news on the stock price, and it is removed three days after the earnings announcement date.²³ The sell portfolio is constructed in a similar way with one notable exception: We sell the stock as soon as it can be inferred that the notice of earnings will come later than usual (i.e., we do not wait for the notice of earnings to add the stock). Finally, we compute the risk-adjusted return on each portfolio using the 4-factor Carhart model:

[Insert Table 7 here.]

Table 7, Panel A presents the results. The portfolio of early notifications generates positive abnormal return of 4.2 bp per day (column 1). The portfolio of late notifications generates negative abnormal return of 3.6 bp per day (column 2). A long-short portfolio that buys early notifications and sells late notifications generates an excess return of 7.5 bp per day, i.e., approximately 1.2% per month before transaction costs (column 3).²⁴

²³ The three day cutoff ensures that an investor will benefit from the position even if the market reacts to the earnings surprise with some delay.

²⁴ The number of stocks in each portfolio varies every day. The number is lower outside of earnings announcement seasons, but the portfolios are never empty.

Frazzini and Lamont (2007) also identify significant mispricing during earnings announcement periods. They find that buying the stocks of announcing firms and selling the stocks of non-announcing firms every month yields substantial abnormal returns. They suggest that earnings announcements grab the attention of individual investors who rarely short-sell and thus push prices too high, creating temporary overpricing. Although such overpricing around the earnings announcement date might influence our finding that buying stocks in the case of early notices of earnings yields positive abnormal returns, it cannot explain why selling the stocks of announcing firms in the case of late notices of earnings also yields positive abnormal returns.

In panel B, we investigate how the profitability of the trading strategy changes when we change the allocation criteria to the high and low advance notice period portfolios. Because larger variations in the advance notice period predict larger changes in the EPS surprise, restricting the strategy to firms that issue their notices of earnings much earlier or much later than usual should increase the strategy's profitability. We verify that this is the case by rerunning the analysis but focusing on firms that issue their notices of earnings at least n days earlier or later than usual. Consistent with our prediction, the profitability of the strategy increases when n increases, i.e., when the deviation from the usual notice period is large.

7. Alternative Interpretations and Robustness

In this section, we consider an alternative explanation for our finding: earnings management. We also test whether our results regarding call attendance is robust to possible endogeneity concerns.

7.1. Advance Notice Period and Earnings Management

An alternative (but not mutually exclusive) explanation for our attention management explanation is that firms do more "earnings management" when they plan to announce bad news. If earnings management takes time, firms may notify the market later, hence the positive correlation between the earnings surprise and the advance notice period. Under this alternative explanation, the advance notice period is shorter when firms do more earnings management.

[Insert Table 8 here.]

In Table 8, we test whether, within-firm, the advance notice period decreases when a firm increases its accruals management (defined following Kothari, Leone, and Wasley (2005)) or when it exactly meets or beats the consensus by less than one cent. In both cases, firms are more likely to have managed their earnings. However, we find no evidence that this leads to shorter advance notice periods. In Table 8, these two measures of earnings management do not appear to be negatively correlated with the advance notice period.

Although we cannot (and do not) rule out the possibility that more earnings management reduces the notice period, this result suggests that this explanation is not the main reason for our finding that within-firm, longer notice periods predict better news.

7.2. Advance notice period and earnings call attendance

The decision to notify market participants early is made internally by corporate managers. Although we made our best efforts to control for the most relevant variables that could affect this decision, we do not observe all those variables.

As a robustness check, Table 9 verifies that the number of conference call participants decreases when the notice of earnings is sent later because local flu epidemics reduce firm activity. Flu epidemics may force the executives in charge of the earnings release process to stay at home and delay the release of the notices of earnings. As a result, influenza could generate variations in the advance notice period that are exogenous to firm characteristics. We obtain data about flu epidemics by region using Google Flu Trends. We use the number of searches about flu during the 5 days preceding the notice of earnings as an instrument for the advance notice period. The results are presented in Table 9.

[Insert Table 9 here.]

Column 1 shows the effect of the advance notice period in the OLS setting. Column 2 displays the first stage of the IV estimation and shows that the relevance condition is satisfied.

On average, the notice period is shorter immediately following a surge of flu in the state where the headquarters are located. The second stage of the IV estimation is presented in column 3. The effect of the notice period on earnings call attendance appears to be robust when focusing on exogenous variations in the notice period caused by flu epidemics. Of course, to be a valid instrument, flu epidemics should only affect the number of participants through the advance notice period. Since complete recovery from flu takes up to 10 days, a legitimate concern here is that some participants might still be sick on the day of the conference call. We verify whether local flu epidemics before the notice of earnings directly affect the number of participants on earnings calls (15 days later) in column 4, and we find that this is not the case. Although this is not a test of the exclusion restriction condition (which cannot be tested), it mitigates the concern of a strong violation of the “only through” condition.

The instrumental approach typically estimates a local average treatment effect. As a result, our IV estimation only reflects the effect of a change in the notice period for the subpopulation of firms that are sensitive to the instrument. Because flu epidemics are very unlikely to affect large and well-organized corporations, the affected firms are most likely small. Therefore, what column 4 indicates is that for small firms, whose activity is reduced during flu epidemics, a 10-day delay in the timing of the notification because of flu leads to a 6.0% decrease in attendance on earnings calls. This estimation is very similar to the one obtained using the OLS approach and when focusing on small firms only (Appendix D column 4 indicates that a 10-day decrease in the notice period leads to a 5.6% decrease in attendance for small firms). Because the two approaches lead to the same estimation, the main conclusion of this last test is that no major endogeneity factor appears to be at play. In other words, this result validates the identifying assumption of our baseline panel regression approach.

Conclusion

Whereas investors’ inattention to earnings announcement has been consistently shown to explain multiple market inefficiencies, there has been mixed evidence regarding managers’ attempts to benefit from this bias by timely disclosing bad news when investors are

inattentive. We contribute to this literature by looking at how firms prepare earnings announcements through the notification of earnings disclosures. We show that the length of the advance notice period predicts various measures of investors' attention to earnings news. Firm managers make use of the advance notice period to time the release of good versus bad news. We find that the length of the advance notice period is predictive of earnings surprises, with longer notices being associated with more positive earnings surprise, and that this strategic behavior is more pronounced for firms that face visibility issues. Investors fail to fully understand the implications of early versus late notices on the level of earnings surprise. A long-short portfolio that buys stocks with early notices and sells stocks with late notices generates excess returns of 1.2% per month.

References

- Ahern, Kenneth R., and Denis Sosyura, 2014, Who Writes the News? Corporate Press Releases during Merger Negotiations, *The Journal of Finance* 69, 241–291.
- Bagnoli, Mark, Michael Clement, and Susan G. Watts, 2005, Around-the-Clock Media Coverage and the Timing of Earnings Announcements, *Working Paper*.
- Bagnoli, Mark, William Kross, and Susan G. Watts, 2002, The Information in Management's Expected Earnings Report Date: a Day Late, a Penny Short, *Journal of Accounting Research* 40, 1275–1296.
- Barber, B., and T. Odean, 2008, All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors, *Review of Financial Studies* 21, 785–818.
- Barber, Brad, Reuven Lehavy, and Brett Trueman, 2007, Comparing the stock recommendation performance of investment banks and independent research firms, *Journal of Financial Economics* 85, 490–517.
- Begley, Joy, and Paul E. Fischer, 1998, Is there information in an earnings announcement delay?, *Review of accounting studies* 3, 347–363.
- Chemmanur, Thomas J., and Xuan Tian, 2012, “Preparing” the Equity Market for Adverse Corporate Events: A Theoretical Analysis of Firms Cutting Dividends, *Journal of Financial and Quantitative Analysis* 47, 933–972.
- Cohen, Lauren, Dong Lou, and Christopher Malloy, 2013, Playing favorites: How firms prevent the revelation of bad news, National Bureau of Economic Research.
- Damodaran, Aswath, 1989, The Weekend Effect in Information Releases: A Study of Earnings and Dividend Announcements, *The Review of Financial Studies* 2, 607–623.
- Daniel, Kent, Mark Grinblatt, Sheridan Titman, and Russ Wermers, 1997, Measuring mutual fund performance with characteristics-based benchmarks, *The Journal of Finance* 52, 1035–1058.
- Da, Zhi, Joseph Engelberg, and Pengjie Gao, 2011, In Search of Attention, *The Journal of Finance* 66, 1461–1499.
- DellaVigna, Stefano, and Joshua M. Pollet, 2009, Investor Inattention and Friday Earnings Announcements, *The Journal of Finance* 64, 709–749.
- Donelson, Dain C., John M. McInnis, Richard D. Mergenthaler, and Yong Yu, 2012, The Timeliness of Bad Earnings News and Litigation Risk, *The Accounting Review* 87, 1967–1991.

Doyle, Jeffrey T., and Matthew J. Magilke, 2009, The timing of earnings announcements: An examination of the strategic disclosure hypothesis, *The Accounting Review* 84, 157–182.

Duarte-Silva, Tiago, Huijing Fu, Christopher F. Noe, and K. Ramesh, 2013, How Do Investors Interpret Announcements of Earnings Delays?, *Journal of Applied Corporate Finance* 25, 64–71.

Frazzini, Andrea, and Owen A. Lamont, 2007, The earnings announcement premium and trading volume, *National Bureau of Economic Research*.

Gervais, Simon, Ron Kaniel, and D.H. Mingelgrin, 2001, The high-volume return premium, *The Journal of Finance* 56, 877–919.

Givoly, Dan, and Dan Palmon, 1982, Timeliness of Annual Earnings Announcement: Some Empirical Evidence, *The Accounting Review* 57, 486–508.

Hauser, John R., 2014, Consideration-set heuristics, *Journal of Business Research* 67, 1688–1699.

Hirshleifer, David, S.S. Lim, and S.H. Teoh, 2009, Driven to distraction: Extraneous events and underreaction to earnings news, *The Journal of Finance* 64, 2289–2325.

Hirshleifer, David, and Siew Hong Teoh, 2003, Limited attention, information disclosure, and financial reporting, *Journal of Accounting and Economics* 36, 337–386.

Hollander, Stephan, Maarten Pronk, and Erik Roelofsen, 2010, Does silence speak? An empirical analysis of disclosure choices during conference calls, *Journal of Accounting Research* 48, 531–563.

Hou, Kewei, Wei Xiong, and Lin Peng, 2009, A tale of two anomalies: The implications of investor attention for price and earnings momentum, *Working Paper*.

Jung, Michael J., MH Franco Wong, and X. Frank Zhang, 2014, Analyst interest as an early indicator of firm fundamental changes and stock returns, *Working Paper*.

Kim, Irene, and Douglas J. Skinner, 2012, Measuring securities litigation risk, *Journal of Accounting and Economics* 53, 290–310.

Kothari, S.P., Andrew J. Leone, and Charles E. Wasley, 2005, Performance matched discretionary accrual measures, *Journal of Accounting and Economics* 39, 163–197.

Kross, William, 1982, Profitability, Earnings Announcement Time Lags and Stock Price, *Journal of Business Finance & Accounting* 9, 313–28.

Kross, William, and Douglas A. Schroeder, 1984, An empirical investigation of the effect of quarterly earnings announcement timing on stock returns, *Journal of Accounting Research* 22, 153–176.

- Lim, S.S., and S.H. Teoh, 2010, *Limited Attention*. In: Baker, K. and Nofsinger J., *Behavioral Finance: Investors, Corporations, and Markets* (John Wiley & Sons, Hoboken, N.J).
- Li, Yuanzhi, and David Yermack, 2014, Evasive Shareholder Meetings, National Bureau of Economic Research.
- Lou, Dong, 2014, Attracting investor attention through advertising, *Review of Financial Studies* 27, 1797–1829.
- Madsen, Joshua, and Marina Niessner, 2014, Is Investor Attention for Sale? The Role of Advertising in Financial Markets, *Working Paper*.
- Michaely, Roni, Amir Rubin, and Alexander Vadrashko, 2013, Corporate Governance and the Timing of Earnings Announcements, *Review of Finance*.
- Michaely, Roni, Amir Rubin, and Alexander Vadrashko, 2013, Firm Heterogeneity and Investor Inattention to Friday Earnings Announcements, *Working Paper*.
- Niessner, Marina, 2014, Strategic Disclosure Timing and Insider Trading, *Working Paper*.
- Patell, James M., and Mark A. Wolfson, 1982, Good News, Bad News, and the Intraday Timing of Corporate Disclosures, *The Accounting Review* 57, 509–527.
- Penman, Stephen H., 1987, The distribution of earnings news over time and seasonalities in aggregate stock returns, *Journal of Financial Economics* 18, 199–228.
- Peress, J., 2008, Media coverage and investors' attention to earnings announcements, *Working Paper*.
- Polk, Christopher, and Paola Sapienza, 2009, The stock market and corporate investment: A test of catering theory, *Review of Financial Studies* 22, 187–217.
- So, Eric C., 2014, Time Will Tell: Information in the Timing of Scheduled Earnings News, *Working Paper*.
- Solomon, David H., 2012, Selective publicity and stock prices, *The Journal of Finance* 67, 599–638.

Table 1***Descriptive Statistics***

In Panel A, the table presents summary statistics for our main variables. The sample includes 90,870 firm-quarter observations during the 2007-2012 period corresponding to 4,875 U.S. firms from the Compustat Quarterly database and the I/B/E/S database. Of these 90,870 earnings announcements, 52,871 observations (3,897 firms) could be matched with the corresponding notice of earnings date from Thomson Reuters Archive. *Advance Notice Period* is the number of calendar days between the date of the notice of earnings (i.e. the press release announcing the date and time of the forthcoming quarterly earnings disclosure) and the earnings announcement date. All other variables are defined in Appendix C. All continuous variables are winsorized at the 1% level in each tail. In Panel B, the table compares mean statistics for basic firm characteristics variables in our sample with the whole Compustat universe.

Panel A

	Count	Mean	p10	p50	p90	Standard Deviation		
						Overall	Between	Within
Advance Notice Period	52,871	15.2	6.0	14.0	28.0	8.7	7.4	5.0
Reporting Lag	90,848	35.8	21.0	34.0	54.0	14.3	9.6	10.8
Date Surprise	89,157	0.1	-6.0	0.0	7.0	9.9	9.1	8.9
# Earnings Call Participants	55,443	7.2	3.0	7.0	12.0	3.9	3.2	2.2
# Earnings Call Participants (log)	55,443	2.0	1.4	2.1	2.6	0.5	0.4	0.3
On Watch Dummy	90,848	3.0%	0.0%	0.0%	100.0%	17.0%	6.6%	15.5%
Abnormal Google Searches (log)	16,370	0.06	-0.23	0.01	0.38	0.52	0.40	0.45
Size (log of assets)	90,634	6.7	4.1	6.7	9.2	2.0	2.0	0.3
Assets	90,635	9,043	58	810	10,156	75,445	68,969	16,477
Market-to-Book	90,475	2.6	0.6	1.7	5.5	4.3	3.0	3.3
Age	90,848	8.7	5.0	8.8	12.0	2.5	2.3	1.6
Leverage	89,902	0.2	0.0	0.2	0.5	0.3	0.3	0.2
EPS Surprise	76,554	-0.4	-11.8	1.0	13.0	20.0	12.3	18.0
RoA	90,516	-0.3%	-5.9%	0.5%	3.2%	53.9%	36.9%	34.3%

Panel B

Mean	Reuters Matched Sample	Compustat Universe
Size	6.8	6.7
Assets	8,281	9,043
Market-to-Book	2.62	2.56
Age	8.7	8.7
Leverage	0.24	0.23
RoA	-0.6%	-0.3%
Reporting Lag	34.3	35.8
N	52,871	90,635
# Distinct Firms	3,897	4,875

Table 2***Advance Notice Period and Attention to Earnings News***

This table presents panel regressions examining the effect of the Advance Notice Period on investors' attention to earnings news. In column 1, the dependent variable used as a proxy for attention is the (log-transformed) number of participants to the earnings conference call. In column 2, the dependent variable used as a proxy for attention is a dummy variable equal to 1 if the stock is reported as a "stock on-watch" by the *Wall Street Journal* website on earnings announcement day. In column 3, the dependent variable used as a proxy for attention is the abnormal volume of google searches for the ticker of the firm on earnings announcement date. In column 4, the dependent variable used as a proxy for attention is the abnormal trading volume on earnings announcement date. *Advance Notice Period* is the number of calendar days between the date of the notice of earnings (i.e. the press release announcing the date and time of the forthcoming quarterly earnings disclosure) and the earnings announcement date. All other variables are defined in Appendix C. For readability purposes, all regression coefficients have been multiplied by 100. Standard errors are adjusted for heteroskedasticity and clustered by firm. t-statistics are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable: Measure of Attention to Earnings News				
Measure of Attention	(1) # Earnings Call Participants	(2) "On-Watch"	(3) Google Searches	(4) Trading Volume
Advance Notice Period	0.16*** (4.10)	0.04** (2.13)	0.22** (2.35)	0.16*** (3.24)
Reporting Lag	-0.03 (-0.72)	0.05 (0.22)	0.020 (0.19)	0.12 (1.24)
Date Surprise (Decile)	-0.04 (-0.42)	0.10** (2.49)	0.3 (1.25)	0.14 (1.21)
Size	18.97*** (14.31)	0.66 (1.31)	-0.2 (-0.09)	2.41** (2.14)
Age	-9.71 (-1.10)	25.6 (0.30)	7.91 (0.40)	3.19 (0.11)
Market-to-Book	0.38*** (5.38)	0.000 (1.29)	-0.11 (-0.91)	0.0000 (0.86)
Firm Fixed Effects	Yes	Yes	Yes	Yes
Earnings Report Date Dummies	Yes	Yes	Yes	Yes
Earnings Surprise Decile Dummies	Yes	Yes	Yes	Yes
N	37,676	46,821	11,986	46,821

Table 3

Advance Notice Period and Stock Price Response to Earnings News

This table presents panel regressions examining the effect of the Advance Notice Period on the immediate stock price reaction at the announcement and the long-run stock return after the announcement. The dependent variable is indicated under each column heading. Cumulated Abnormal Returns (CAR) are expressed in basis points. *DS* is earnings surprise deciles (*DS*=1: lowest, 10: highest). *Advance Notice Period* is the number of calendar days between the date of the notice of earnings (i.e. the press release announcing the date and time of the forthcoming quarterly earnings disclosure) and the earnings announcement date. Control variables include *Date Surprise*, *Reporting Lag*, *Number of Announcements*, *Size*, *Market-to-Book*, *Age*, *Leverage*, *Number of Analysts*, and indicator variables for each day of the week. All control variables are also interacted with the deciles of surprise (*DS*). See Appendix C for variable definitions. Standard errors are adjusted for heteroskedasticity and clustered by the day of announcement. t-statistics are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable: Market Reaction to Earnings News						
	(1)	(2)	(3)	(4)	(5)	(6)
	CAR [-1,1]	CAR [2,42]	CAR [-1,1]	CAR [2,42]	CAR [-1,1]	CAR [2,42]
Advance Notice Period x DS	0.60*** (3.30)	-0.72** (-2.11)	0.51** (2.32)	-0.72* (-1.77)	2.00*** (2.81)	-2.72** (-2.10)
Advance Notice Period	-1.8 (-1.39)	3.3 (1.35)	-1.22 (-0.76)	4.68 (1.63)	-5.32 (-1.19)	12.46 (1.46)
Advance Notice Period ² x DS					-0.04** (-2.04)	0.06* (1.66)
Advance Notice Period ²					0.11 (0.90)	-0.27 (-1.20)
DS	92.70*** (29.41)	28.81*** (4.83)	163.29*** (13.38)	57.85** (2.57)	83.41*** (15.10)	42.15*** (3.96)
Controls (Interacted)	No	No	Yes	Yes	No	No
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Earnings Report Date Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	39,237	39,237	31,849	31,849	39,237	39,237

Table 4

Advance Notice Period and Earnings Surprise

This table presents panel regressions examining the relation between the Advance Notice Period and the earnings surprise at the time of the earnings announcement. In columns 1 to 4, the dependent variable is the difference between the announced earnings per share and the average expected earnings per share by sell-side analysts, normalized by the stock price at the end of the corresponding quarter. In column 4, the dependent variable is a dummy equal to 1 if the surprise is positive and 0 if not. In column 5, the dependent variable is the difference between the announced earnings per share and the average expected earnings per share by sell-side analysts before normalization. *Advance Notice Period* is the number of calendar days between the date of the notice of earnings and the earnings announcement date. All other variables are defined in Appendix C. Standard errors are adjusted for heteroskedasticity and clustered by firm. t-statistics are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable: Earnings Surprise Disclosed on Earnings Announcement Date						
Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)
	(Actual EPS - Estimated EPS) / Stock Price				Positive Surprise	EPS surprise
Advance Notice Period	0.009*** (4.75)	0.012*** (5.96)	0.009*** (2.58)	0.026*** (4.21)	0.006*** (4.13)	0.214*** (4.77)
Advance Notice Period ²				-0.0003*** (-2.60)	-0.00007** (-2.23)	-0.003*** (-2.82)
Date Surprise (Decile)		0.024*** (5.11)	-0.007 (-0.81)	0.025*** (5.20)	0.008*** (6.74)	0.221*** (6.07)
Reporting Lag		-0.006*** (-2.69)	0.002 (0.74)	-0.005*** (-2.60)	0 (-0.68)	-0.032** (-2.27)
Size		-0.224*** (-4.14)	-0.253*** (-2.63)	-0.223*** (-4.14)	-0.050*** (-4.39)	-1.920*** (-4.91)
Market-to-book		0.002 (0.38)	-0.01 (-1.21)	0.002 (0.38)	0.00 (-0.12)	0.00 (0.01)
Age		-3.633** (-2.21)	-44.945** (-2.01)	-3.514** (-2.06)	-0.586 (-0.75)	-29.83 (-1.57)
RoA		-0.568* (-1.69)	0.464 (0.63)	-0.574* (-1.71)	-0.122* (-1.84)	-3.147* (-1.73)
Leverage		0.429** (2.49)	0.46 (1.50)	0.426** (2.48)	0.119*** (3.08)	4.784*** (3.62)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Fiscal Quarter Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Sample restriction	No	No	Yes	No	No	No
N	44,860	41,403	9,163	41,403	41,403	41,403

Table 5

Cross-sectional Analysis

This table presents panel regressions examining how the relation between the Advance Notice Period and the earnings surprise varies in the cross-section of firms. Three cross-sectional dimensions are examined: the visibility of the firm (column 1 and 2), the managerial horizon (column 3 and 4), and the risk of shareholder litigation (column 5 and 6). The dependent variable is the earnings surprise defined as the difference between the announced earnings per share and the consensus earnings per share, normalized by the stock price at the end of the corresponding quarter. *Advance Notice Period* is the number of days between the date of the notice of earnings and the report date. *High Visibility* is a dummy variable equal to one if the number of analysts covering the firm (column 1) or the market capitalization (column 2) is above the sample average during the quarter. *Short Horizon* is either a dummy variable equal to 1 if the firm issues equity at the subsequent quarter (column 3) or a continuous variable equal to the share turnover observed during the last month of the previous quarter (column 4). *High Litigation* is a dummy variable equal to one if ongoing litigations are mentioned in the proxy statements (column 5) or if the stock return volatility observed during the previous year is above the sample average (column 6). Controls variables include *Date Surprise*, *Reporting Lag*, *Size*, *Market-to-Book*, *RoA*, *Leverage*, and *Age*. All control variables are interacted with *High Visibility* in column 1 and 2, *Short Horizon* in column 3 and 4, or *High Litigation* in column 5 and 6. All variables are defined in Appendix C. Standard errors are adjusted for heteroskedasticity and clustered by firm. t-statistics are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Cross-sectional effects according to	Firm Visibility		Managerial Horizon		Litigation Risk	
	(1)	(2)	(3)	(4)	(5)	(6)
Proxy used	# Analysts	Market Cap.	New Equity Issue _{q+1}	Share Turnover _{q-1}	Proxy Stat. Litigations	Volatility _{y-1}
Advance Notice Period x High Visibility	-0.008** (-1.96)	-0.012*** (-2.62)				
High Visibility	-0.373 (-1.58)	-1.450*** (-3.79)				
Advance Notice Period x Short Horizon			0.013** (2.20)	0.420* (1.73)		
Short Horizon			0.086 (0.20)	20.003 (1.39)		
Advance Notice Period x High Litigation					0.008** (1.98)	0.007** (2.24)
High Litigation					0.069 (-0.30)	-0.074 (-0.35)
Advance Notice Period	0.017*** (4.40)	0.020*** (4.25)	0.011*** (5.40)	0.007** (2.43)	0.010*** (4.78)	0.010*** (4.78)
Controls (Interacted)	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Fiscal Quarter Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	34,312	34,312	39,190	41,403	41,403	41,333

Table 6***Advance Notice Period and Market Reaction to Notices of Earnings***

This table presents panel regressions examining the effect of the Advance Notice Period on the firm stock return at the time of the notice of earnings, i.e. when public notice is given about the date and time of the forthcoming earnings release. The dependent variable $CAR[-1,+1]$ is the cumulated abnormal return during days $[-1,+1]$ around the date of the notice of earnings, expressed in basis points. *Advance Notice Period* is the number of calendar days between the date of the notice of earnings and the earnings announcement date. All control variables are defined in Appendix C. Standard errors are adjusted for heteroskedasticity and clustered by date of notice of earnings. t-statistics are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable: Market Reaction to Notice of Earnings (in bp)	
	CAR[-1;+1]
Advance Notice Period	0.62 (1.25)
Reporting Lag	-0.96** (-2.05)
Date Surprise (Decile)	2.81*** (2.97)
Size	-21.03** (-2.39)
Market-to-Book	-2.42** (-2.05)
Age	-167*** (-2.92)
Firm Fixed Effects	Yes
Notice of Earnings Date Dummies	Yes
Fiscal Quarter Fixed Effects	Yes
N	43,737

Table 7***Advance Notice Period (ANP) Portfolios Abnormal Returns***

This table presents daily abnormal return portfolios from January 2007 to December 2012. In Panel A, the portfolios of stocks are formed according to the date of the “notice of earnings”. Stocks are added to the High (Low) ANP portfolio when the date of the “notice of earnings” comes at least one day earlier (later) than the average date at which “notices of earnings” for the same quarter were issued over the past three years. Stocks are removed from the High (Low) ANP portfolio three trading days after the earnings announcement date. Columns 1 through 3 report the coefficients of OLS regressions of portfolios daily return in excess of the Treasury bill rate on daily factors. MktRf is the return on the CRSP value-weighted index minus the treasury rate. SMB and HML are the daily returns from the Fama and French (1993) factor-mimicking portfolios for size and book-to-market, respectively. UMD is the daily return from the Carhart (1997) factor-mimicking portfolio for momentum. The constant is the average daily risk-adjusted return expressed in basis points. Panel B examines how the risk-adjusted return of the long/short strategy changes when the decision criteria used to add a stock to the High (Low) portfolio is based on larger variations of the advance notice period. The analysis repeats the OLS regression in column 3 of Panel A when portfolios are formed using stocks of firms that issue their notice of earnings at least two (three, four, five or six) days earlier or later than the date observed in the past. t-statistics are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Panel A

Dependent Variable: Portfolio Daily Excess Return (in bp)

Portfolio:	High ANP (1)	Low ANP (2)	Long / Short (3)
Constant	4.163*** (3.27)	-3.609** (-2.22)	7.578*** (4.27)
MktRF	1.011*** (55.65)	1.004*** (64.25)	0.007 (0.42)
SMB	0.680*** (22.76)	0.762*** (24.27)	-0.081*** (-2.76)
HML	0.127*** (4.20)	0.132*** (4.02)	-0.005 (-0.15)
UMD	-0.001*** (-8.52)	-0.002*** (-9.16)	0.000** (2.24)
N	1,239	1,242	1,239

Panel B

Dependent Variable: Portfolio Daily Excess Return (in bp)

Add stock to portfolio if ANP Variation	Constant of the model	Long/ Short t-stat
> 1 Day	7.578***	(4.27)
> 2 Days	8.206***	(4.42)
> 3 Days	8.152***	(4.17)
> 4 Days	8.758***	(4.14)
> 5 Days	9.085***	(4.05)
> 6 Days	9.811***	(4.09)

Table 8

Advance Notice Period and Earnings Management

This table presents panel regressions examining how the relation between the Advance Notice Period and the level of earnings surprise varies with firms' earnings management. The dependent variable is the *Advance Notice Period*, the number of calendar days between the date of the notice of earnings (i.e. the press release announcing the date and time of the forthcoming quarterly earnings disclosure) and the earnings announcement date. *Accrual* is the absolute value of the residuals from the discretionary accruals model of Kothari et al. (2005). *Beat Forecast One Cent* is a variable equal to 1 if the firm beats analysts' expectations by one cent and 0 if the firm misses analysts' expectations by one cent. All other variables are defined in Appendix C. Standard errors are adjusted for heteroskedasticity and clustered by firm. t-statistics are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable: Advance Notice Period				
	(1)	(2)	(3)	(4)
Accrual	-0.076 (-0.63)	-0.087 (-0.69)		
Beat Forecast One cent			0.091 (0.67)	0.092 (0.66)
Date Surprise (Decile)		-0.181*** (-12.67)		-0.217*** (-6.76)
Reporting Lag		0.073*** (11.64)		0.129*** (8.06)
Size		0.917*** (4.83)		0.695* (1.90)
Market-to-book		0.037*** (2.86)		-0.013 (-0.38)
Age		42.265** (2.16)		67.629** (2.05)
RoA		1.423** (2.29)		0.713 (0.44)
Leverage		-0.111 (-0.19)		1.553 (1.47)
Firm Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes
Fiscal Quarter Fixed Effects	Yes	Yes	Yes	Yes
N	45,414	41,425	10,350	9,506

Table 9

Advance Notice Period and Attendance to Earnings Call (IV Approach)

This table examines the effects of the Advance Notice Period on the number of earnings call participants using Instrumental Variable regressions. The dependent variable is the (log-transformed) number of earnings call participants. *Advance Notice Period* is the number of calendar days between the date of the notice of earnings (i.e. the press release announcing the date and time of the forthcoming quarterly earnings disclosure) and the earnings announcement date. All other variables are defined in Appendix C. For readability purposes, all regression coefficients are multiplied by 100. Standard errors are adjusted for heteroskedasticity and clustered by firm. t-statistics are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable: log(1+ # Earnings Call Participants)				
	OLS	IV		OLS
	(1)	First Stage (2)	Second Stage (3)	(4)
Advance Notice Period	0.19*** (2.82)		0.60** (2.12)	
Reporting Lag	0.00 (0.02)	9.93*** (6.62)	-0.04 (-0.58)	0.02 (0.20)
Date Surprise (Decile)	-0.08 (-0.54)	-10.93*** (-7.24)	-0.03 (-0.26)	-0.1 (-0.78)
Size	18.38*** (13.72)	61.22*** (3.32)	18.13*** (14.24)	18.50*** (10.13)
Age	12.94 (1.25)	122.75 (0.48)	12.38 (1.17)	13.11 (1.06)
Market-to-Book	0.42*** (6.53)	0.030 (0.01)	0.41*** (6.25)	0.41*** (4.11)
Influenza		-88.83*** (-4.26)		-0.00004 (-1.03)
Firm FE	Yes	Yes	Yes	Yes
Earnings Report Date x State FE	Yes	Yes	Yes	Yes
Earnings Surprise Decile Dummies	Yes	Yes	Yes	Yes
N	37,465	37,417	37,417	37,417
Kleibergen-Paap rk Wald F statistic			18.2	

Figure 1

Timeline of Events

This figure presents the standard timeline of the earnings release process in the U.S.. Information about the organization of the forthcoming earnings release is sent on average 15 calendar days before the event. Such information typically includes the date and time of earnings release as well as practical information on how to access the earnings conference call. We call the action of sending this information to market participants "Notice of Earnings". We call the action of disclosing quarterly earnings information to market participants "Earnings Announcement". The "Advance Notice Period" is the number of days between the date of the first notice of earnings and the earnings announcement date.

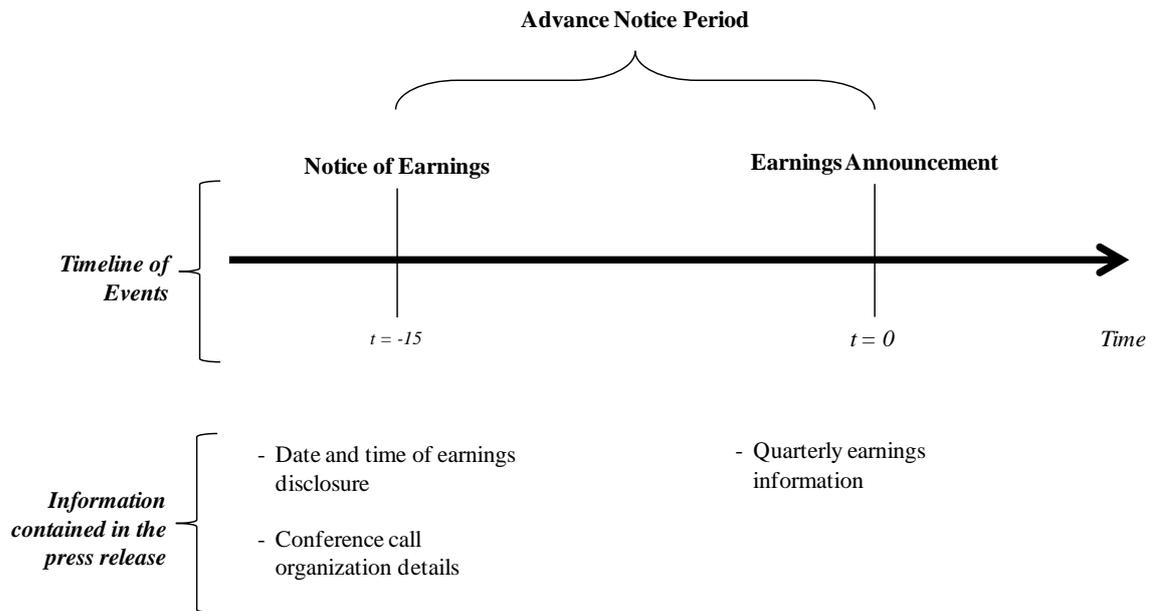


Figure 2

Distribution of Events Related to Earnings Disclosure in a Trading Year

This figure shows the distribution of earnings announcements events in a trading year (the blue line) together with the distribution of “notices of earnings” events (the red line). The distribution of earnings announcements events is derived from a sample of 4,875 U.S. firms (90,870 observations) from the Compustat Quarterly database over the 2007-2012 period. The distribution of “notice of earnings” events is derived from a sample of 3,897 U.S. firms (52,872 observations) from Reuters Archive over the 2007-2012 period. The y-axis reports the total number of events observed on a given trading day scaled by the total number of events in the sample.

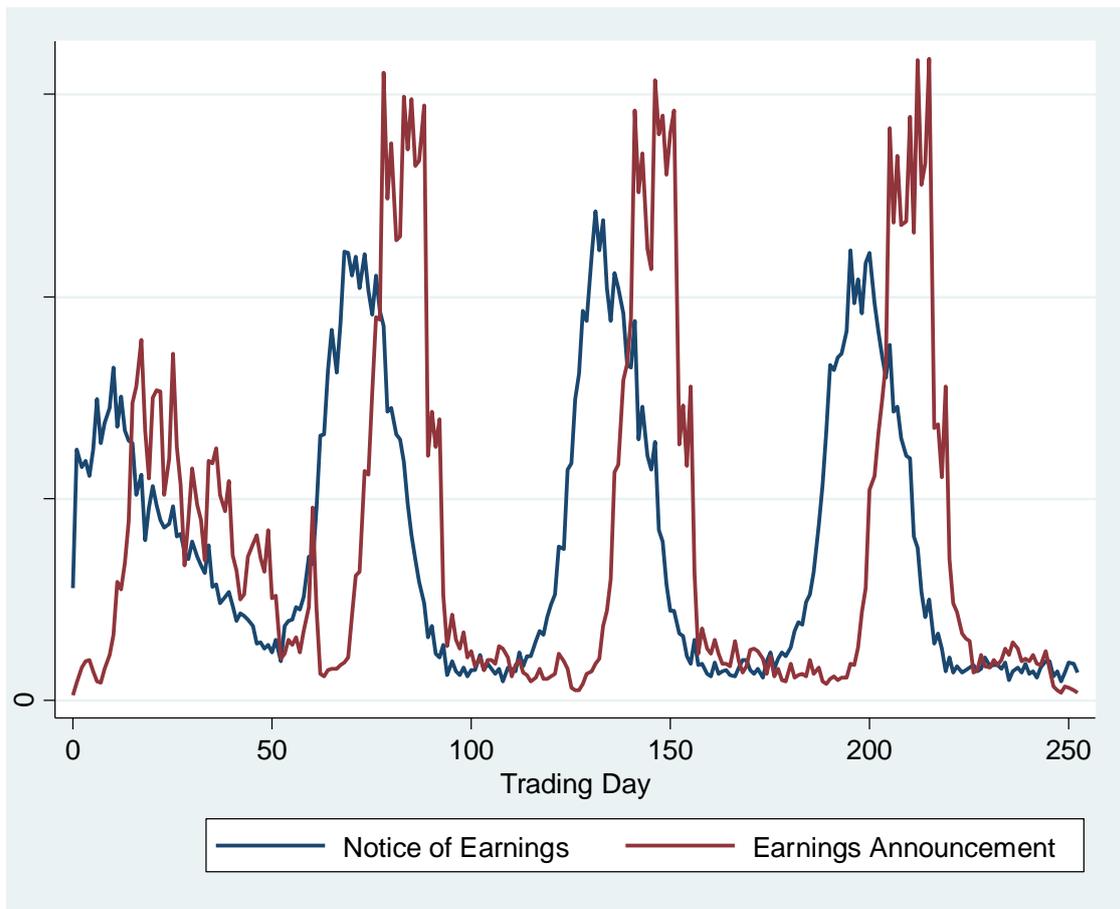


Figure 3

Advance Notice Period Distribution

This figure displays the distribution of the Advance Notice Period, the number of calendar days between the date of the notice of earnings and the earnings announcement date. The sample includes 52,872 observations, corresponding to any notice detailing the date and time of the forthcoming quarterly earnings disclosure which we are able to identify in the Reuters press release database, and which we are able to match with 3,897 U.S. firms from the Compustat Quarterly database during the 2007-2012 period

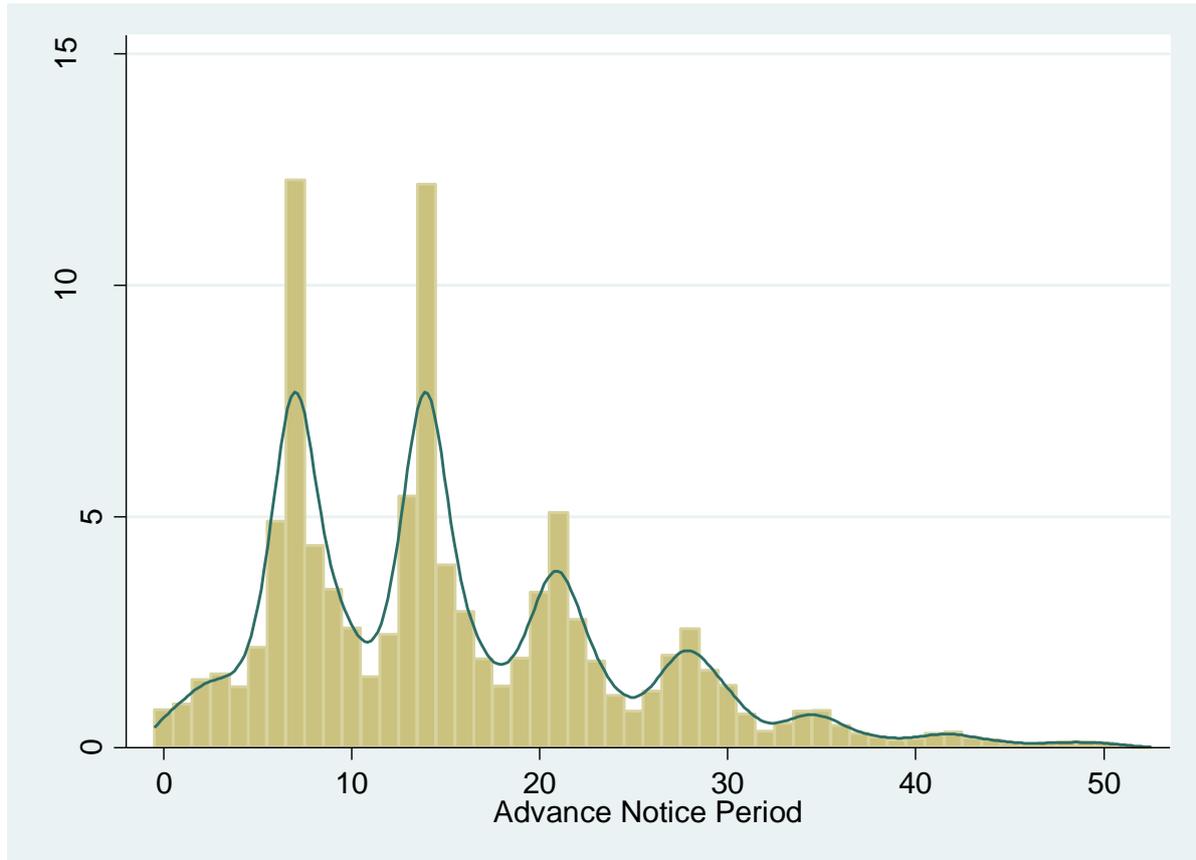
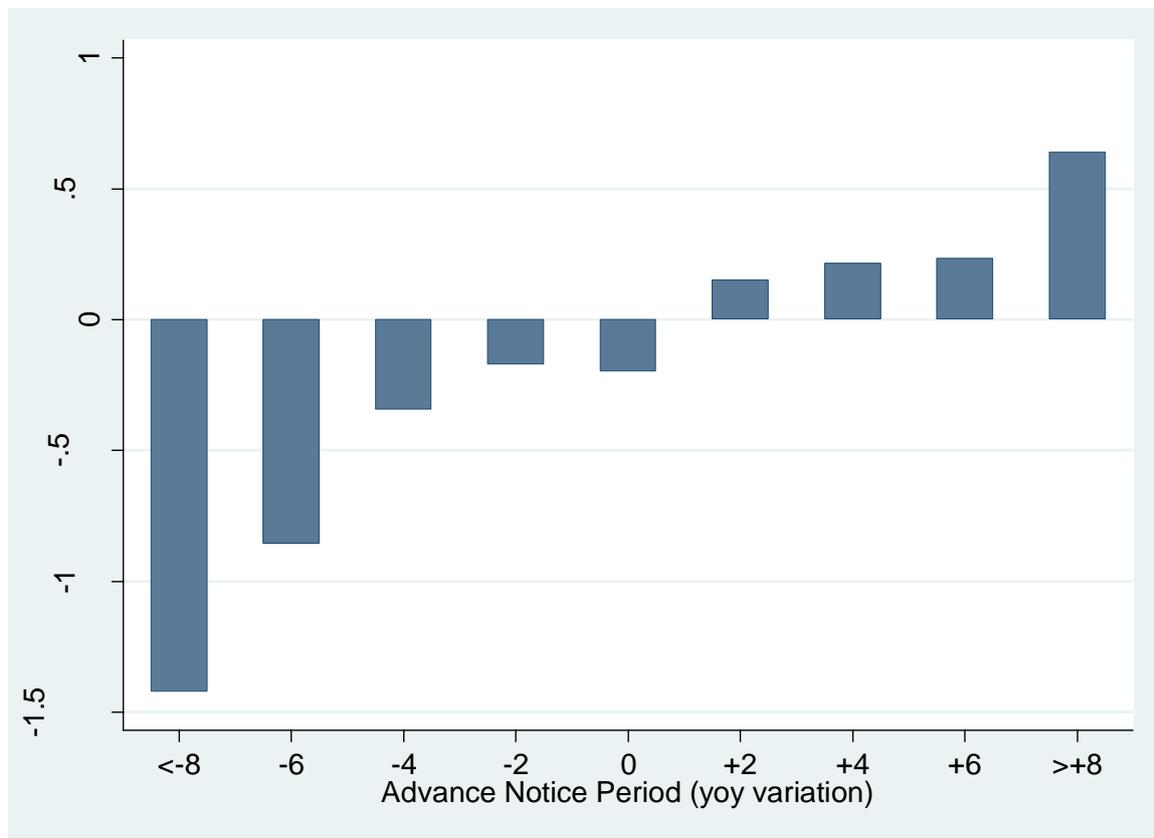


Figure 4

Advance Notice Period Variation and Change in EPS Surprise (in cents)

This figure displays the average change in the non-normalized EPS surprise (USD cents) for firms that change their Advance Notice Period relative to the same quarter of the previous year. Variations in *Advance Notice Period* are divided into 9 bins. The Advance Notice Period is the number of calendar days between the notice detailing the date and time of the forthcoming quarterly earnings disclosure, and the earnings announcement day. The sample includes 52,872 observations, corresponding to any notice detailing the date and time of the forthcoming quarterly earnings disclosure which we are able to identify in the Reuters press release database, and which we are able to match with 3,897 U.S. firms from the Compustat Quarterly database during the 2007-2012 period.



Appendix A Agilent Technologies Notice of Earnings

Agilent Technologies to Host Webcast of Fourth-Quarter Fiscal Year 2009 Financial Results Conference Call

* Reuters is not responsible for the content in this press release.

Mon Nov 2, 2009 11:00am EST

SANTA CLARA, Calif.--(Business Wire)--

Agilent Technologies Inc. (NYSE:A) will release its fourth-quarter fiscal year 2009 financial results before the stock market opens on Nov. 13. The company will host a live webcast of its investor conference call in listen-only mode.

Date: Friday, Nov. 13

Time: 5:30 a.m. (PT)

Web access: www.investor.agilent.com

Listeners may log on and select "Q4 2009 Agilent Technologies Inc. Earnings Conference Call" in the "News & Events -- Calendar of Events" section. The webcast will remain on the company site for 90 days.

In addition to the online broadcast, a telephone replay of the conference call will be available at 8:30 a.m. (PT) after the call on Nov. 13 through Nov. 20 dialing +1 888 286 8010 (for international, dial +1 617 801 6888) and entering pass code 96035796.

About Agilent Technologies

Agilent Technologies Inc. (NYSE:A) is the world's premier measurement company and a technology leader in communications, electronics, life sciences and chemical analysis. The company's 18,000 employees serve customers in more than 110 countries. Agilent had net revenues of \$5.8 billion in fiscal 2008. Information about Agilent is available on the Web at www.agilent.com.

NOTE TO EDITORS: Further technology, corporate citizenship and executive news available on the Agilent news site at www.agilent.com/go/news.

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Appendix B Data proceeding

This appendix provides details on two important data steps. First, we show how to match each press release of notification with the corresponding earnings announcement. Second, we describe how to identify whether the release date set forth in the press release of notification has been respected by the company.

B1- Matching press releases with the corresponding earnings announcement

We match each press release of notification with the corresponding earnings on the basis of the fiscal quarter-year reported in the press releases. To recover the fiscal quarter in the press releases, we search for string pattern such as *[first/second/third/fourth] [quarter]*. It is more challenging to recover the fiscal year as several years can be mentioned in a press release (not only the fiscal year but also the year at which the announcement actually occurs). We opt for the following approach: for each press release in our dataset, identified by a company ticker and a fiscal quarter, we look forward to identify the next earnings announcement made by the firm in the fiscal quarter mentioned in the press release. When there are several press releases that notify the same earnings announcement, we take the earlier one to identify the *first* time the earnings announcement date was made public to investors. Finally, we remove press releases where the notification is published on the same day of the earnings announcement.

B2- Checking that the notified release date has been respected by the firm

For each press release of notification, we search for string patterns that match a date i.e. any strings of the form *[Month Day, Year]* such as May 9, 2012. A press release of notification can mention several other dates than the date of earnings announcement (e.g. the date until which the conference webcast will be available). We then check whether at least one of those dates reported in the press release match with the actual date of announcement. If this is the case, we consider the company to respect its notification. Of the 54,570 notices of earnings in the initial dataset, we were able to identify 49,441 earnings announcements where the release date announced in the press release matches either the Compustat or the I/B/E/S reporting date. We are thus left with 5,129 notices of earnings (about 9.4% of the dataset) where the earnings release date is potentially not respected by the firm. Due to the difficulty of extracting the date of announcement from the text of the press release, this figure represents an upper bond of the number of non-respected earnings notification. To further examine this question, we draw a random sample of 1% of the unmatched observations (52 press releases) and manually check whether the date of announcement has been respected by the firm. We find that in 71% of the case (37 observations), firms actually respect their earnings schedule date, but our procedure fail to identify it¹. In the remaining 29% of the cases (15 observations), firms respect their notifications, but the earnings announcement date recorded in either I/B/E/S or Compustat is wrong (often by a day or two) and no match can thus be found. On this random sample, we thus find no firms that do not respect the date of earnings that they announce in advance to market participants.

¹ For instance the date “May 9, 2012” can be displayed in the press release under the form “Wednesday, May 9”. The latter expression is not matched by our procedure

Appendix C List of Variables

Variable	Definition
<i>Advance Notice Period</i>	Number of calendar days between the release of the notice of earnings and the earnings announcement date.
<i>EPS Surprise</i>	Difference between the actual earnings per share and the consensus of analysts in I/B/E/S.
<i>DS</i>	Decile of surprise, i.e. <i>EPS Surprise</i> scaled by the stock price at the end of the corresponding quarter divided into ten deciles.
<i>Date Surprise</i>	Difference in calendar days between the actual earnings report date and the expected report date. The expected report date is derived from the earnings calendar of the previous year, assuming that for a given quarter, earnings will be reported on the same day of week and the same week of year (e.g., a third-quarter report on Monday, October 17, 2011, means the next fiscal year's third-quarter report will be made on Monday, 15, October, 2012). This difference is multiplied by -1 so that a delay relative to the expectations corresponds to a negative surprise
<i>Date Surprise (Decile)</i>	Date Surprise divided into ten deciles.
<i>Reporting Lag</i>	Difference in calendar days between the earnings announcement date and the quarter-end date.
<i># Call Participants</i>	Numbers of participants to the earnings conference call. The log transformation of this variable is $\log(1+\# \text{ Call Participants})$.
<i># Analysts</i>	Numbers of sell-side analysts at quarter-end date in I/B/E/S.
<i>Size</i>	Natural logarithm of total assets.
<i>Market-to-Book</i>	Market to book ratio.
<i>Age</i>	Number of years elapsed since a firm's inception.
<i>Leverage</i>	Total debt over total assets.
<i>Trading Volume</i>	Abnormal trading volume on earnings announcement date.
<i>On-watch</i>	Dummy variable equal to 1 if the stock is on the list of "on-watch" stocks provided by the <i>Wall Street Journal</i> website
<i>Google Searches Volume</i>	Abnormal volume of Google searches for the ticker of the firm on earnings announcement date. The variable is calculated using the log transformation of the daily Search Volume Index (SVI) provided by Google Trends.
<i>Number of Announcements</i>	Number of earnings announcements during the day
<i>Positive Surprise</i>	Dummy variable equal to 1 if <i>EPS Surprise</i> is positive
<i>Proxy Statement Litigations</i>	Number of times the word "litigation" is mentioned in the proxy statement.
<i>Volatility_y</i>	Stock return volatility on year <i>y</i> .
<i>New Equity_q</i>	Dummy variable equal to 1 the firm issues equity at quarter <i>q</i> .
<i>Share turnover_q</i>	Average daily trading volume over total number of shares outstanding during quarter <i>q</i> .
<i>Accruals</i>	Absolute value of the residuals from the discretionary accruals model of Kothari et al. (2005)
<i>Beat Forecast One Cent</i>	Dummy variable equal to 1 if the firm beats analysts' expectations by one cent and 0 if the firm misses analysts' expectations by one cent.
<i>EA Friday</i>	Dummy equal to 1 if the earnings announcement is a Friday earnings announcement
<i>RoA</i>	Net Earnings over Assets at the end of the period.

Appendix D Additional Tests on Earnings Call Attendance

This table presents additional regressions examining the effect of the Advance Notice Period on the number of participants to the earnings call. *Advance Notice Period* is the number of calendar days between the date of the notice of earnings (i.e. the press release announcing the date and time of the forthcoming quarterly earnings disclosure) and the earnings announcement date. Large is a dummy equal to 1 if the firm is in the high tercile of the sample in terms of size at the end of the quarter. Small is a dummy equal to 1 if the firm is in the low tercile of the sample in terms of size at the end of the quarter. Medium is a dummy equal to 1 if Large and Small are equal to zero. Control variables include *Reporting Lag*, *Date Surprise*, *Size*, *Age*, and *Market-to-book*. All variables are defined in Appendix C. Standard errors are adjusted for heteroskedasticity and clustered by firm. t-statistics are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Dependent Variable: log(1 + # Earnings Call Participants)				
	(1)	(2)	(3)	(4)
Advance Notice Period	0.14*** (3.46)		0.36*** (3.02)	
Advance Notice Period ²			-0.005* (-1.81)	
Advance Notice Period x Large		0.04 (0.69)		0.03 (0.19)
Advance Notice Period x Medium		0.14** (2.03)		0.32* (1.68)
Advance Notice Period x Small		0.42*** (4.33)		0.56** (2.14)
Advance Notice Period ² x Large				0.00 (0.03)
Advance Notice Period ² x Medium				0.00 (-1.07)
Advance Notice Period ² x Small				0.00 (-0.60)
Large		-8.64* (-1.76)		-7.18 (-1.36)
Small		-2.94 (-0.53)		-2.51 (-0.42)
EA Friday	-2.63*** (-2.61)			
Number of Announcements	-0.02*** (-8.41)			
Controls	Yes	Yes	Yes	Yes
Earnings Surprise Decile Dummies	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Earnings Report Date Dummies	No	Yes	Yes	Yes
Year x Quarter Fixed Effects	Yes	No	No	No
N	37,676	37,676	37,676	37,676