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CEO stock option awards and the timing of corporate voluntary disclosures[☆]

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Abstract

We investigate whether CEOs manage the timing of their voluntary disclosures around stock option awards. We conjecture that CEOs manage investors' expectations around award dates by delaying good news and rushing forward bad news. For a sample of 2,039 CEO option awards by 572 firms with fixed award schedules, we document changes in share prices and analyst earnings forecasts around option awards that are consistent with our conjecture. We also provide more direct evidence based on management earnings forecasts issued prior to award dates. Our findings suggest that CEOs make opportunistic voluntary disclosure decisions that maximize their stock option compensation.

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1. Introduction

This paper investigates whether CEOs manage investors' expectations around stock option awards. Because stock options are typically granted with a fixed exercise price equal to the stock price on the award date, we hypothesize that CEOs opportunistically manage the timing of their information disclosures to increase the value of their awards. In particular, we conjecture that they delay announcements of good news and rush forward bad news. Such a disclosure strategy ensures that decreases in the firm's stock price related to the arrival of bad news occur before, rather than after, the award date, while stock price increases related to the arrival of good news occur after, rather than before, the award.¹

Using information from ExecuComp and handcollected data from annual proxy statements, we infer the dates of 4,426 stock option awards made between 1992 and 1996 to the CEOs of 1,264 firms. We document that many firms have a fixed schedule for awarding options to their CEOs; about half the firms, 572 firms with 2,039 awards, have award dates that are nearly identical every year. Using this sample of firms with fixed award schedules, we test our prediction that CEOs manage the timing of their disclosures around award dates.² Focusing on scheduled awards allows us to mitigate the possibility that our findings are attributable to opportunistic timing of awards around company news announcements.

We conduct several tests to investigate whether CEOs manage investors' expectations downward prior to scheduled awards. Our first test investigates changes in the distributional properties of analysts' earnings forecasts. Prior evidence suggests that analyst forecasts largely reflect guidance provided by management through a variety of channels. Therefore, we investigate whether forecasts issued shortly before scheduled CEO option awards are abnormally low. To do that, we estimate the empirical distribution of analyst forecast errors for our sample firms over the 1992–1996 period. Consistent with our prediction, we find that forecasts issued during the three months prior to scheduled awards are significantly less optimistically biased than forecasts issued for the same firms during other months. This association is robust to controlling for variables which prior research suggests are associated with forecast errors, and to various specification checks. Our second test focuses on share price movements around

¹ Articles in the business press also suggest that managers manage investors' expectations to increase their stock option compensation. For example, a recent article in *Forbes* states: 'It is not at all uncommon for management to run a company to the ground. After the stock collapses they grant themselves options at the lower price. When the stock recovers they make a fat profit, while shareholders have taken a round trip to nowhere' (May 18, 1998).

² Throughout the paper we refer to awards by firms with a fixed award schedule as 'scheduled awards'.

award dates. Consistent with our prediction that CEOs manage investors' expectations around option awards, we find a significant difference between the pre- and post-award periods; scheduled awards are preceded by insignificantly negative abnormal returns and followed by significantly positive abnormal returns.

Our third set of tests identifies cross-sectional variation with respect to CEOs' incentives to manage investors' expectations around scheduled awards. In particular, we focus on a subsample of scheduled awards made within just a few days of earnings announcements. Because managers likely have more private information shortly before earnings announcements than shortly thereafter, we conjecture that CEOs who receive their options immediately before earnings announcements have greater opportunities to adopt a voluntary disclosure strategy that maximizes the value of their awards. Specifically, we predict that these CEOs are more inclined to voluntarily preempt negative earnings surprises, and are less inclined to preempt positive surprises. Such a disclosure strategy increases the likelihood that stock price decreases related to the arrival of bad news occur before the award, and that stock price increases related to the arrival of good news occur after the award. We presume a similar strategy is less beneficial to CEOs who receive their options only after earnings are announced.³

Consistent with our prediction, we find that firms with scheduled awards before earnings announcements have, on average, significantly negative abnormal returns over the three month period prior to earnings announcement, and significantly positive abnormal returns at the earnings announcement date. The abnormal returns for these firms are significantly lower in the pre-earnings-announcement period, and significantly higher at the earnings announcement date, than the abnormal returns for firms with scheduled awards after earnings announcements. These findings are robust to controlling for the size and magnitude of the earnings surprise. We complement the market-based findings with evidence from management earnings forecasts issued by these firms during the pre-earnings-announcement period. We find that CEOs who receive their options before the earnings announcement are significantly more likely to issue bad news forecasts, and less likely to issue good news forecasts, than are CEOs who receive their awards after the earnings announcement. These findings are consistent with opportunistic timing of management voluntary disclosures around scheduled awards.

There is relatively little research on managers' self-interested behavior in response to the structure of their stock option compensation. Most closely

³ We focus on opportunistic timing of voluntary disclosures, particularly with respect to information that would be revealed anyway (e.g., impending earnings surprises). We do not imply that managers manage investors' expectations downward by issuing misleading forward-looking statements, as the legal and reputational costs associated with making these disclosures likely exceed the expected increase in award value (see Kasznik, 1999).

related to our study is Yermack (1997) who documents that CEO option awards are preceded, on average, by insignificantly negative abnormal returns, and are followed by significantly positive abnormal returns. Yermack interprets the stock price movements around option awards as evidence that managers influence their firms' compensation committee to award them options in advance of favorable earnings announcements. Although our study is similar to Yermack's in that we also expect differences in news announcements before and after award dates, our hypotheses and research design are substantially different. Most notably, Yermack's hypothesis of an opportunistic timing of awards can only apply to companies that do not award options on a fixed schedule, and is not applicable to the many companies with scheduled awards, the focus of our study.

Another major distinction between the two studies relates to types of disclosures examined. Yermack (1997) focuses on earnings announcements, and predicts that options are more likely to be awarded before (after) positive (negative) earnings surprises. A maintained assumption underlying his analysis is that firms' disclosures are exogenous, primarily in the form of periodic earnings announcements. In contrast, we incorporate the notion that managers use voluntary disclosures in press releases and in discussions with security analysts to effectively determine the timing of information releases. Our approach is motivated by our desire to investigate whether CEO option awards affect the timing of firms' voluntary disclosures. Focusing on firms with scheduled awards permits us to distinguish between opportunistic timing of voluntary disclosures around award dates and opportunistic timing of awards around news announcements. Compensation consultants often argue that CEOs' opportunistic behavior with respect to stock option compensation could be eliminated by requiring that options be awarded on a fixed schedule. However, we document that although many firms have a fixed award schedule, CEOs of these firms increase their compensation by managing the timing of their voluntary disclosures.

Although our primary focus is on firms with fixed award schedules, we replicate all of our tests using the group of firms with unscheduled awards. In marked contrast to our findings for scheduled awards, we find no evidence that the significant stock price decrease (increase) in the period immediately before (after) the unscheduled award reflects an opportunistic disclosure strategy. Thus, taken together, our findings suggest that the asymmetric stock price movements around option awards reflect two distinct sources of opportunistic behavior aimed at increasing CEOs' stock option compensation: opportunistic timing of management voluntary disclosures around award dates for firms with scheduled awards, and opportunistic timing of awards around news announcements for firms with unscheduled awards.

Our study contributes to the literature on executive compensation by providing evidence consistent with CEOs managing investors' expectations around

scheduled awards to increase their stock option compensation. Much of the prior literature on compensation-related opportunistic behavior focuses on managers' incentive to manage reported earnings to increase their cash bonuses (Healy, 1985; Watts and Zimmerman, 1986).⁴ We contribute also to the literature on voluntary disclosure by providing evidence that top executives have compensation-related incentives to accelerate the disclosure of bad news and delay announcements of good news. The personal monetary gain resulting from this disclosure strategy provides a plausible explanation for the intriguing evidence that managers are more likely to voluntarily preempt bad news than good news, and that bad news disclosures often occur shortly before earnings announcements (Skinner, 1994; Kasznik and Lev, 1995).⁵

The remainder of the paper proceeds as follows. Section 2 provides institutional background relating to CEO stock option awards. Section 3 describes the data and presents descriptive statistics. Section 4 outlines our research design and presents the primary findings. Section 5 provides additional tests, while Section 6 summarizes and concludes the paper.

2. Institutional background

Stock options are generally awarded to CEOs about once a year at the recommendation of the compensation committee of the board of directors (occasionally there are multiple awards during the year). The role of the committee is to review and approve the compensation package, including any stock option awards, for the company's top executives. The compensation committee exercises discretion over the size and timing of option awards, and these parameters can vary substantially across companies and over time.

A key feature of options awarded to top executives is that nearly all of them are granted with a fixed exercise price equal to the stock price on the award date. This motivates our prediction that CEOs maximize their stock option compensation by managing the timing of their information disclosures around award

⁴ Another opportunistic managerial behavior related to stock option compensation is suggested by Lambert et al. (1989) who document that after the adoption of executive stock option plans, firms pay lower cash dividends than otherwise expected. Much of the empirical literature on executive compensation focuses on the link between compensation and performance measures (e.g., Lambert and Larcker, 1987; Jensen and Murphy, 1990; DeFusco et al., 1990). Other studies investigate whether companies award options in accord with theories of financial contracting and agency cost reduction (see Yermack (1995) for a summary).

⁵ Other explanations suggested in the prior literature for why managers voluntarily disclose bad news focus on legal liability concerns (Skinner, 1994). However, empirical evidence indicates it is frequently the early disclosure of bad news that triggers lawsuits (Francis et al., 1994; Skinner, 1997), and that reducing expected litigation costs does not seem to result in fewer bad news disclosures (Johnson et al., 2000).

dates. Our prediction is further motivated by the notion that this opportunistic behavior does not appear to expose top executives to the same level of legal liability as other forms of insider transactions.⁶ While the Securities and Exchange Commission (SEC) has established that option awards represent ‘purchases’ (Rule 16b-6(c)), potentially subjecting them to the ‘disclose or abstain’ doctrine, shareholder litigation related to managers purchasing shares at a relatively low price are rare, and we are unaware of lawsuits involving option awards to top executives.

Beginning in 1992, the SEC requires firms to disclose in proxy statements the duration and expiration date of options awarded to top executives. These disclosures make it possible to infer the date of each option award, a key variable in our study.⁷ As described below, we find that many companies have a fixed schedule for awarding options to their CEOs. This allows us to test our prediction that CEOs manage the timing of their voluntary disclosures around award dates, while mitigating the possibility that they influence their compensation committees to award them options at favorable times. We limit our analysis to CEOs because they have significant control over their firms’ disclosure decisions. Moreover, in most companies, other top executives receive options on the same day as the CEO, and we therefore expect them to have disclosure incentives that are aligned with those we hypothesize for the CEO.

3. Data and descriptive statistics

We collect information about CEO stock option awards between 1992 and 1996 from the Standard & Poor’s ExecuComp database and proxy statements filed with the SEC. ExecuComp provides detailed executive compensation data for approximately 1,500 firms (S&P 500, S&P 400 MidCap, and S&P 600 SmallCap). The initial sample includes 5,248 option awards to CEOs of 1,304 firms. ExecuComp reports the expiration date of options awarded during the year, information companies are now required to disclose in their proxy statements. Although companies are not required to disclose their exact award dates, we use this information to infer the award dates. To validate our inferred date, we examine whether the option exercise price (also reported by ExecuComp)

⁶ Prior studies that examine the association between insider transactions and information contained in various corporate news events focus on common stock (Penman, 1982; John and Lang, 1991; Lee et al., 1992; Noe, 1999).

⁷ News of CEO stock option awards remains undisclosed for several months until proxy statements are issued. Although companies often issue press releases related to the adoption of stock option plans, we are unaware of timely disclosures of actual option awards. Moreover, although the timing of awards might be related to compensation committee meetings, companies do not publicly disclose the date of such meetings.

matches the share price on the inferred date. We identify 1,653 option awards with a potential price mismatch. Consequently, we handcollected and analyzed information about these awards from company proxy statements. In more than half of these cases, 876 awards, the discrepancy results from ExecuComp reporting a different grant year than the one identified in the proxy statement, often because the firm has a non-calendar fiscal year. For 214 awards, the discrepancy between the exercise price and the share price on the inferred award date was due to stock splits and dividends. In both cases, we use the information collected from the proxy statements to update our data. We exclude the remaining 563 awards that we identify as reload options (521 awards) or that we did not find in the proxy statements (42 awards). We exclude reload options because reloads essentially are option exercise transactions (see Hemmer et al., 1998). We also exclude 63 awards relating to 16 firms not found in the 1996 Center for Research on Security Prices (CRSP) database, and 196 awards with an inferred date later than December 31, 1996, the last date for which we have CRSP data. Our final sample comprises 4,426 stock option awards made between 1992 and 1996 to the CEOs of 1,264 firms.

Table 1 presents selected descriptive statistics relating to the sample of option awards. Panel A indicates a fairly even distribution over the sample period, with the exception of our final year, 1996, for which fewer awards with complete data were identified. Panel B indicates that the frequency of awards in the months of December, January, and February is greater than in other months; almost 40% of the awards are clustered in these three months. Panel C shows that the mean (median) number of options granted is 101,890 (50,000), and that the mean (median) award value as reported by the company is \$923,440 (\$390,300). Combining the value of option awards with CEOs' cash compensation (salary and bonuses) reveals that options account for about half the total compensation.

Table 1

Summary of 4,426 CEO stock option awards by 1,264 firms between January 1992 and December 1996

Panel A: Stock option award year

| Year | Stock option awards | |
|-------|---------------------|------------|
| | Number | % of total |
| 1992 | 682 | 15.4 |
| 1993 | 1,005 | 22.7 |
| 1994 | 1,112 | 25.1 |
| 1995 | 1,082 | 24.5 |
| 1996 | 545 | 12.3 |
| Total | 4,426 | 100.0 |

Table 1 (continued)
 Panel B: Stock option award month

| Month | Stock option awards | |
|-----------|---------------------|------------|
| | Number | % of total |
| January | 571 | 12.9 |
| February | 570 | 12.9 |
| March | 326 | 7.4 |
| April | 363 | 8.2 |
| May | 372 | 8.4 |
| June | 300 | 6.8 |
| July | 288 | 6.5 |
| August | 230 | 5.2 |
| September | 191 | 4.3 |
| October | 286 | 6.4 |
| November | 327 | 7.4 |
| December | 602 | 13.6 |
| Total | 4,426 | 100.0 |

Panel C: CEO cash and stock option compensation (amounts are in thousands)

| Variable | N | Mean | Median | Std. Dev. |
|---------------------------|-------|--------|--------|-----------|
| Number of options awarded | 4,426 | 101.89 | 50.00 | 222.12 |
| Value of option awards | 4,426 | 923.44 | 390.30 | 2,240.83 |
| CEO cash salary | 4,426 | 518.11 | 472.92 | 277.51 |
| CEO cash bonus | 4,426 | 444.10 | 265.00 | 652.25 |

Panel D: Frequency of option awards per sample firm

| Option awards | Firms | Mean | Median | Std. Dev. | Min | Max |
|---------------|-------|------|--------|-----------|-----|------|
| 4,426 | 1,264 | 3.5 | 3.0 | 1.9 | 1.0 | 15.0 |

Panel E: Option award schedules

| Pattern | Option awards | | Firms | |
|-------------------------|---------------|------------|--------|------------|
| | Number | % of total | Number | % of total |
| Fixed award schedule | 2,039 | 46.1 | 572 | 45.2 |
| Variable award schedule | 1,402 | 31.7 | 562 | 44.5 |
| Other award patterns | 985 | 22.2 | 130 | 10.3 |
| Total | 4,426 | 100.0 | 1,264 | 100.0 |

Panel D shows that the mean (median) firm has 3.5 (3.0) awards between 1992 and 1996, with the number of awards per firm ranging from 1 up to 15.

A key feature of our research design is that we identify firms with a fixed schedule for awarding options to their CEOs. In particular, we segment our

sample firms into three groups: ‘fixed award schedule’, ‘variable award schedule’, and ‘other award patterns’. We identify a firm as having a ‘fixed award schedule’ when its option award dates are the same every year over our sample period.⁸ As Panel E of Table 1 indicates, 2,039 (46.1%) of the 4,426 awards, relating to 572 (45.2%) of the 1,264 firms, fall into this category. Many of these sample firms have one option award in each of the five years examined, and only a few have an award in only two of the five years.⁹

We classify firms with no predictable schedule for awarding options to their CEOs into the ‘variable award schedule’ group. These firms have no two awards that are separated by about 12 months. As Panel E indicates, 1,402 (31.7%) of the awards, relating to 562 (44.5%) firms, are classified into this group. Hereafter, we refer to these awards as ‘unscheduled awards’. This group includes 201 firms who have only one award over our sample period. Finally, the group of ‘other award patterns’ comprises the remaining 985 (22.2%) awards made by 130 (10.3%) firms. Firms in this group typically have two years with the same award date, but also have a number of other awards outside that schedule. We do not include these firms in the fixed award schedule group to avoid introducing excessive noise into our analysis.

Although we take the award schedule as given, there could be systematic differences between firms with fixed and variable award schedules. Because we do not know why firms self-select into these two groups, we do not combine them in the empirical analyses. Moreover, to distinguish between opportunistic disclosure strategy and opportunistic timing of awards, our primary tests focus on the sample of 2,039 option awards made by the 572 firms with fixed award schedules.

Table 2 provides descriptive statistics relating to size and performance measures for our sample of firms with fixed award schedules. It shows that sample firms are relatively large; the mean (median) market value of equity, *MV*, is \$5,012 (\$1,615) million. The mean (median) book value of equity, *BV*, is \$1,827 (\$665) million. Sample firms’ mean (median) market-to-book ratio is 2.82 (2.23), fairly similar to the untabulated mean (median) of 3.18 (1.83) for all COMPUSTAT firms. Finally, sample firms are, on average, profitable, with mean (median) net income, *NI*, of \$286 (\$79) million, or 5% (6%) of market value of equity, and have a mean (median) annual sales growth, *SALESGR*, of 11% (7%).

⁸ For the purpose of identifying firms with fixed award schedules, we allow for the award dates to vary by up to a week. The inter-quartile range of number of days separating two consecutive awards in this group is 363 to 367.

⁹ The fixed award schedule group includes 21 firms that grant options to their CEOs twice, rather than once, a year, with the semi-annual dates being the same every year. The group also includes a few firms that had option awards on the same date in each of at least three subsequent years but also had one or two awards outside the fixed schedule. We exclude the awards made by these firms outside their fixed schedule.

Table 2
 Descriptive statistics for sample of 572 firms with 2,039 scheduled CEO stock option awards between January 1992 and December 1996^a

| Variable | Mean | Median | Std. Dev. |
|----------------|-------|--------|-----------|
| <i>MV</i> | 5,012 | 1,615 | 11,162 |
| <i>BV</i> | 1,827 | 665 | 3,452 |
| <i>MV/BV</i> | 2.82 | 2.23 | 2.67 |
| <i>ASSETS</i> | 9,727 | 2,023 | 26,647 |
| <i>SALES</i> | 4,703 | 1,607 | 10,586 |
| <i>NI</i> | 286 | 79 | 663 |
| <i>NI/MV</i> | 0.05 | 0.06 | 0.14 |
| <i>SALESGR</i> | 0.11 | 0.07 | 0.17 |
| <i>EARNVAR</i> | 1.23 | 0.50 | 3.15 |
| <i>LTD/BV</i> | 0.75 | 0.47 | 1.65 |

^a*MV* is market value of equity at fiscal year end. *BV* is book value of equity at fiscal year end. *ASSETS* is total assets at fiscal year end. *SALES* is net annual sales. *NI* is annual income from continuing operations. *SALESGR* is sales growth measured over at least three, but no more than, five years. *EARNVAR* is coefficient of variation in earnings, measured as the standard deviation of annual earnings from continuing operations divided by the absolute value of the mean, both calculated over the previous five years, provided there are at least three nonmissing earnings observations. *LTD* is long-term debt. *MV*, *BV*, *ASSETS*, *SALES*, *NI*, and *LTD* are expressed in \$ millions. The *MV/BV* and *LTD/BV* ratios exclude observations with negative book value of equity.

4. Empirical analyses

Our objective is to investigate whether top executives opportunistically manage the timing of their information disclosures around scheduled option awards. We conjecture that CEOs maximize the value of their awards by delaying good news and rushing forward bad news. We test this prediction using two summary measures for changes in investors' expectations around scheduled awards, one based on analyst earnings forecasts (Section 4.1), and one based on share prices (Sections 4.2 and 4.3.1). We also test this prediction more directly by examining management earnings forecasts issued prior to award dates (Section 4.3.2).

4.1. Analyst earnings forecasts prior to scheduled awards

The prior literature indicates that analyst earnings forecasts reflect, to a great extent, guidance provided by management through private interviews (Lees, 1981), earnings forecasts and other statements made in press releases (Jennings, 1987; Baginski and Hassell, 1990), and conference calls (Frankel et al., 1999). Previous studies also find that additional disclosure by management increases

the accuracy of analyst forecasts (Waymire, 1986; Lang and Lundholm, 1996). Thus, the distributional properties of analyst forecast errors provide a setting to assess whether CEOs manage investors' expectations downward prior to scheduled awards.

Prior research documents that analyst earnings forecasts are, on average, overly optimistic relative to realized earnings (see Schipper (1991) for a summary). Therefore, to investigate whether CEOs delay good news and rush forward bad news, we examine whether analyst forecasts are less optimistically biased prior to scheduled awards than they are at other times. To do that, we measure the error in analysts' consensus quarterly earnings forecast in each of the three months prior to the award month. We define the forecast error as follows:

$$AF_ERROR_{i,k} = \frac{AF_{i,k} - EPS_i}{P_{i,k}} \quad (1)$$

$AF_{i,k}$ is analyst consensus forecast for the next quarterly earnings to be announced after the award, for sample observation i . k denotes forecast month relative to award month, i.e., 1, 2, or 3 months prior to the award. All three monthly forecasts are for the same quarter, to facilitate comparisons among them. EPS is realized earnings per share for the quarter, and P is share price at the beginning of the forecast month. EPS and P are both obtained from I/B/E/S to mitigate measurement error related to stock splits and dividends, and to avoid inconsistencies in the definition of the forecasted and reported earnings numbers.

To provide a benchmark against which to assess whether analyst earnings forecasts are abnormally low prior to scheduled awards, we estimate the empirical distribution of analyst forecast errors for our sample firms. In particular, for every firm, we define each of the 60 months between January 1992 and December 1996 as month 0, and compute AF_ERROR for each of the three months prior to month 0. When month 0 is an award month, it is classified into the *AWARD* group. All other months, excluding the three months before and after an award month, are classified into the *NO-AWARD* group. For our sample of 2,039 scheduled awards, there are about 1,675 (15,100) *AWARD* (*NO-AWARD*) months with sufficient data to calculate AF_ERROR . Panel A of Table 3 presents summary statistics for AF_ERROR , multiplied by 100 for expositional purposes. It shows that, consistent with our prediction, analyst forecasts issued during each of the three months prior to *AWARD* months are significantly less optimistically biased than forecasts issued for the same firms prior to *NO-AWARD* months. For example, the frequency of observations with negative AF_ERROR (i.e., the analyst consensus forecast is overly pessimistic relative to realized earnings) in the three months, two months, and one month prior to *AWARD* months (45.32%, 46.84%, and 47.70%, respectively) is significantly

Table 3

Analyst earnings forecast errors, *AF_ERROR*, measured three, two, and one month prior to month 0. Month 0 is an *AWARD* month when it contains a scheduled CEO stock option award, and a *NO_AWARD* month for all other months between January 1992 and December 1996, excluding the three months before and after an award month. Sample of 572 firms with 2,039 scheduled CEO stock option awards between 1992 and 1996

Panel A: Univariate tests on AF_ERROR^a

| Group | Month relative to month 0 | | | | | | | | |
|-----------------|---------------------------|------|------------|-----------|------|------------|-----------|------|------------|
| | Month - 3 | | | Month - 2 | | | Month - 1 | | |
| | <i>N</i> | Mean | % negative | <i>N</i> | Mean | % negative | <i>N</i> | Mean | % negative |
| <i>AWARD</i> | 1,677 | 0.10 | 45.32 | 1,678 | 0.08 | 46.84 | 1,675 | 0.05 | 47.70 |
| <i>NO_AWARD</i> | 15,133 | 0.20 | 41.96 | 15,095 | 0.18 | 43.26 | 15,126 | 0.15 | 45.11 |
| <i>p</i> -value | | 0.01 | 0.01 | | 0.01 | 0.01 | | 0.01 | 0.04 |

Panel B: Fixed-firm-effect regressions (dependent variable AF_ERROR)^b

| Variable | Month relative to month 0 | | | | | | | |
|---------------------------|---------------------------|---------|-----------------|-----------|-----------------|-----------|-----------------|--|
| | Month - 3 | | | Month - 2 | | Month - 1 | | |
| | Pred. | Coeff. | <i>t</i> -stat. | Coeff. | <i>t</i> -stat. | Coeff. | <i>t</i> -stat. | |
| <i>AWARD_MONTH</i> | – | – 0.05 | – 2.47 | – 0.05 | – 2.37 | – 0.05 | – 2.69 | |
| <i>HORIZON</i> | + | 0.03 | 3.87 | 0.04 | 5.82 | 0.05 | 6.99 | |
| Δ <i>EPS</i> | – | – 12.03 | – 12.09 | – 10.88 | – 11.14 | – 9.50 | – 10.13 | |
| <i>SIZE</i> | – | – 0.40 | – 12.58 | – 0.36 | – 11.45 | – 0.29 | – 9.98 | |
| <i>EARNVAR</i> | + | 0.02 | 2.46 | 0.02 | 2.77 | 0.02 | 3.20 | |
| <i>SALESGR</i> | + | 0.44 | 3.50 | 0.29 | 2.22 | 0.16 | 1.17 | |
| <i>N</i> | | 14,874 | | 14,844 | | 14,865 | | |
| <i>Adj.R</i> ² | | 0.36 | | 0.34 | | 0.33 | | |

^aAnalyst earnings forecast error, *AF_ERROR*, is measured as the analyst consensus forecast of quarterly earnings-per-share minus realized earnings-per-share, deflated by share price at the beginning of the forecast month. *AF_ERROR* is multiplied by 100. In Panel A, the % negative column shows the frequency of *AWARD* and *NO_AWARD* observations where *AF_ERROR* is less than zero (i.e., the analyst consensus forecast is below realized quarterly earnings).

^b*AWARD_MONTH* is an indicator taking the value of one (zero) for *AWARD* (*NO_AWARD*) months. *HORIZON* is number of months between the forecast month and the end of the fiscal quarter to which the consensus forecast relates. Δ *EPS* is seasonally adjusted change in quarterly earnings per share, deflated by share price. *SIZE* is logarithm of market value of equity at the beginning of the forecast month. *EARNVAR* is the coefficient of variation in earnings, measured as the standard deviation of annual earnings from continuing operations divided by the absolute value of the mean, both calculated over the previous five years, provided there are at least three nonmissing earnings observations. *SALESGR* is the five-year sales growth. The firm-specific intercepts in the fixed effect regression are untabulated.

t-Statistics are based on White (1980) heteroscedasticity-consistent standard errors.

greater than that prior to *NO-AWARD* months (41.96%, 43.26%, and 45.11%, respectively).

We also estimate a multivariate regression to control for forecast horizon, earnings surprise, firm size, earnings variability, and sales growth, which prior research suggests are associated with analyst forecast errors. Forecast horizon, *HORIZON*, is measured as number of months between the forecast month and the end of the quarter to which the forecast relates (four months, on average). We control for forecast horizon because prior studies document an association between horizon and forecast bias (Richardson et al., 1999). Earnings surprise, ΔEPS , is measured as the change in quarterly earnings per share relative to the same quarter in the previous year, deflated by share price. This variable controls for the association between the bias in analyst forecasts and the sign and magnitude of realized earnings (Brown, 1998). Firm size, *SIZE*, is measured as logarithm of market value of equity at the beginning of the forecast month. Earnings variability, *EARNVAR*, is the coefficient of variation in earnings, measured as the standard deviation of annual earnings from continuing operations divided by the absolute value of the mean, both calculated over the previous five years. Sales growth, *SALESGR*, is the firm's five-year sales growth. We include *SIZE*, *EARNVAR*, and *SALESGR* because prior research documents that analyst forecasts are more optimistically biased for smaller firms with low earnings predictability (Das et al., 1998).

Specifically, we estimate the following model:

$$\begin{aligned}
 AF_ERROR_i = & \sum_{F=1}^N \beta_{0F} FIRM_{Fi} + \beta_1 AWARD_MONTH_i \\
 & + \beta_2 HORIZON_i + \beta_3 \Delta EPS_i + \beta_4 SIZE_i \\
 & + \beta_5 EARNVAR_i + \beta_6 SALESGR_i + \varepsilon_{2i}
 \end{aligned} \quad (2)$$

We estimate Eq. (2) pooled across firms using a fixed-firm-effect model. Specifically, the regression intercept, $FIRM_F$, varies across firms to control for mean firm-specific effects not captured by the control variables. The main variable of interest, *AWARD_MONTH*, is an indicator taking the value of one (zero) for award (no-award) months. We estimate the model separately for each of the three months prior to month 0.

Panel B of Table 3 presents summary statistics from estimating Eq. (2). It shows that the estimated coefficients on all the control variables have the predicted sign, and most are significant. Moreover, consistent with our prediction and with the univariate tests, the estimated coefficient on *AWARD_MONTH* is negative (-0.05) and statistically significant in all three specifications (White (1980) *t*-statistics of -2.47 , -2.37 , and -2.69). This indicates that analyst earnings forecasts issued prior to scheduled awards are abnormally low for our

sample firms, even after controlling for other factors that vary systematically with analyst forecast characteristics.¹⁰ These findings are consistent with CEOs managing analysts' expectations downward prior to scheduled stock option awards.

To complement the analysis related to scheduled awards, we replicate our tests using the group of 1,402 unscheduled awards made by the 562 firms with variable award schedules. Interestingly, in marked contrast to our findings for scheduled awards, untabulated tests indicate that analyst forecasts issued prior to unscheduled awards are not different from forecasts issued prior to no-award months; the estimated coefficient on *AWARD_MONTH* is statistically insignificant in all three specifications (White (1980) *t*-statistics 0.44, 0.27, and -0.18). Thus, there is no evidence that managers of firms with variable award schedules manage investors' expectations downward prior to award dates.

4.2. Stock price changes around scheduled awards

The prediction that CEOs manage the timing of their voluntary disclosures around scheduled awards implies that decreases (increases) in firms' stock prices are more likely to occur before (after) award dates. We investigate this prediction by examining changes in share prices around the 2,039 scheduled CEO option awards. Specifically, for each award, we calculate the cumulative abnormal return for each trading day over an event period beginning 30 days prior to the award date and ending 30 days thereafter. We define each firm's daily abnormal return as the difference between raw return and the value-weighted (including dividends) index for the NASDAQ or NYSE/AMEX CRSP file. Our findings are robust to measuring abnormal returns using parameters estimated from a market model.

Fig. 1 plots the mean cumulative abnormal return for each day for the sample of scheduled awards. It shows a significant difference between the pre- and post-award periods. Consistent with our prediction that CEOs delay announcements of good news, share prices begin rising immediately after scheduled award dates. While mean abnormal return over the 30-days period prior to the award is insignificantly negative (*t*-statistic = -0.05), mean abnormal return over the 30 d period following the award is positive (1.67%) and statistically significant (*t*-statistic = 4.95). Although not shown in Fig. 1, we find that the mean cumulative abnormal return in the post-award period continues to increase beyond

¹⁰ To examine the sensitivity of our findings to the clustering of awards in year-end (recall that about 40% of the awards are made between December and February), we re-estimated Eq. (2) allowing the intercept to vary across the twelve months and capture any mean month-specific effects. Untabulated results indicate our findings are robust; the estimated coefficient on *AWARD_MONTH* is significantly negative in all three specifications. Our findings also are robust to estimating Eq. (2) separately for the first and fourth fiscal quarters.

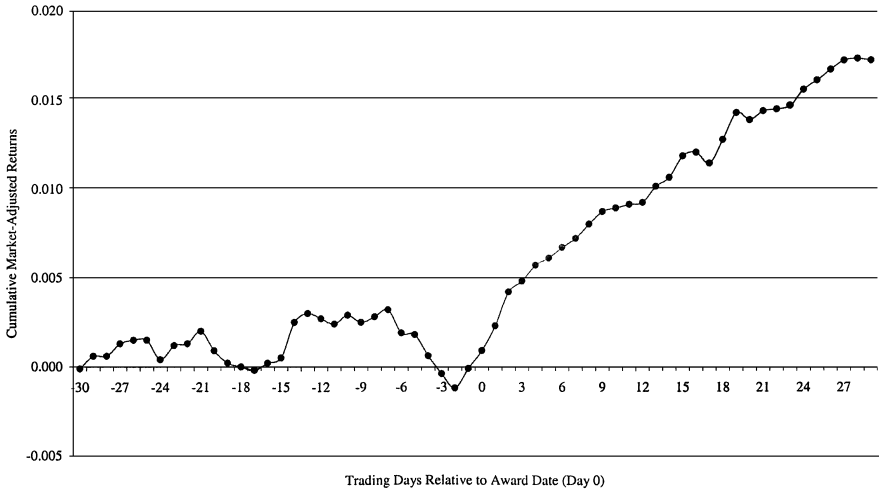


Fig. 1. Mean cumulative market-adjusted return from -30 to $+30$ days around the dates of 2,039 scheduled CEO stock option awards between January 1992 and December 1996.

the 30-day period, until it levels off at about 4.0%, less than three months after the award. We obtain findings similar to those in Fig. 1 when we conduct the analysis separately for each year between 1992 and 1996.¹¹ We interpret the stock price movements around scheduled awards as evidence consistent with opportunistic timing of management voluntary disclosures.

Focusing on firms with scheduled awards enables us to distinguish between opportunistic disclosure strategy and opportunistic timing of the awards. However, by definition, our sample comprises only years in which the compensation committee awards options to the CEO. To the extent that the decision on whether or not to award options in a particular year depends on firm performance in that year, the positive abnormal returns documented for scheduled awards could be induced by sample selection. To provide evidence on whether such self-selection bias exists in our sample, we identify 153 firms with fixed award schedules that had at least one no-award year preceded and followed by award years during our sample period. We then calculate abnormal returns for the one-year period (250 trading days) around the award date, or, in the case of no-award years, around the same date as in the most recent award year. Untabulated tests indicate that the cumulative abnormal returns for award and no-award years are statistically indistinguishable. The mean (median) abnormal

¹¹ The stock price movements around scheduled awards could suggest a potentially profitable trading rule. We discuss this possibility in Section 5.3 below.

return is 7.63% (–0.01%) for award years and 5.49% (1.63%) for no-award years; the *p*-value for a two-sample *t*-test (nonparametric) test of differences in means (medians) is 0.61 (0.49). These findings do not support the notion of a self-selection bias for our sample of scheduled awards.

Finally, similarly to scheduled awards, we find that the timing of the 1,402 unscheduled awards coincides with share price movements that increase CEOs' expected monetary gains. In particular, untabulated tests reveal a significant share price increase over the 30 days following the award date; mean cumulative abnormal return is 3.20% (*t*-statistic = 6.05). Moreover, we document a significant share price decrease over the 30 days preceding the award; mean cumulative abnormal return is –1.78% (*t*-statistic = –4.98). The finding that CEO option awards are followed by positive abnormal returns is also documented by Yermack (1997), who interprets it as evidence that managers influence their firms' compensation committee to award them options in advance of favorable news.¹² However, such interpretation could only apply to companies that do not award options on a fixed schedule, and is not applicable to the many companies with scheduled awards, the focus of our study.

4.3. Scheduled awards around earnings announcements

In this section we identify cross-sectional variation with respect to CEOs' incentives to engage in opportunistic voluntary disclosure strategy around scheduled awards. In particular, we focus on scheduled awards made within just a few days of quarterly earnings announcements. This enables us to increase the power of our tests, particularly with respect to the pre-award period for which the stock price tests provide only weak evidence that managers advance bad news. It also allows us to further distinguish between opportunistic disclosure strategy and self-selection.

Earnings announcements provide a useful setting in which to examine our prediction because managers are presumed to have more private information shortly before earnings announcements than shortly thereafter. Thus, CEOs who receive their options immediately before earnings announcements likely have greater opportunities to adopt a disclosure strategy that increases the value of their awards than CEOs who receive their options only after earnings are announced. Specifically, we predict that they are more inclined to voluntarily preempt negative earnings surprises, and less inclined to preempt positive surprises. Such a disclosure strategy ensures that stock price decreases (increases) related to the arrival of bad (good) news occur before (after) the award. We presume a similar strategy is less beneficial to CEOs who receive their

¹² Unlike our findings, Yermack (1997) does not find significantly negative abnormal returns in the pre-award period. This difference in findings likely reflects the longer time series of data we have on firms' award dates, allowing us to better identify firms' option award schedules.

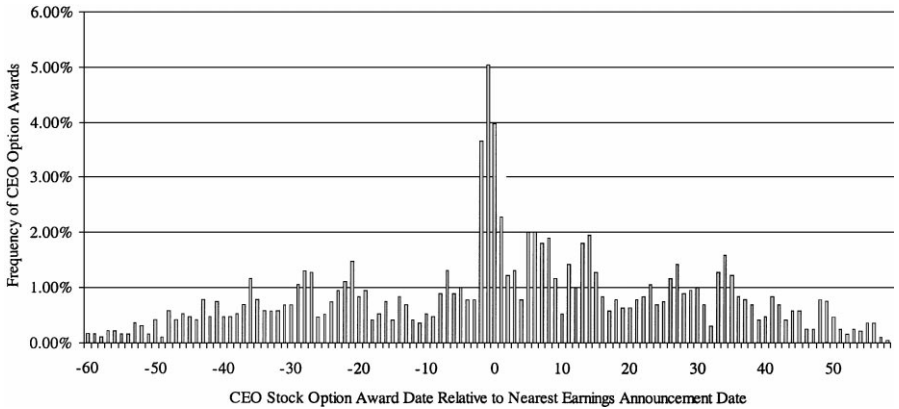


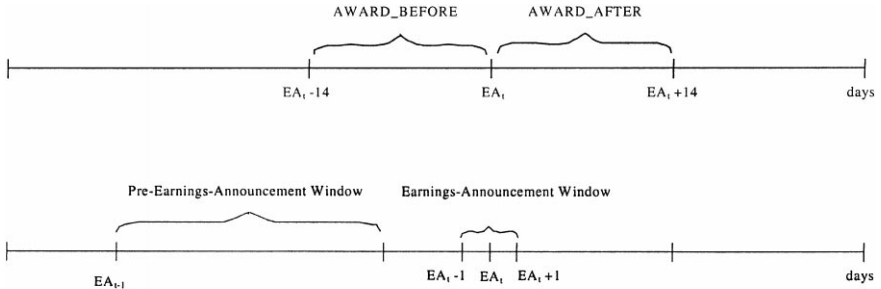
Fig. 2. Frequency distribution of option award dates relative to nearest quarterly earnings announcement dates for a sample of 2,039 scheduled CEO stock option awards between January 1992 and December 1996.

options only after earnings are announced; whether or not they preempt the earnings surprise, that information will be impounded in the stock price prior to their option award.¹³

We identify the timing of CEO option awards relative to earnings announcements by searching compustat for the quarterly earnings announcement date closest to the award date. Fig. 2 presents the frequency distribution of award dates relative to the nearest quarterly earnings announcement date. We find that the most frequent award date is the day prior to earnings announcement (5.0%), while the next-most frequent award date is the earnings announcement date (4.0%). Based on the timing of award relative to earnings announcement, we construct two groups of scheduled awards. The first, *AWARD_BEFORE*, includes the 341 awards made during the two-week period prior to earnings announcements, whereas the second group, *AWARD_AFTER*, comprises the 421 awards made during the two-week period after earnings announcements (a total of 762 awards out of the 2,039 scheduled awards). Awards made on the same day as the earnings announcement are not included in either group.¹⁴ We conjecture that *AWARD_BEFORE* firms are more inclined to rush forward bad news and delay

¹³ We presume there are other costs and benefits associated with voluntary disclosures. We have, however, no reason to expect these costs and benefits to be systematically different between firms with scheduled awards before and after earnings announcements.

¹⁴ We chose a two-week period around earnings announcements to mitigate confounding effects associated with using a longer window while still having enough observations to ensure sufficient power. Our findings are robust to using a one- or four-week window to define the groups, and to excluding awards made within one day of earnings announcements.



For *AWARD_BEFORE* firms, the pre-earnings-announcement window ends at the award date. For *AWARD_AFTER* firms, the window ends the day before earnings announcement (EA_{t-1}).

Fig. 3. Pre-earnings-announcement and earnings-announcement return windows for firms with scheduled CEO stock option awards within the two weeks before (*AWARD_BEFORE*) or two weeks after (*AWARD_AFTER*) the earnings announcement date.

good news than are *AWARD_AFTER* firms. We test this prediction using evidence from share price changes (Section 4.3.1) and management earnings forecasts (Section 4.3.2).

4.3.1. Stock price changes

For each option award in the *AWARD_BEFORE* and *AWARD_AFTER* subsamples, we calculate cumulative abnormal returns over two windows, illustrated in Fig. 3. The first, the 'pre-earnings-announcement' window, begins the day after the earnings announcement for the prior quarter and ends at the earlier of award date and the day before earnings announcement for the current quarter.¹⁵ The second, the 'earnings announcement' window, runs from the day before to the day after the earnings announcement date for the current quarter.

Summary statistics in Panel A of Table 4 provide evidence consistent with our predictions. In particular, we find that for the *AWARD_BEFORE* group, both mean and median cumulative abnormal returns are significantly negative in the pre-earnings-announcement window (-1.4% and -0.8% , respectively), and are significantly lower than those for the *AWARD_AFTER* group (1.9% and 1.0% , respectively). The significantly negative abnormal returns over the pre-earnings-announcement window for *AWARD_BEFORE* firms is consistent with managers rushing forward bad news and delaying good news to increase the value of the awards they expect to receive prior to earnings announcements.

¹⁵ The pre-earnings-announcement window ends prior to award date to ensure the abnormal returns precede the award. Our findings are robust to ending this window the day before earnings announcement for all observations.

Table 4

Market-adjusted returns in the pre-earnings announcement period and around the earnings announcement date for firms with scheduled CEO stock option awards two weeks before or two weeks after the earnings announcement date^a

Panel A: Univariate tests

| Group | Market-adjusted returns | | | | | |
|---------------------|----------------------------------|---------------------|---------------------|------------------------------|--------------------|--------------------|
| | Pre-earnings-announcement window | | | Earnings announcement window | | |
| | N | Mean | Median | N | Mean | Median |
| <i>AWARD_BEFORE</i> | 341 | -0.014 ^b | -0.008 ^b | 341 | 0.009 ^b | 0.006 ^b |
| <i>AWARD_AFTER</i> | 421 | 0.019 ^b | 0.010 ^b | 421 | 0.002 | 0.001 |
| <i>p</i> -value | | 0.002 | 0.001 | | 0.044 | 0.017 |

Panel B: Multivariate tests

| Variable | Dependent variable: market-adjusted returns | | | | | |
|---------------------------|---|-------------|---------------------|------------------------------|-------------|---------------------|
| | Pre-earnings-announcement window | | | Earnings announcement window | | |
| | Pred | Coefficient | <i>t</i> -Statistic | Pred | Coefficient | <i>t</i> -Statistic |
| Intercept | ? | 0.014 | 2.05 | ? | 0.001 | 0.58 |
| <i>BEFORE</i> | - | -0.032 | -2.87 | + | 0.007 | 1.86 |
| Δ EPS | + | 0.736 | 2.77 | + | 0.188 | 2.05 |
| <i>N</i> | | 759 | | | 759 | |
| <i>Adj.R</i> ² | | 0.02 | | | 0.01 | |

^aThe *AWARD_BEFORE* (*AWARD_AFTER*) group includes 341 (421) scheduled CEO option awards made during the two-week period before (after) the earnings announcement. Awards made on earnings announcement dates are not included in either group. The dependent variable is cumulative market-adjusted return, measured, separately, over two windows. The first, the 'pre-earnings-announcement' window, begins the day after the earnings announcement for the prior quarter and ends at the earlier of award date and the day before earnings announcement for the current quarter. The second, the 'earnings announcement' window, runs from the day before to the day after earnings announcement date. *BEFORE* is an indicator variable taking the value of one (zero) for observations in the *AWARD_BEFORE* (*AWARD_AFTER*) group. Δ EPS is seasonally-adjusted change in quarterly earnings per share from continuing operations, deflated by share price. *t*-Statistics are based on White (1980) heteroscedasticity-consistent standard errors.

^bSignificantly different from zero at the 0.05 level.

These inferences are further supported by findings for the earnings-announcement window; for the *AWARD_BEFORE* group, both mean and median cumulative abnormal returns are significantly positive (0.9% and 0.6%, respectively), and are significantly higher than those for the *AWARD_AFTER* group (0.2% and 0.1%, respectively).

To control for the possibility that differences between the two groups with respect to abnormal returns around earnings announcements reflect systematic

differences in firm performance, we also estimate the following model:

$$RET_j = \gamma_0 + \gamma_1 BEFORE_j + \gamma_2 \Delta EPS_j + \varepsilon_{3j} \quad (3)$$

where *RET* is cumulative abnormal returns measured over the two alternative windows, *BEFORE* is an indicator taking the value of one (zero) for observations in the *AWARD_BEFORE* (*AWARD_AFTER*) group, and ΔEPS is seasonally-adjusted change in quarterly earnings per share, deflated by share price. *j* denotes sample observations.

Panel B of Table 4 presents summary statistics from estimating Eq. (3). Consistent with our prediction and with the univariate test, the estimated coefficient on *BEFORE* is significantly negative in the pre-earnings-announcement window (*t*-statistic = -2.87), and significantly positive in the earnings-announcement window (*t*-statistic = 1.86). As expected, abnormal returns are positively associated with ΔEPS in both specifications.¹⁶ Overall, these findings are consistent with CEOs opportunistically managing the timing of their voluntary disclosures around scheduled awards.

In contrast to these findings, for firms with variable award schedules, we find no significant differences between the two groups with respect to abnormal returns in the two return windows. In particular, assigning unscheduled awards into *AWARD_BEFORE* and *AWARD_AFTER* groups similarly to the procedure used for scheduled awards, we find that the estimated coefficient on *BEFORE* in Eq. (3) is statistically indistinguishable from zero in both the pre-earnings-announcement window (*t*-statistic = -0.09), and earnings-announcement window (*t*-statistic = 1.15).

4.3.2. Management earnings forecasts

We next investigate whether our inferences from the market-based findings can be supported by more direct evidence from voluntary disclosures made by *AWARD_BEFORE* and *AWARD_AFTER* firms. In particular, for each of the 341 (421) awards in the *AWARD_BEFORE* (*AWARD_AFTER*) group, we search the LEXIS/NEXIS News Wires file for management earnings forecasts issued during the pre-earnings-announcement window.¹⁷ We review each announcement to ensure it provides either a quantitative (point, range, lower- and upper-bound) or qualitative forecast of current quarter earnings. We focus on management forecasts of current quarter earnings because our objective is to assess whether the decision to voluntarily preempt impending earnings surprises is

¹⁶ Results are robust to controlling for firm size, measured as log market value of equity.

¹⁷ Recall that this window ends at the earlier of award date and the day before earnings announcement. This allows us to avoid including disclosures made by *AWARD_BEFORE* firms after the award date. We identify only two forecasts issued by these firms between the award date and earnings announcement.

associated with the relative timing of CEOs' option awards and earnings announcements.¹⁸

The advantage of the management-forecast-based tests is that they can directly identify opportunistic timing of voluntary disclosures around scheduled awards. However, these tests are not without limitations. First, we do not observe all voluntary disclosures, as our search is limited to earnings forecasts. Therefore, we do not capture the effect of non-earnings-related disclosures (e.g., news about new products). Second, our search is limited to press releases and we therefore exclude earnings-related disclosures made through other channels (e.g., private meetings with analysts). In contrast, the two summary measures for changes in investors' expectations around award dates, stock prices and analyst forecasts, encompass the effect of all disclosures made within the period, but, at the same time, could also reflect the effect of unrelated events. Therefore, we view both sets of tests as providing complimentary evidence on whether managers opportunistically time their voluntary disclosures around scheduled awards.

We identify 72 management earnings forecasts issued during the approximately three-month period prior to the scheduled award. Two companies had two earnings forecasts each during this window, and we therefore exclude the later disclosure to avoid repetition. The frequency of sample observations with a preemptive voluntary disclosure of quarterly earnings, 70 out of 762 (9.2%), is consistent with findings in the prior literature (e.g., Skinner, 1994). We classify each forecast as good/bad/neutral news if it indicates earnings will be better/worse/same than what was previously expected by investors, or in the absence of information about prior expectations, better/worse/same than the corresponding prior period's earnings. When in doubt, we classify the observation as neutral. Firms that did not make any earnings-related voluntary disclosure during the examined period are classified as 'no-forecast' observations.

Summary statistics are presented in Panel A of Table 5. Consistent with our conjecture, firms whose CEOs receive options shortly before earnings announcements are more likely to issue bad news forecasts, and less likely to issue good news forecasts, than are firms whose CEOs receive their awards only after earnings announcements. In particular, 9.4% (1.6%) of the *AWARD_BEFORE* (*AWARD_AFTER*) firms issued a preemptive bad news forecast during the quarter, while 0.3% (3.6%) issued a preemptive good news forecast. A chi-square test rejects the null hypothesis of no association between the sign of the news and the timing of the award relative to earnings announcement (p -value < 0.001).

¹⁸ CEOs of both groups might have an incentive to disclose prior to award dates adverse earnings information related to future periods. However, we do not expect this incentive to differ across the two groups. Moreover, we find that only a few firms in our sample issue forecasts that extend beyond the current quarter.

Table 5
 Management earnings forecasts issued prior to scheduled CEO stock option awards^a

Panel A: Sign of forecast news

| | <i>AWARD-BEFORE</i> | | <i>AWARD-AFTER</i> | |
|-------------|---------------------|-------|--------------------|-------|
| | <i>N</i> | % | <i>N</i> | % |
| Bad news | 32 | 9.4 | 7 | 1.6 |
| Neutral | 7 | 2.0 | 8 | 1.9 |
| Good news | 1 | 0.3 | 15 | 3.6 |
| No forecast | 301 | 88.3 | 391 | 92.9 |
| Total | 341 | 100.0 | 421 | 100.0 |

Chi-square = 34.34, $p < 0.001$

Panel B: Sign of earnings news

| | <i>AWARD-BEFORE</i> | | <i>AWARD-AFTER</i> | |
|------------------|---------------------|-------|--------------------|-------|
| | <i>N</i> | % | <i>N</i> | % |
| $\Delta EPS < 0$ | 96 | 28.2 | 122 | 29.0 |
| $\Delta EPS > 0$ | 245 | 71.8 | 299 | 71.0 |
| Total | 341 | 100.0 | 421 | 100.0 |

Chi-square = 0.06, $p = 0.802$

^aThe *AWARD-BEFORE* (*AWARD-AFTER*) group includes 341 (421) scheduled CEO option awards made during the two-week period before (after) the earnings announcement. Awards made on earnings announcement dates are not included in either group. Management earnings forecasts are obtained from the LEXIS/NEXIS News Wires file. Disclosures are collected for the period that begins the day after the earnings announcement for the prior quarter and ends at the earlier of award date and the day before earnings announcement for the current quarter. Disclosures contain either quantitative (point, range, lower- and upper-bound) or qualitative forecasts of current quarter earnings. A forecast is classified as good/bad/neutral if it indicates that earnings will be better/worse/same than what was previously expected by investors, or in the absence of information about prior expectations, better/worse/same than the corresponding prior period's earnings. Firms that did not make any earnings forecasts during the pre-award period are classified as 'No forecast' observations. Each award observation appears only once. ΔEPS is seasonally adjusted change in quarterly earnings per share from continuing operations, deflated by share price.

We next examine whether the findings in Panel A reflect systematic differences between the two groups with respect to firm performance. For example, if firms with negative earnings surprises are more inclined to delay their earnings announcements, they might self-select into the *AWARD-BEFORE* group. To investigate this possibility, we examine the relation between the sign of ΔEPS and the timing of option award relative to earnings announcement. The results in Panel B of Table 5 indicate that the two groups have nearly identical frequencies of positive and negative earnings news (p -value of a chi-square test

0.802). Moreover, untabulated results indicate that the mean and median values of ΔEPS are statistically indistinguishable across the two groups (p -values 0.817 and 0.971, respectively). Thus, our findings do not seem to reflect systematic differences between the two groups with respect to firm performance. Moreover, untabulated tests indicate that firms' classification into the *AWARD-BEFORE* and *AWARD-AFTER* groups is not sensitive to changes in their earnings announcement dates. Because we do not expect that managers who have favorable news about forthcoming earnings would issue bad news forecasts, and because most sample firms appear to have favorable earnings news during our sample period, the frequency of *AWARD-BEFORE* firms with preemptive bad news forecasts (9.4%) is economically significant.

Finally, in contrast to our findings for firms with fixed award schedules, we find no evidence that CEOs with unscheduled awards before earnings announcements are more inclined to rush forward bad news than are CEOs with unscheduled awards after earnings announcements. Untabulated tests show that 4.8% (7.6%) of the *AWARD-BEFORE* (*AWARD-AFTER*) firms issued bad news forecasts during the pre-earnings-announcement window, and that 1.1% (1.0%) issued good news forecasts. A chi-square test indicates there is no association between the sign of the news and the timing of the unscheduled award relative to earnings announcement (p -value 0.517). Thus, the asymmetric stock price movements we document around unscheduled awards more likely reflect an opportunistic timing of the award rather than an opportunistic voluntary disclosure strategy.

5. Additional tests

5.1. Stock price movements around earnings announcements

Because many scheduled awards fall within few days of actual earnings announcements, we examine whether the stock price changes observed in Fig. 1 could be replicated for our sample firms around earnings announcements that are non-concurrent with option awards. For our sample of 572 firms with fixed award schedules, we identify 4,039 quarterly earnings announcements between January 1992 and December 1996 that are at least two months away from a scheduled award. We compute the mean cumulative abnormal returns over the 30-day periods before and after the earnings announcement date. Untabulated tests indicate that the mean cumulative abnormal return over the period prior to the earnings announcement is 0.75%, significantly higher than the -0.01% mean abnormal return over the pre-award period (p -value of a two-sample t -test is 0.004). Conversely, the mean cumulative abnormal return over the period following the earnings announcement is 0.35%, significantly lower than the 1.67% mean abnormal return over the post-award period

(*p*-value of a two-sample *t*-test is 0.001). These findings indicate that the asymmetric share price movements around scheduled awards (i.e., share price increases occur after, rather than before, the award) are significantly different from the patterns identified for these firms around earnings announcements.

5.2. Economic significance

To assess the economic significance of the opportunistic disclosure strategy documented above, we estimate the monetary gain to sample firms' CEOs resulting from the share price movements around award dates. To do that, we make a simplistic assumption that the post-award positive abnormal returns reflect share price increases that are 'deferred' from the pre-award period by managing investors' expectations downward. Based on descriptive evidence on option exercise patterns (Aboody, 1996) and an assumed risk-free interest rate of 6%, lowering the option exercise price by \$1 results in a monetary gain of approximately \$0.68. Thus, we measure the CEO's expected monetary gain by multiplying the 'discounted' change in share price in the post-award period by the number of options awarded. The mean estimated increase in award value is approximately \$46,700 based on the 30-day post-award period, and \$173,500 based on the 90-day period (medians are \$18,500 and \$52,500, respectively). The estimated gains are even higher for CEOs who receive their options immediately before earnings announcements; for CEOs of *AWARD-BEFORE* firms, the post-award abnormal returns reflect a mean gain of \$92,500 after 30 day and \$225,600 after 90 day (medians are \$27,300 and \$65,200, respectively).¹⁹ The estimated gain based on a 90-day period is about 16% of award value, on average. Yet, these estimates substantially understate the economic consequences of the opportunistic voluntary disclosure strategy around scheduled awards, as they do not account for the fact that many other executives receive options on the same day as the CEO.²⁰

We also estimate the monetary gain to CEOs of firms with variable award schedules. To the extent that the asymmetric stock price movements around

¹⁹ An alternative approach to estimate the monetary gain to CEOs of *AWARD-BEFORE* firms is to use the pre-award abnormal returns for *AWARD-AFTER* firms as a benchmark; the mean cumulative abnormal return over the 30-day period prior to the award is 2.3% higher for these firms. To the extent that this difference is due to an opportunistic disclosure strategy, the average expected gain to CEOs of *AWARD-BEFORE* firms is \$52,200 (median value is \$23,200).

²⁰ The monetary gain to CEOs who manage investors' expectations downward prior to scheduled awards could be adversely affected if compensation committees adjust the size of the award to share price changes in the pre-award period. However, untabulated tests reveal no correlation between the one-year change in number of options awarded to the CEO and abnormal returns in the pre-award period. Similar inferences are obtained from an analysis based on the one-year change in dollar-value of options awarded rather than the one-year change in their number. We do not examine whether other components of CEO compensation are adjusted to share price changes around award dates.

unscheduled awards reflect an opportunistic timing of the awards, the mean estimated gain to these CEOs is \$142,800 using abnormal returns in the 30-day post-award period, and \$488,500 using abnormal returns in the 90-day period (median values are \$35,300 and \$146,500, respectively). Hence, the estimated gain to CEOs of firms with unscheduled awards is greater than that of CEOs of firms with scheduled awards. This finding reflects not only the greater share price changes around award dates, but also the fact that the average number of options granted in unscheduled awards is twice that of scheduled awards. This suggests that CEOs of firms with variable award schedules benefit not only from managing the timing but also the size of their awards around expected movements in share prices.

5.3. Possible trading rules

The favorable share price movements around scheduled awards, particularly for *AWARD-BEFORE* firms, suggest a profitable trading strategy. Specifically, if managers delay announcements of good news and rush forward disclosures of bad news, investors who purchase shares of firms with fixed award schedules immediately after award dates could earn the post-award positive abnormal returns we document for these firms. However, such inferences should be made cautiously. First, because actual awards remain undisclosed until proxy statements are issued, uncertainty remains as to whether or not the company maintains its fixed award schedule. Thus, it is unclear whether the average positive abnormal returns in the post-award period are sufficient to compensate investors for this uncertainty and/or for their transaction costs. Second, as noted in Section 2, disclosure of information sufficient to infer the exact award dates is a relatively new phenomenon. Because it likely takes investors several years of ex-post realization of award dates before they can identify the award schedule of a particular firm, the abnormal returns we document around scheduled awards between 1992 and 1996 might not be representative of the abnormal returns made in future periods. To the extent that longer time series of ex-post data on award dates would make it easier for investors to identify firms with fixed award schedules, the increased trading in anticipation of abnormal returns similar to those we document during our sample period could diminish these profit opportunities.

To provide some evidence on whether profit opportunities associated with trading strategies based on inferred award dates appear to be diminishing as firms' award schedules become easier to estimate, we conduct our tests separately for the 1992–1994 and 1995–1996 time periods. Overall, we find no differences between the earlier and later time periods with respect to share price movements around scheduled awards. Specifically, the mean cumulative abnormal return over the 30-day period following 1992–1994 awards is 1.58%, statistically indistinguishable from the 1.74% mean cumulative abnormal return for

1995–1996 awards (p -value of a two-sample t -test is 0.37). This finding suggests that profit opportunities associated with a trading rule based on inferred award dates have not diminished in the later part of our sample period. We leave it to future research to investigate whether these abnormal returns persist in future periods, and whether they are exploitable.

6. Summary and concluding remarks

We investigate whether CEOs manage the timing of their voluntary disclosures around scheduled stock option awards. Because stock options generally are awarded with a fixed exercise price equal to the stock price on the award date, we conjecture that CEOs manage investors' expectations around award dates by delaying good news and rushing forward bad news. We document changes in share prices and analyst earnings forecasts around scheduled awards that are consistent with our conjecture. We also provide more direct evidence based on management earnings forecasts issued prior to award dates. Because our sample comprises firms with fixed award schedules, our findings cannot be attributed to opportunistic timing of the award. Overall, our findings provide evidence that CEOs of firms with scheduled awards make opportunistic voluntary disclosures that maximize their stock option compensation.

In contrast to our findings for firms with fixed award schedules, we find no evidence that opportunistic voluntary disclosure strategy explains the asymmetric share price movements around awards made by firms with variable award schedules. Taken together, our findings suggest that the abnormal returns around CEO stock option awards likely reflect two distinct sources of opportunistic behavior: opportunistic timing of voluntary disclosures around award dates for firms with scheduled awards, and opportunistic timing of awards around news announcements for firms with unscheduled awards.

Our study contributes to the literature on executive compensation by providing evidence consistent with CEOs managing investors' expectations around scheduled option awards. While we do not necessarily imply that this activity adversely affects shareholders' wealth (for example, boards of directors may allow this disclosure strategy as an implicit form of incentive compensation) our findings suggest that CEOs' incentives to manage investors' expectations around scheduled awards could be mitigated by setting award dates immediately after earnings announcements. Our study also is relevant to the literature on corporate voluntary disclosure, in that we suggest that top executives have compensation-related incentives to delay good news and rush forward bad news. The personal monetary gain resulting from this disclosure strategy provides a plausible explanation for the finding that managers often are more inclined to voluntarily preempt negative earnings surprises than positive earnings surprises shortly before earnings announcements.

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