CEO’s Stock Option Timing Behaviors: Do Sarbanes-Oxley Act and New Compensation Disclosure Rules Matter?

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ABSTRACT

Extant studies show that managers behave opportunistically with respect to timing of option grants, timing of corporate disclosures around option grants, and backdating options. We examine the effect of the Sarbanes-Oxley Act of 2002 (SOX), the backdating scandal, and the new compensation disclosure rules of 2006 on these behaviors. We find that timing behaviors for unscheduled CEO option grants persist in the post-SOX and post-Scandal periods. We conduct benchmark analysis on grants to independent directors and do not find a similar pattern. Furthermore, we present the analysis that distinguishes between timing of option grants and corporate disclosures. We find that, although timing of corporate disclosures still exists, timing of option grants disappears in the post-Scandal period. We interpret the results as evidence that, while SOX does not eliminate CEO’s opportunistic timing behaviors, the enhanced disclosure requirements under the new compensation disclosure rules have effectively discouraged opportunistic timing of option grants.

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1. Introduction

Economic theory predicts that managers often act strategically and in their best interests. Extant studies in financial economics literature document that abnormal stock returns are negative before CEO stock option grants and positive afterward. This asymmetric trough pattern of stock returns is attributed to three types of opportunistic behavior: (1) opportunistic timing of option grants relative to future anticipated stock returns, (2) opportunistic timing of corporate disclosures around option grants, and (3) backdating of option grant dates. The discovery of these equity compensation maximization channels is gradual. Yermack (1997) shows that stock option awards between 1992 and 1994 were followed by positive abnormal returns. He interprets the results as evidence that CEOs opportunistically time option awards before the disclosure of favorable corporate news. Aboody and Kasznik (2000) further investigate voluntary disclosures around scheduled option grants from 1992 to 1996 and find evidence consistent with managers timing their information release by delaying good news and rushing forward bad news. More recently, Lie (2005) proposes and presents the first evidence on the backdating hypothesis. Backdating occurs when managers retroactively alter the option grant date to an earlier date when the stock price was lower than on the date when the option was actually awarded.

When choosing the channels to maximize their stock-option-compensation, executives may have a pecking order based on the potential benefits and costs. For example, under the older, more lenient reporting regime before the enactment of Sarbanes-Oxley Act in 2002, stock option backdating practice was widespread and could be at the top of the pecking order.¹ This happens
primarily because backdating does not require foreknowledge about stock market reactions to impending corporate news and could be easily camouflaged under the long option reporting window; hence few firms expected themselves to be caught by regulators. On November 11, 2005, *The Wall Street Journal* (Maremont 2005) ran the story that many consider to reveal the backdating scandal. It is now commonly viewed that backdating option grant is a violation of law, if not properly disclosed, approved, and accounted for. Accordingly, backdating has attracted a great amount of attention from media, regulators, and investors (for example, Cox 2006; Forelle and Bandler 2006; Stecklow 2006) and has inspired many academic studies examining the backdating scandal from various perspectives. Unlike backdating, timing the grants around corporate news or timing corporate news disclosure around the grants entail much more subtle deception. These two types of timing involve executives using private information about the firm to gain instant paper profit on their stock option compensation; and thus it can be difficult to prove in securities litigation. As a result, there are mixed views on whether the opportunistic timing behaviors are unethical or illegal corporate actions that pose reputational and legal risks (Shaw 2006).

Regulators have been continuously responding to these opportunistic behaviors and adopting significant changes to disclosure rules. In this paper, we take advantage of the two sets of rules that are most pertinent to executive option grant disclosure and reporting—namely the Sarbanes-Oxley Act of 2002 and the new executive compensation disclosure rules of 2006—and ask whether and how disclosure regulations change managerial incentives and actions with regard to option grants. More specifically, our goal is to revisit the three types of managerial opportunistic behaviors and identify which type of behavior is more likely to occur under different disclosure regimes.

Under the Sarbanes-Oxley Act (hereinafter SOX), effective August 29, 2002, executives are
required to report to the Securities and Exchange Commission (hereinafter SEC) within two business days the receipt of option grants in Form 4 while in the pre-SOX period managers can report grants on the 10th day of the month following the grants (Form 4) or within 45 days after the firm’s fiscal year end (Form 5). This shortened reporting window is expected to significantly increase the transparency of option grants and reduce the possibility of management strategic behaviors.

Along with eliminating any potential for backdating, the regulator “is equally concerned with misbehavior in using inside information to time the granting of options.” For example, the SEC has broadened its option-grant investigation to include not only backdating but also “spring-loading” (Peterson 2006). While the timing of grants or corporate disclosure can be difficult to prove (compared to backdating) due to the nature of the evidence, in a recent litigation case against senior executives of Tyson Foods, Inc., the Delaware Court denied a motion to dismiss the allegations of option “spring-loading.” The court also made a significant ruling that representing to shareholders that options are granted “at the market rates,” while they are, as alleged, granted with knowledge “that those options would quickly be worth much more,” constitutes “fraudulent concealment.” This decision has important implications for many option cases that involve insiders concealing private information from the directors or urging them to grant options.

In response to the widespread revelation of fraudulent backdating practices, the SEC adopted a set of stringent disclosure rules on executive compensation in December 2006. Specifically, the new rules pertaining to option grants require companies to disclose the following: (1) the grant date fair value under the Statement of Financial Accounting Standard No. 123 R (SFAS 123R); (2) the SFAS 123R grant date; (3) the closing market price on the grant date if it is greater than the exercise price of the option; (4) the date the compensation committee
or full board of directors took action to grant the option if that date is different than the grant
date; and (5) a complete quantitative and narrative disclosure of a company’s executive
compensation plans and goals.  

In addition to the above, the SEC believes that in many circumstances the practice to time
the grants in coordination with private information would be material to investors and thus
should be fully disclosed in keeping with the new rules they adopt. In an effort to address
concerns of option timing, the SEC requires that companies answer a series of questions about
stock options that include the following:

—Does the company have any program, plan or practice to time option grants to its
executives in coordination with the release of material non-public information?

—Does the company plan to time, or has it timed, its release of material non-public
information for the purpose of affecting the value of executive compensation?

Basically companies are now required to explain exactly how they choose specific dates for
granting stock options to executives. The substantial increase in the level of details regarding
option grant disclosure leads us to believe that the new rules of 2006 would reduce executives’
ability to conceal their opportunistic behavior and hence discourage them from engaging in
timing practice. However, we are not aware of any prior or concurrent academic studies that
provide supporting evidence on this assertion. In this study, we attempt to fill the void in the
literature by examining the effects of the SOX and the executive compensation disclosure rules
of 2006 on the three opportunistic behaviors with respect to option grants.

Table 1 presents the timeline of related regulations and the backdating scandal and how they
would affect the three managerial actions related to option grants. Using option grants from
January 1996 to December 2008, we partition the sample into scheduled and unscheduled grants
and grants that are likely backdated (Lucky) or not (Unlucky) and examine the stock returns around option grants in three separate time periods: pre-SOX, post-SOX (but pre-revelation of the backdating scandal), and post-revelation of the Scandal (which largely includes the new compensation disclosure regime). Table 1 highlights the possibility of each opportunistic behavior in each period. While the tightened reporting window under SOX makes backdating much less appealing to firms, the SOX regulation is silent on the opportunistic timing behavior. Hence, for the post-SOX period, we hypothesize that firms may still engage in timing practice to increase their stock option compensation. The new compensation disclosure rule of 2006, however, directly addresses the grant date issues and the timing behavior. Presumably the substantial disclosure requirement for grant dates would greatly enhance transparency and hence make it more difficult for firms to conceal their timing behavior, especially the manipulation of grant dates. Therefore, we hypothesize that firms may reduce the opportunistic timing behavior in the post-Scandal period; in particular, timing of grants may become less possible than timing of news disclosures. We conduct a set of analyses to test the above hypotheses.

First, we examine the difference in returns in the 30 trading-day window before and after scheduled and unscheduled CEO option grants in all three periods. Following Bebchuk, Grinstein, and Peyer (2010), we identify option grants as either Lucky or Unlucky option grants. For Lucky grants, which are defined as those options awarded on the day with the lowest stock price within the grant month, are most likely to be the backdated grants. For Unlucky, Unscheduled option grants, we find that the asymmetric stock return pattern around grant dates is persistent in both post-SOX and post-Scandal periods, suggesting that opportunistic timing practice still exists.

Second, we examine whether the market asymmetrically responds to common corporate events occurring within the quarter of the CEO option grants. These corporate events include
earnings announcements, conference calls, management forecasts, and M&A announcements. We find that in the post-SOX period, the new events disclosed around Unlucky, Unscheduled option grants tend to be bad news (good news) when they occur before (after) the grant. The evidence suggests that CEOs either time option grants in alignment with various news events or time the news events themselves to increase option value. Furthermore, we compare stock options awarded to CEOs with those awarded to independent directors. Bebchuk, Grinstein, and Peyer (2010) show that directors also receive Lucky grants, suggesting that backdating is also prevalent among director grants. With regard to the timing practice, we argue that independent directors have less influence on or control over the timing of corporate disclosures. This is in line with some prior studies that examine corporate governance characteristics and accounting scandals. For example, Agrawal and Chadha (2005) find that the independence of boards is unrelated to the probability of a company restating earnings. Hence, we expect that the timing evidence to be much weaker for stock options awarded to independent directors. Such a benchmarking analysis would increase the power of our inference. The result supports our expectation—in contrast to CEO option grants, for Unlucky, Unscheduled director grants, we find little evidence of bad (good) news before (after) director grants.

Third, to further distinguish timing of news disclosures from timing of option grant, we take advantage of a natural setting in quarterly earnings announcements—that is, some announcement dates are fixed while others are variable. We show that there exists return differences between the half-quarter before and after option grant dates for both fixed and variable earnings announcements in the post-SOX period. However, the difference is higher in the quarters with variable earnings announcements. This indicates that the variability of earnings announcement dates leaves room for executives to manipulate the news disclosure to their advantage, resulting in stronger abnormal returns than those associated with fixed announcement dates. Moreover, we
find that the return difference in the post-Scandal period is no longer significant for fixed earning announcements, suggesting that timing of unscheduled CEO grants has largely disappeared.

After establishing the timing evidence, we further explore the economic consequence of such opportunistic behavior. We find that investors can extract information from option grant signals and earn 5.6% (2.3%) abnormal returns on a portfolio formed and held for three months following the grants in the post-SOX (post-Scandal) period. We interpret the result as evidence that opportunistic timing behavior has significant economic consequences. We cautiously interpret the decreasing magnitude in the post-Scandal period as evidence that increased public scrutiny and reporting transparency during this period have effectively reduced the opportunities for executive enrichment associated with option grants.

Taken together, our findings suggest that both types of timing behaviors—opportunistic timing of option grants relative to future stock returns and timing of corporate disclosures around option grants—continue to exist in the post-SOX periods; in the post-Scandal period, however, timing of CEO option grants has largely disappeared while timing of news disclosure still exists (with weakened stock return pattern). These timing practices have significant economic consequences.

Our study contributes to understanding of the managerial incentives behind stock option malpractices and highlights the regulatory effect on these behaviors. We draw extensively from prior literature to identify the option grants most likely to exhibit the asymmetric stock return pattern and the types of disclosures firms could make to contribute to that pattern. We provide the first analysis to distinguish between timing of grants and timing of news disclosure by using the unique setting of fixed and variable earnings announcement dates. With most prior work focusing on one form of timing or another, this distinction is important for large-sample grant-
date stock pattern analysis because it provides great insight into which disclosure changes influence managerial opportunistic behavior.

We also provide the first analysis of the opportunistic timing behavior in the new compensation disclosure regime. Our finding suggests that SOX 2002 and new compensation disclosure rules of 2006 affect managerial incentives and behaviors in a different manner: While SOX has greatly mitigated backdating by shortening the option reporting window; it does not discourage the timing practice. This scenario changed, however, after the regulators adopted new rules that require extensive disclosure regarding option grant dates. We show that while timing of news disclosure still exists, timing of CEO grants becomes harder to accomplish and hence the incidence has been greatly reduced under the new compensation disclosure rules.

The remainder of the paper proceeds as follows. Section 2 describes the data and sample. Sections 3 and 4 present the evidence of CEOs’ option grant timing behaviors in the post-SOX and post-Scandal periods. Section 5 documents the economic consequence of the timing behaviors. Section 6 concludes.

2. Data and Sample Selection

We focus our analysis on CEOs because they have significant power over firms’ stock option practices and disclosure policies (Collins, Gong, and Li, 2009). We define an individual as a CEO if he or she is identified as either CEO or President in the Thomson Financial Insider database, which includes all insider activities filed with the SEC between 1996 and 2008. We extracted earnings announcement dates and financial information from Standard and Poor’s Compustat and the information on stock returns from the Center for Research in Securities Prices (CRSP). In addition, we obtain information on other corporate events from the following databases: First Call (management forecasts), BestCalls.com (conference calls), SDC (merger
and acquisition announcements), IRRC Directors database (annual board meeting dates). These databases cover our full sample period except for BestCalls.com, where the data is available from January 1999 to December 2007.

Consistent with Bebchuk, Grinstein, and Peyer (2010), we construct our at-the-money CEO option grants in the following procedure:

1. We keep the grants in Thomson Financial Insider Filings database that have a cleanse indicator of R, H, and C.
2. For grants with varying vesting or maturity dates, Thomson Financial reports them as multiple records. We collapse such grants for each CEO that occur on the same day with a valid exercise price into one grant to reduce the impact of the weight carried by different vesting schedules.
3. We eliminate the grants in months where the firms went ex-dividend and require returns to be available for the entire month of the grant dates.
4. We also check whether the exercise price of the grant is the same or close enough — that is, where the price difference is less than 1%—to the closing price of the reported grant date, or to the closing price of one day before or after the grant. The date with the nearest closing price to the exercise price is then defined as the grant date.

Unlike Bebchuk, Grinstein, and Peyer (2010) who exclude scheduled option grants from their sample as they focus on unscheduled option grants to identify Lucky (that is, backdated) grants, we investigate both scheduled and unscheduled grants. Although it is unlikely that firms can opportunistically time scheduled grants, it is still likely for firms to time news release around scheduled grants. Hence, keeping both scheduled and unscheduled grants allows us to address both types of timing behaviors. We define a grant as scheduled if it occurs within a day of the one-year anniversary of the prior grant or the annual board meeting date, and unscheduled
otherwise.\textsuperscript{10}

These screens yield a sample of 24,652 CEO option grants from January 1, 1996 to December 31, 2008. We further classify this sample into three subsamples: (1) Pre-SOX sample from January 1, 1996 to August 28, 2002; (2) Post-SOX sample from August 29, 2002 to November 10, 2005; and (3) Post-Scandal sample from November 11, 2005 to December 31, 2008.

Because we also investigate option grant behaviors for independent directors as a benchmark against those for CEOs, we apply the same screening procedure described above to extract the option grants to independent directors, who are identified in the Thomson Financial database as directors (role code D) and not defined as having any other roles in the firms.

We analyze the monthly distribution of unscheduled and scheduled CEO option grants for the three subsample periods. Untabulated result shows that the frequency of grants at the beginning of the calendar year is greater than that in the rest of the year. There is no significant difference between award time of unscheduled and scheduled grants. We also do not find any significant changes in the distributions over the three sample periods. However, the percentage of scheduled option grants out of total grants increases over time.

3. Empirical Analysis

Prior studies document three explanations for the abnormal stock return patterns around CEO option grants: (1) the opportunistic timing of option grants (Yermack 1997), (2) the opportunistic timing of corporate news disclosures (Aboody and Kasznik 2000; Chauvin and Shenoy 2001), and (3) the backdating of option grants (Lie 2005; Narayanan and Seyhun 2008). Heron and Lie (2007) conclude that the new two-day filing requirement under SOX has effectively curtailed, but has not eliminated option backdating. However, their study does not
explicitly distinguish insider timing practice from backdating and their sample period does not cover the post-revelation of the backdating scandal period; it is, therefore, difficult to assess which type of opportunistic behavior is the major source of the observed asymmetric stock return pattern after SOX and after the scandal (which largely includes the new compensation rule regime). We revisit the three alternatives above in each of the three periods. We begin by investigating stock returns around scheduled and unscheduled CEO option grants in Section 3.1. We separate Lucky and Unlucky option grants in an attempt to examine to what extent the three types of opportunistic behaviors are affected by regulatory changes across the sample period. In Section 3.2, we examine CEO’s choices of timing important corporate news events such as earnings announcements, conference calls, management forecasts, and merger and acquisition (M&As) announcements. This analysis rests on the assumption that CEOs have inside information about the nature (that is, good or bad news) of these events and thus can game the timing of the news release or/and option grants. Finally, in Section 3.3, we extend our analysis to option grants to independent directors. Bebchuk, Grinstein, and Peyer (2010) identify an association between backdated option grants to directors and those to CEOs, suggesting that these directors indeed benefit from firms’ backdating practice. Although directors generally have inside information on the nature of the news events, they may have less control over the precise timing of news release. Thus, we test that lacking foreknowledge of such timing makes it difficult for directors to time their option grants to align with news disclosure, much less timing the disclosure itself around option grants.

3.1. Stock Returns around Scheduled and Unscheduled Option Grants

The purpose of the stock return test is to document whether the trough pattern of stock returns around grant date continues to exist in the post-SOX and post-Scandal periods. The analysis is applied to Lucky and Unlucky, Scheduled and Unscheduled groups separately
because the abnormal return pattern around the grant date, if any, could be driven by different forces for different grants, and such analysis allows us to distinguish between these forces. First of all, for scheduled option grants, neither backdating nor opportunistic timing of option grants is likely to occur, so the abnormal pattern of stock returns around the scheduled grants, if any, can be attributed to the opportunistic timing of news disclosures. Second, for unscheduled option grants, all three types of behaviors can contribute to the abnormal return pattern in the pre-SOX period; whereas in the post-SOX and post-Scandal periods, backdating is largely eliminated and hence the other two timing behaviors may become the major source of the asymmetric pattern.

We then use fixed earnings announcements and director option grants as a benchmark to further separate the two timing explanations. Table 1 presents the details of the possibility of each opportunistic behavior under different scenarios. The four cells in the bottom right corner—timing of option grants and corporate disclosures in the post-SOX and post-Scandal periods—are the focus of our analysis.

[Insert Table 2 here]

Table 2 presents the results. We calculate the cumulative abnormal returns for the window of 30 trading days before and after the option grant date. The abnormal returns are the difference between raw returns and value-weighted market returns. In the absence of backdating or opportunistic timing of option grants and news disclosures, there should be no statistical difference between the cumulative abnormal returns in the window from day -30 to day -1, CAR(-30, -1), and those in the window from day 1 to day 30, CAR(1, 30), where day 0 is the option grant date. We find that the number of Lucky, Scheduled option grants is very small, accounting for only about 4.9-6.8% of total scheduled grants. This percentage range is close to 4.76%—the random probability of a grant being lucky assuming 21 trading days in a month. Given the definition of Lucky, Scheduled option grants, it is not surprising to observe negative
(positive) abnormal returns before (after) this type of grant. However, for Unlucky, Scheduled option grants, we find no difference between CAR (1, 30) and CAR (-30,-1) in all three sample periods. This finding indicates that the timing of corporate news events is not significant for scheduled grants in our sample period, which is consistent with the assertion in Heron and Lie (2007) that once scheduled option grants are redefined as one day instead of one week before or after the grant in the prior year, the abnormal returns largely disappear. This conclusion is further supported by our test based on the timing of corporate news events in the next subsection 3.2.

The results for unscheduled grants, shown in the last five columns of Table 2, reveal several interesting patterns. First, the percentage of Lucky, Unscheduled grants out of total unscheduled grants decreases monotonically from 11.5% pre-SOX to 5.1% post-Scandal. Second, the difference between CAR (1, 30) and CAR (-30,-1) in all three sample periods is significant for Unlucky grants, although the magnitude decreases from 6.78% pre-SOX to 1.50% post-Scandal. This finding suggests that the trough pattern of stock returns is most prevalent before SOX, possibly driven by all three types of timing games. Under the tightened reporting requirement of SOX, backdating is presumed to be greatly diminished, especially after the revelation of backdating practice, the subsequent investigations launched by the federal prosecutors, and the introduction of new disclosure rules. Hence, we can attribute the significant difference in returns in the post-SOX and post-Scandal period to opportunistic timing of either option grants or corporate events.

In summary, our evidence confirms prior findings which show that SOX regulation curbs the opportunity for backdating. More importantly, the return test suggests that, after SOX and even in the post-scandal period, executives are still tempted to time either grant dates or corporate disclosures associated with the unscheduled option grants to increase their option value.
3.2. Timing of Option Grants and Corporate News Events

A necessary condition for the opportunistic timing hypothesis is that bad news usually precedes option grants and/or good news follows option grants. In this subsection, we investigate how CEOs strategically align the option grant date with announcements of several corporate events that are shown to have affected stock returns and are available in public databases (Ecker et al. 2006). These events include: (1) earnings announcements, (2) conference calls, (3) management forecasts, and (4) mergers & acquisitions (M&A). Specifically, we examine whether firms grant options before (after) good (bad) news. We use three-day cumulative abnormal returns (denoted as CAR3d) around the event dates to classify whether a specific event is good or bad news. We conjecture that if firms time option grants strategically to increase potential option value, the likelihood of observing good news (positive CAR3d) after the option grants would be higher than that before the grants. Thus, the CAR3d for the events in the half quarter after the option grants is expected to be higher than that in the half quarter before option grants. We examine the above prediction for each type of corporate events.

[Insert Table 3 here]

Table 3 presents the difference in CAR3d between the two windows for both scheduled and unscheduled grants. The finding for scheduled grants as shown in columns (1) through (4) is straightforward—the market responses to various news events disclosed in the half quarter after option grants are not significantly stronger than those disclosed before option grants; except for M&A announcements in the post-SOX period, which is significant at 0.1 level. Given that it is unlikely for firms to manipulate grant dates (through either backdating or timing) for scheduled option grants, the no-difference result supports the assertion that in the sample period we examine from 1996 to 2008, the timing of corporate news events is not significant for scheduled
grants. This conclusion is consistent with the finding in Heron and Lie (2007) and further confirms our return tests reported in previous subsection.

We then analyze the difference in CAR3d for unscheduled grants, which is our main interest. In theory, under the SEC’s rule of two-day filing requirement introduced in SOX, it is almost impossible to backdate option grants for such a short look-back period. However, Heron and Lie (2007) and Narayanan and Seyhun (2008) find some evidence that it took more than two business days for some firms to file their option grants with the SEC. They suggest that backdating may continue in the post-SOX period among some firms. To examine different regulatory effects on backdating and timing behaviors, we separate unscheduled option grants into Lucky, Unscheduled and Unlucky, Unscheduled grant groups. Based on the argument of Bebchuk, Grinstein, and Peyer (2010), excluding Lucky grants should largely rule out the possibility of backdating. An immediate, important implication for our analysis is that, if the difference in market response to news events is significant for Unlucky, Unscheduled grants, it should be produced by timing behaviors. A second implication is that, if the difference is significant for Lucky, Unscheduled grants, then it is more likely to be caused by backdating or random assignment of Lucky grants, or both.13

The results support our conjecture. Columns (5) through (8) of Table 3 show that, for Lucky, Unscheduled grants, the news disclosed is negative in the half quarter before option grant dates and positive afterward, with the difference in CAR3d being significantly positive for 10 out of 12 event periods (except for M&A in the post-SOX and post-Scandal periods). A closer examination of the number of grants reveals that the percentage of Lucky, Unscheduled grants out of total unscheduled grants decreases over time. Using earnings announcement event as an example, Lucky, Unscheduled grants account for 11.19% and 6.91% in the pre-SOX and post-SOX periods, respectively, suggesting that incidence of backdating has greatly decreased post
SOX. More interestingly, this percentage further drops to 5.45% in the post-Scandal period. To the extent that the random probability of a grant falling into the lowest price day of the month and hence being categorized as “Lucky” is 4.76%, one can infer that the differential market reactions to earnings announcements in the post-Scandal period are caused primarily by grants that are Lucky by construction, and only a very small portion (0.69% = 5.45% - 4.76%) may have been caused by opportunistic timing.

Turning to Columns (9) through (12) of Table 3, differential market responses persist among Unlucky, Unscheduled option grants for both the pre- and post-SOX periods, supporting the timing hypothesis. However, these differences are no longer significant in the post-Scandal period.

Taken together, the results in Table 3 confirm our findings in the preceding subsection 3.1. First, we find no evidence of opportunistic timing with regard to scheduled CEO option grants in the post-SOX and post-Scandal periods. Second, and more importantly, we find strong evidence of timing behavior with regard to unscheduled CEO option grants in the post-SOX period, but the evidence seems to become weaker in the post-Scandal period. The results are, thus, consistent with our view that the regulation has changed the pecking order of the managerial opportunistic behaviors with respect to option grants. Specifically, opportunistic timing of option grants and corporate disclosures have dominated backdating after the SOX and become the major source of the asymmetric return pattern. However, this pattern becomes weaker in the post-Scandal period (which largely includes the new compensation rule regime).

3.3. Option Grants to Independent Directors

The analysis on CEO grants in the preceding subsection documents that among all grants, Unlucky, Unscheduled grants are most likely to be affected by opportunistic timing. The opportunistic timing hypothesis requires that option grant recipients have significant influence
and control over when to release corporate news, which will then enable them to time news release in coordination with option grants, or to time the grants in coordination with news release. While Bebchuk, Grinstein, and Peyer (2010) document that director grants are more likely to be lucky when the CEO received a Lucky grant in the same or prior year, to the extent that independent directors are outsiders of the firm, they do not exercise control over operating activities such as news releases. Thus, we expect that it is less likely to find evidence in supporting timing hypothesis for the Unlucky, Unscheduled grants awarded to independent directors. As a benchmark analysis, we analyze independent director grants in this subsection to contrast with CEO grants.

[Insert Figure 1 here]

Figure 1 presents the cumulative abnormal returns in the month before and after grant dates for unscheduled option grants. Visual examination indicates the evidence is largely consistent with our expectations: in the pre-SOX period, the trough pattern for CEO is stronger than that for directors; in the post-SOX period, the dip is still observable for CEO grants but is no longer observable for director grants; in the post-Scandal period, the returns following CEO grants show an upward trend while the returns following director grants remain flat.

[Insert Table 4 here]

To gain additional insight, we repeat our analysis described in Section 3.2 for grants to independent directors. Table 4 presents the results. Columns (1) through (4) report the results for scheduled option grants to directors. Not surprisingly, we do not find supporting evidence that the disclosures preceding (following) scheduled grants contain bad (good) news. Columns (5) through (8) of Table 4 report the results for Lucky, Scheduled option grants to directors. Similar to the results on CEO grant analysis, the percentage of Lucky, Unscheduled director grants out of total unscheduled director grants has decreased over time. The main difference in the results
between CEO and director grants analysis comes from the last group, that is, Unlucky, Unscheduled director grants. Consistent with our expectation, Columns (9) through (12) of Table 4 illustrate that timing behaviors do not exist for option grants to independent directors across three sample periods. The difference in CAR3d is significant only for two out of twelve event periods (that is, management forecasts in the pre-SOX and M&A in the post-Scandal period). This finding is in contrast to the results on CEO grants analysis presented in the last four columns of Table 3, which show that, for seven out of eight event periods in the pre- and post-SOX periods, there is a significant difference in CAR3d.

In sum, our analysis in this subsection suggests that, in the pre- and post-SOX periods, timing practice with respect to option grants or corporate events is prevalent for unscheduled grants to CEOs but cannot be identified for Unlucky, Unscheduled grants to independent directors. The evidence supports our argument that compared to independent directors, CEOs are more likely to have more inside information and the ability to time news disclosure to increase their option value.16 Thus, our study extends Bebchuk, Grinstein, and Peyer (2010) in that we show while backdating exists for both groups, timing behavior does not.

4. Additional Evidence on Timing of Option Grants and Corporate News Events

The analysis in the preceding section documents that (1) there is no obvious evidence supporting the behavior of timing corporate events for scheduled option grants in all three periods; and (2) timing of option grants or corporate events exists among unscheduled CEO option grants in the post-SOX period but has largely weakened in the post-Scandal period. However, our analyses thus far do not distinguish the timing of option grants from the timing of corporate events. Our next step is to conduct two further analyses on unscheduled CEO option grants to shed light on which type of timing is more likely to occur in our sample period. In
Section 4.1, we use the unique feature of fixed versus variable earnings announcement dates to further distinguish the timing of information events from the timing of option grants. This analysis is motivated by our interest to examine whether disclosure regulation changes affect these two types of timing behaviors in a different manner. In Section 4.2, we examine the relation between backdating and opportunistic timing in a multivariate regression model that controls for variables associated with the likelihood of backdating.

4.1. Earnings Announcement of Unscheduled CEO Option Grants

In order to distinguish the timing of option grants from the timing of information events, we need to identify a setting where the announcement time of information events is fixed (that is, scheduled). For these fixed-date events, we believe that the opportunistic timing of news disclosure is eliminated; hence, executives can only time the option grants to align with news disclosures. In contrast, for events whose announcement dates are variable, it may be appealing for executives to engage in both types of timing to their advantage. Prior studies show that management would manage earnings around option grants (for example, Aboody and Kasznik 2000, McAnally, Srivastava, and Weaver 2008, Baker, Collins, and Reitenga 2009). We investigate quarterly earnings announcement because it is a mandatory corporate event and for many firms the announcement date is fixed (Bagnoli, Kross, and Watts 2002). We are thus able to use this feature to categorize firms’ earnings announcements into two groups—fixed versus variable earnings announcements. Fixed earnings announcements are defined as those announcements made within one week (three days before and after) of the same quarter in the prior year. Based on our argument, the test for fixed earnings announcement date will enable us to identify the timing of option grants, whereas the test for variable earnings announcement is a joint test of the timing of grants and corporate disclosures.

[Insert Table 5 here]
We match each unscheduled CEO option grant with the closest quarterly earnings announcement (either fixed or variable) and examine the difference between CAR (-30,-1) and CAR (1, 30), where day 0 is the option grant date. Table 5 presents the results. Several observations are noteworthy. First, although for all three periods the difference between CAR (-30,-1) and CAR (1, 30) is statistically significant, there are significant differences across different groups and over time. Second, the difference is the largest in the pre-SOX period, with 7.91% and 10.41% for the quarters with fixed and variable earnings announcements, respectively. For the quarters with variable earnings announcement, executives can strategically time earnings announcements to align with the option grant or simply backdate the grants; hence it is not surprising that the difference in CAR is 2.5% higher than that in the quarters with fixed earnings announcements. Third, this pattern persists in the post-SOX period—the difference in CAR between fixed and variable earnings announcement quarters is 1.17% (= 3.70% - 2.53%). Finally, in the post-Scandal period, while the difference in CAR in the variable earnings announcement quarter is still significant at 3.36%, it is no longer significant in the fixed earnings announcement quarter.

Note that in the latter two periods, particularly after the scandal revelation, backdating is highly unlikely. Thus, the difference in CAR for fixed earnings announcements is primarily driven by the timing of option grants, while the difference in CAR for variable earnings announcements is jointly driven by the timing of option grants and earnings announcements. An immediate implication for the insignificant difference (1.11%) in the fixed earnings announcement quarter is that timing of CEO option grants in coordination with fixed earnings announcements is largely eliminated in the post-Scandal period. We interpret this result as new evidence that the tightened scrutiny, along with enhanced transparency with regard to option grant disclosure under the new compensation rule, has effectively discouraged CEOs from
opportunistically timing their grants. This also explains the previous results in Table 3 which shows that timing evidence for Unlucky, Unscheduled CEO grants has been weakened over time.

In sum, the new evidence presented in Table 5 suggests that, while timing of news disclosure (around grant dates) still persists in the post-SOX and post-Scandal periods, timing of option grants (around fixed news event dates) is greatly diminished in the post-Scandal period.

4.2. Multivariate Analysis of Lucky Grants

Similar to Bebchuk, Grinstein, and Peyer (2010), we use an important assumption in our main tests—that is, Lucky grants proxy for backdated grants. In this subsection, we conduct multivariate analysis to seek further support for this assumption. In particular, we are interested in testing whether Lucky grants are associated with several factors that are known to be associated with option backdating or repricing documented in prior literature (for example, Carter and Lynch 2001; Walker 2007; Bebchuk, Grinstein, and Peyer 2010). Furthermore, we examine the relation between Lucky grants and information events within the three sample periods. We estimate the following logistic regression model for each period:

\[
\text{LuckyGrants} = \beta_0 + \beta_1 \text{Schedule} + \beta_2 \text{FirmSize} + \beta_3 \text{Volatility} + \beta_4 \text{WSJfirms} + \beta_5 \text{FixedEA} + \beta_6 \text{ConferenceCall} + \beta_7 \text{MgmtForecasts} + \beta_8 \text{M} \& \text{A} + \varepsilon
\]  

Where \(\text{LuckyGrants}\) = indicator variable, “1” for option grants awarded on the day with the lowest stock price within the month, and “0” otherwise.

\(\text{Schedule}\) = indicator variable, “1” if the option is awarded within one day of the anniversary date of the prior year’s grant date or within one day of annual board meeting date, and “0” otherwise.

\(\text{FirmSize}\) = firm’s market value at the option grant date.

\(\text{Volatility}\) = historical volatility of stock returns within the year preceding the option grant date.

\(\text{WSJfirms}\) = indicator variable, “1” if a firm is among the 136 firms reported on the Wall Street
Journal Website that were implicated by the SEC or the Department of Justice for backdating practice, and “0” otherwise.\textsuperscript{17}

\textit{FixedEA} = indicator variable, “1” if earnings announcement is made within three day before or after the anniversary date of the same quarter of the prior year, and “0” otherwise.

\textit{ConferenceCall, MgmtForecasts, and M&A} = the number of conference calls, management forecasts, and M&A announcements, respectively, in the half quarter before and after option grant dates.

If Lucky grants dummy is an effective proxy for backdated grants, based on the prior literature we make the following predictions on the signs of the coefficients: First, we expect the coefficient for \textit{Schedule} to be negative because the scheduled grants are less likely to be backdated. Second, a negative coefficient on \textit{FirmSize} and a positive coefficient on \textit{Volatility} are consistent with the prior findings that backdating is more likely to occur in smaller and more volatile firms. Third, a significantly positive coefficient for \textit{WS.Jfirms} is expected. These firms have been caught for backdating and hence are more likely to be associated with Lucky grants dummy. Finally, we include \textit{FixedEA} variable and expect the sign on this variable is positive, i.e., when earnings announcements are fixed, the executives are more likely to backdate options.

We also include three voluntary disclosure events in the regressions: \textit{ConferenceCall, Mgmt forecasts, and M&A}.\textsuperscript{18} If the Lucky grants dummy is an effective proxy for backdated grants, we would expect an insignificant relation between Lucky grants and these information events. In particular, when the opportunities for backdating are significantly reduced and firms resort instead to the timing manipulation via grants dates or information events, option grant dates should be less likely to systematically fall into the days with the lowest stock prices. The signs on these variables are thus expected to be negative.

[Insert Table 6 here]
Table 6 highlights the predictions (column 2) and presents the results from the logistic regression. In the pre-SOX period, the results are consistent with all the predictions. In the post-SOX period, *Schedule* and *FirmSize* variables are no longer significant, but *Volatility* and *WSJfirms* variables remain significant. The significant coefficient on the *WSJfirms* variable is consistent with the conclusion in Heron and Lie (2007) and Narayanan and Seyhun (2008) that backdating was mitigated but was not completely eliminated after SOX. However, this variable is no longer significant in the post-Scandal period, supporting the view that backdating was eliminated due to the public revelation of the scandal and the implementation of new compensation disclosure rules. In the post-Scandal period, *Schedule* is marginally significant. *Volatility* is significant but in opposite sign, suggesting that option grants are less likely to fall into the days with the lowest stock price for high volatility firms.

Turning to the three voluntary disclosure events and examining the association of these events with Lucky grants, we find several interesting patterns. More specifically, the coefficient on *ConferenceCall* is significantly negative across all three sample periods, suggesting that option grants are unlikely to fall into the days with the lowest stock price in the presence of conference calls within the quarter. With regard to the coefficients of *Mgmt forecasts* and *M&A*, both of them are significantly positive in the pre-SOX period, suggesting that executives may have backdated their options to a date that coincided with the announcements of management forecasts and M&A events. Interestingly, the coefficients of *Mgmt forecasts* and *M&A* became significantly negative in the post-Scandal period, suggesting that, when there is no room for backdating, option grants are less likely to fall into the days with the lowest stock prices in the presence of management forecasts and M&A announcements within the quarter.

Overall, the evidence presented in this subsection gives us further support that the Lucky grants dummy variable effectively captures option grants that are attributed to backdating.
Hence, the separation of Lucky and Unlucky grants provides us a reasonable benchmark to distinguish the backdating hypothesis from the timing hypothesis. In addition, the evidence also weakly corroborates the assertion that, once the opportunities for backdating and timing grant dates are substantially eliminated, managers may turn to the practice of timing news events.

5. Economic Impact of Option Grant Signals

While we have demonstrated that the opportunistic timing persists in the post-SOX period and becomes less prevalent in the post-Scandal period, an important question remains: Does the opportunistic timing have any significant economic consequence? To answer the question, we examine whether investors could earn abnormal returns had they learned about the option grants. Specifically, we test whether investors could earn a significant alpha from a portfolio formed on option grant signals after controlling for Fama-French three factors (Fama and French 1992) and Carhart momentum factor (Carhart 1997). To reduce the dilution effect of scheduled option grants, we focus on unscheduled grants. The portfolio is formed on the day following the grants and held for three months.

Table 7 presents the results from the calendar-time Fama-French-Carhart four-factor regressions. The alpha (daily abnormal returns) is significantly positive at 9.4 and 3.8 basis points, respectively, in the post-SOX and post-Scandal periods. In other words, investors can earn approximately 5.6% and 2.3% abnormal returns over 60 trading days within three months following the option grants in the two periods. The signs for other factors are as expected. Thus, our finding suggests that, indeed, timing behavior still persists post-SOX as investors can still significantly profit from a portfolio formed on option grant signals; however, the magnitude of the profit has decreased in the post-Scandal period. We interpret these results, together with the
findings in previous sections, as evidence that while the SOX does not mitigate CEOs’ timing behaviors, increased disclosure transparency with respect to option grants under the new compensation disclosure regime has curbed executives’ willingness to engage in opportunistic behaviors.

6. Concluding Remarks

Prior studies attribute the asymmetric trough patterns of stock returns around option grant dates to three types of managerial behaviors: (1) opportunistic timing of option grants relative to future anticipated stock returns, (2) opportunistic timing of corporate disclosures around option grants, and (3) backdating of option grant dates. Our study supports the assertion that the SOX has curtailed option backdating. More importantly, we document that opportunistic timing still persists despite the shortened two-day option reporting requirement under SOX. Furthermore, we present the first analysis that distinguishes between timing of grants and timing of news disclosure by using the unique feature of fixed and variable earnings announcement dates. We show that, in the post-Scandal period which largely includes the new compensation disclosure regime, although timing of corporate disclosure in coordination with option grants still exists, timing of option grants in coordination with fixed news disclosure has been largely eliminated. This happens primarily because under the new compensation rules of 2006, firms are required to make much more extensive disclosure regarding their option grant practice, including their option grant date, grant-date stock price as well as the rationale behind their choice of a specific grant date. These new requirements are implemented to address the regulator’s increasing concern of firms opportunistically timing the grants to increase the value of executive stock option compensation. Consequently, the new rules make it much more difficult for executives to camouflage if they were to manipulate the grant date itself.
Our results are consistent with our argument that disclosure regulations influence the managerial incentives and ability to engage in opportunistic behaviors, and hence the pecking order that executives may use to maximize their stock option compensation. More specifically, backdating option was appealing to firms pre-SOX because it was technically easy to accomplish; once the opportunity for backdating was greatly diminished after the enactment of SOX, opportunistic timing (of either option grants or disclosure) became more attractive and served as an alternative device for executives to increase their option value; and finally, when the substantially enhanced disclosure requirements under the new compensation rules close the loophole that allows executives to manipulate the timing of option grants, the primary channel that remains open for executives is to use their private information about the impending news disclosure to influence their option value.

Our study contributes to the executive compensation literature by providing new evidence on how CEOs strategically behave to increase personal gains from their stock option compensation. While we do not directly investigate to what extent these manipulation activities destroy shareholder value, our findings suggest that investors could have earned abnormal returns by holding the portfolio for three months following option grants in the post-SOX period. We contribute also to the disclosure regulation literature by highlighting the effect of regulatory restrictions on corporate disclosure behavior and executive stock option practice. Our findings suggest that the SOX does not discourage executives from strategically timing the option grants or corporate disclosures, however, the new compensation disclosure rules, along with increased public scrutiny, seems to have effectively curbed the practice of timing option grants. This makes our study unique among other recent studies that attribute the pattern of stock returns around option grant dates post-SOX to the option grant dating game.
A caveat of our analysis for the post-backdating-scandal period is that the effect of new disclosure rules may be confounded by corporate climate change resulting from the backdating scandal. While we caution our readers that whether this effect is temporary or permanent warrants further attention, we conclude that the new disclosures rules, combined with the tightened public scrutiny, have partially achieved what SOX regulations did not achieve in terms of discouraging top management’s opportunistic timing behaviors.
Footnotes

1 Heron and Lie (2009) suggest that 13.6% of option grants to top executives from 1996 to 2005 were backdated or otherwise manipulated.

2 Backdated options are technically in-the-money, yet firms recognize them as at-the-money grants for accounting, tax, and disclosure purposes, hence this violates accounting and tax laws.

3 The studies examine the link between backdating and corporate governance (for example, Bizjak, Lemmon, and Whitby 2009; Collins, Gong, and Li 2009; Bebchuk, Grinstein, and Peyer 2010), the economic impact of backdating (for example, Narayanan, Schipani, and Seyhun 2007; Bernile and Jarrell 2009), the prevalence of backdating (for example, Heron and Lie 2007, 2009; Narayanan and Seyhun 2008), and the backdating of stock option exercises (for example, Cicero 2009; Dhaliwal, Erickson, and Heitzman 2009).

4 In practice, option grants timing is also known as either “spring-loading” (granting options just prior to a positive news announcement) or “bullet-dodging” (delaying option grants until just after the release of bad news).

5 For more details of the court ruling, see In Re Tyson Foods, Inc. Consolidated Shareholder Litigation, No. 1106-N (Del. Ch. Feb. 6, 2007). Other firms that have been accused of or under investigation for spring-loading include Analog Devices, Cyberonics, Home Depot, and Merrill Lynch to name a few.

6 Since Lie (2005) presented the first evidence on option grant backdating, the SEC and the Department of Justice have implicated nearly 200 firms (Forelle and Scannell 2006).


8 Bebchuk, Grinstein, and Peyer (2010) use the term “opportunistic timing” in a more general way to include both backdating and spring-loading. For the purpose of our analysis, we treat backdating separately from the two opportunistic timing behaviors, because the latter two do not involve altering the grant date retroactively.

9 The logic is that it is possible to time the grant date on one of the days with low price but it is highly unlikely that managers can award a grant exactly on the day with the lowest price.

10 Aboody and Kasznik (2000) categorize a grant as scheduled if it occurs within a one-week anniversary of a prior grant. Heron and Lie (2007, 2009) have detailed discussion of using one-day versus one-week window as the classification criteria for scheduled and unscheduled grants. Our classification scheme is similar to that employed in Heron and Lie (2007) that classifies a grant as scheduled if it is dated within one-day of the one-year
anniversary of a prior grant. Besides this scheme, Heron and Lie (2009) also use a second scheme that classifies a grant as scheduled if it is followed by a grant that is dated within one-day of the one-year anniversary of a prior grant. Thus, the unscheduled grants classified in our paper might capture some scheduled grants by Heron and Lie’s second scheme. This would not be a concern since it works against our findings.

11 Heron and Lie (2009) calculate the difference using raw returns. Under the assumption that the difference should be centered on zero, they are able to infer the fraction of option grants that are backdated or manipulated. We use the difference in CAR to further take care of return seasonality—for example, the January effect. This control is important because February is the month with the largest number of option grants. We also exclude day 0, the option grant date, in return comparison. All results are robust when we replace day (-30,-1) with day (-29, 0).

12 Although the difference is significant for conference calls in the pre-SOX period and management forecasts in the post-Scandal period, the sign is opposite to that predicted.

13 Note that we follow the procedure in Bebchuk, Grinstein, and Peyer (2010) in assigning Lucky grants. On average, our sample firms have 21 trading days each month where the prices are different in all days. Thus, under random assignment, the expected fraction of grants on the lowest price day of the month is approximately \(1/21=4.76\%\). In other words, 4.76% of our sample grants will fall into the Lucky category simply by construction.

14 These percentages are calculated as \(\frac{\text{(Lucky, Unscheduled Grants: before + after)}}{\text{[(Lucky, Unscheduled Grants: before + after) + (Unlucky, Unscheduled Grants: before + after)]]}}\) in Table 3. For instance, for earning announcement event, the pre-SOX percentage of Lucky, Unscheduled Grants = \(\frac{528 + 606}{528 + 606 + 4,624 + 4,372}\) = 11.19%.

15 Note that throughout Section 3, we do not distinguish timing of grants from timing of news disclosure in our analysis, and thus our evidence on the timing hypothesis includes both categories. Yet, disclosure regulations may have different impact on different types of timing behavior. We will further explore this issue in Section 4.

16 We also analyze the monthly distribution of grants to independent directors across three sample periods. Untabulated result shows that the distribution is qualitatively similar to that of CEO grants discussed in Section 2. This indicates that the timing evidence on CEO grants is unlikely to be driven by the difference in distribution between CEO and direct grants.

17 See the “Perfect Payday: Option Scorecard” at www.wsj.com for the list of affected companies.
Earnings announcement is not included because it is a mandatory event, i.e., each firm has to announce earnings once each quarter.

Unreported analysis indicates the alpha is insignificant for scheduled grants in both post-SOX and post-Scandal periods.
References


TABLE 1
Timeline of Option Grant Events and Possible Managerial Actions Identified in the Literature

<table>
<thead>
<tr>
<th>Time</th>
<th>Pre-Sox</th>
<th>Post-Sox</th>
<th>Post-Scandal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sample period ends on Dec 31, 2008. (New disclosure rules were adopted in Dec. 2006)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backdating</td>
<td>• Lie (2005)</td>
<td>• Heron and Lie (2007; 2009)</td>
<td>• Theoretically infeasible due to media attention and new regulations</td>
</tr>
<tr>
<td></td>
<td>• Heron and Lie (2007)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Narayanan and Seyhun (2008)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timing of option grants</td>
<td>• Yermack (1997)</td>
<td>• Possible</td>
<td>• Less Possible</td>
</tr>
<tr>
<td>Timing of news disclosures</td>
<td>• Aboody and Kasznik (2000)</td>
<td>• Possible</td>
<td>• Possible</td>
</tr>
<tr>
<td></td>
<td>• Chauvin and Shenoy (2001)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 2
Cumulative Abnormal Returns around Option Grant Dates

The table shows the cumulative abnormal returns around option grant dates for scheduled and unscheduled grants in the three periods, pre-SOX, post-SOX, and post-Scandal. For each period, grants are further categorized as Lucky and Unlucky grants. Grants are defined as Lucky if they are awarded on the date with the lowest stock price within the month, and Unlucky otherwise. CAR (-30,-1) and CAR (1, 30) are the cumulative abnormal returns in the 30-trading-day window before and after option grant date, respectively, where day 0 is the grant date. Abnormal returns (in percentage) are calculated as the difference between raw returns and value-weighted market returns. Scheduled option grants are those granted either within one day of the one-year anniversary of prior grants or within one day of annual board meeting date. **, and *** indicate that the difference is statistically significant at 0.05 and 0.01 (two-tailed) levels, respectively.

<table>
<thead>
<tr>
<th></th>
<th>Scheduled</th>
<th>Unscheduled</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Grants</td>
<td>%</td>
<td>CAR (-30,-1)</td>
<td></td>
<td>CAR (1,30)</td>
<td>Difference</td>
<td># of Grants</td>
<td>%</td>
<td>CAR (-30,-1)</td>
<td></td>
</tr>
<tr>
<td>Pre-SOX: Lucky</td>
<td>84</td>
<td>6.8%</td>
<td>2.42</td>
<td>8.70</td>
<td>6.28**</td>
<td>1,384</td>
<td>11.5%</td>
<td>-8.47</td>
<td>21.27</td>
<td>29.75***</td>
</tr>
<tr>
<td>Unlucky</td>
<td>1,151</td>
<td>93.2%</td>
<td>1.10</td>
<td>0.94</td>
<td>-0.15</td>
<td>10,648</td>
<td>88.5%</td>
<td>-2.52</td>
<td>4.27</td>
<td>6.78***</td>
</tr>
<tr>
<td>Post-SOX: Lucky</td>
<td>38</td>
<td>4.9%</td>
<td>-2.44</td>
<td>6.32</td>
<td>8.76***</td>
<td>391</td>
<td>7.1%</td>
<td>-2.61</td>
<td>14.78</td>
<td>17.27***</td>
</tr>
<tr>
<td>Unlucky</td>
<td>731</td>
<td>95.1%</td>
<td>1.34</td>
<td>1.19</td>
<td>-0.13</td>
<td>5,128</td>
<td>92.9%</td>
<td>1.16</td>
<td>3.03</td>
<td>1.87***</td>
</tr>
<tr>
<td>Post-Scandal: Lucky</td>
<td>40</td>
<td>5.5%</td>
<td>-3.04</td>
<td>7.36</td>
<td>10.39***</td>
<td>224</td>
<td>5.1%</td>
<td>-6.07</td>
<td>8.82</td>
<td>14.89***</td>
</tr>
<tr>
<td>Unlucky</td>
<td>687</td>
<td>94.5%</td>
<td>0.44</td>
<td>-0.59</td>
<td>-1.03</td>
<td>4,146</td>
<td>94.9%</td>
<td>-1.00</td>
<td>0.51</td>
<td>1.50***</td>
</tr>
</tbody>
</table>
TABLE 3
Test of Timing Hypothesis for Option Grants to CEOs

This table shows the average three-day market adjusted returns around four common news events in the half quarter before and after option grant dates. “Before (After)” denotes 45 days before (after) the option grant dates. Lucky and Unlucky grants are defined in Table 2. *, **, and *** indicate the difference is statistically significant at 0.1, 0.05, and 0.01 (two-tailed) levels, respectively.

<table>
<thead>
<tr>
<th>Event</th>
<th>Scheduled Option Grants</th>
<th>Lucky, Unscheduled Grants</th>
<th>Unlucky, Unscheduled Grants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Events</td>
<td>Mean CAR3d (%)</td>
<td>Difference (After-Before)</td>
</tr>
<tr>
<td></td>
<td>Before /after</td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>Pre-SOX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings Ann.</td>
<td>666 /337</td>
<td>0.50</td>
<td>1.34</td>
</tr>
<tr>
<td>Conf Call</td>
<td>211 /142</td>
<td>1.74</td>
<td>0.05</td>
</tr>
<tr>
<td>Mgmt Forecast</td>
<td>237 /148</td>
<td>-0.83</td>
<td>-0.54</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>165 /200</td>
<td>1.50</td>
<td>0.62</td>
</tr>
<tr>
<td>Post-SOX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings Ann.</td>
<td>465 /284</td>
<td>0.74</td>
<td>1.15</td>
</tr>
<tr>
<td>Conf Call</td>
<td>489 /320</td>
<td>0.36</td>
<td>0.53</td>
</tr>
<tr>
<td>Mgmt Forecast</td>
<td>340 /236</td>
<td>0.64</td>
<td>0.02</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>73 /82</td>
<td>0.10</td>
<td>1.26</td>
</tr>
<tr>
<td>Post-Scandal:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings Ann.</td>
<td>503 /226</td>
<td>0.59</td>
<td>-0.04</td>
</tr>
<tr>
<td>Conf Call</td>
<td>378 /287</td>
<td>0.47</td>
<td>-0.26</td>
</tr>
<tr>
<td>Mgmt Forecast</td>
<td>355 /190</td>
<td>1.03</td>
<td>-0.92</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>70 /79</td>
<td>0.79</td>
<td>0.45</td>
</tr>
</tbody>
</table>
TABLE 4
Test of Timing Hypothesis for Option Grants to Independent Directors
This table shows the average three-day market adjusted returns around four common news events in the half quarter before and after grant dates for the options awarded to independent directors. “Before (After)” denotes 45 days before (after) the option grant dates. Lucky option grants are excluded from unscheduled option grants. ** and *** indicate the difference is statistically significant at 0.05 and 0.01 (two-tailed) levels, respectively.

<table>
<thead>
<tr>
<th>Event Type</th>
<th># Events Before/After</th>
<th>Mean CAR3d (%) Before</th>
<th>Mean CAR3d (%) After</th>
<th>Difference (After-Before)</th>
<th># Events Before/After</th>
<th>Mean CAR3d (%) Before</th>
<th>Mean CAR3d (%) After</th>
<th>Difference (After-Before)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-SOX:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings Ann.</td>
<td>4,277/1,132</td>
<td>0.62</td>
<td>0.46</td>
<td>-0.16</td>
<td>668/697</td>
<td>-0.95</td>
<td>2.89</td>
<td>3.84***</td>
</tr>
<tr>
<td>Conf. Call</td>
<td>1,171 /540</td>
<td>0.90</td>
<td>1.01</td>
<td>0.11</td>
<td>153/225</td>
<td>-1.69</td>
<td>2.44</td>
<td>4.13***</td>
</tr>
<tr>
<td>Mgmt Forecast</td>
<td>587/572</td>
<td>-1.75</td>
<td>-1.73</td>
<td>0.02</td>
<td>110/164</td>
<td>-3.38</td>
<td>1.78</td>
<td>5.17***</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>454/756</td>
<td>0.70</td>
<td>0.64</td>
<td>-0.06</td>
<td>113/141</td>
<td>1.02</td>
<td>5.56</td>
<td>4.54***</td>
</tr>
<tr>
<td><strong>Post-SOX:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings Ann.</td>
<td>2,241/823</td>
<td>-0.14</td>
<td>-0.15</td>
<td>-0.01</td>
<td>329/417</td>
<td>-0.93</td>
<td>4.30</td>
<td>5.23***</td>
</tr>
<tr>
<td>Conf Call</td>
<td>2,228/1,183</td>
<td>-0.003</td>
<td>-0.22</td>
<td>-0.22</td>
<td>292/353</td>
<td>-1.45</td>
<td>4.54</td>
<td>5.99***</td>
</tr>
<tr>
<td>Mgmt Forecast</td>
<td>1,071/651</td>
<td>0.34</td>
<td>-0.34</td>
<td>-0.68</td>
<td>140/142</td>
<td>-1.60</td>
<td>1.57</td>
<td>3.17***</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>182/312</td>
<td>-2.36</td>
<td>0.01</td>
<td>2.38***</td>
<td>40/44</td>
<td>-0.57</td>
<td>1.54</td>
<td>2.12***</td>
</tr>
<tr>
<td><strong>Post-Scandal:</strong></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings Ann.</td>
<td>2,052/782</td>
<td>-0.24</td>
<td>0.19</td>
<td>0.43</td>
<td>331/246</td>
<td>-3.19</td>
<td>2.24</td>
<td>5.44***</td>
</tr>
<tr>
<td>Conf Call</td>
<td>1,332/974</td>
<td>0.38</td>
<td>0.08</td>
<td>-0.30</td>
<td>183/135</td>
<td>-1.41</td>
<td>1.26</td>
<td>2.67***</td>
</tr>
<tr>
<td>Mgmt Forecast</td>
<td>961/443</td>
<td>0.51</td>
<td>-0.66</td>
<td>-1.17***</td>
<td>88/77</td>
<td>-3.10</td>
<td>2.12</td>
<td>5.23***</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>112/264</td>
<td>2.24</td>
<td>1.12</td>
<td>-1.13</td>
<td>15/17</td>
<td>3.85</td>
<td>-0.91</td>
<td>-4.76</td>
</tr>
</tbody>
</table>

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TABLE 5
Unscheduled CEO Option Grants with Fixed and Variable Earnings Announcement Dates
The table shows the cumulative abnormal returns (in percentage) around unscheduled option grants in the quarters with fixed and variable earnings announcement dates. Fixed earnings announcements (EA) are defined as those announcements made within one week (3 days before and after) of the same quarter in previous year. CAR (-30,-1) and CAR (1, 30) are the cumulative abnormal returns in the 30-trading-day window before and after option grant date, which is day 0, respectively. *** indicates the difference is statistically significant at 0.01 (two-tailed) level.

<table>
<thead>
<tr>
<th></th>
<th># of Unscheduled CEO Grants</th>
<th>CAR (-30,-1)</th>
<th>CAR (1,30)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-SOX:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed EA</td>
<td>5,348</td>
<td>-2.67</td>
<td>5.24</td>
<td>7.91***</td>
</tr>
<tr>
<td>Variable EA</td>
<td>5,040</td>
<td>-3.57</td>
<td>6.84</td>
<td>10.41***</td>
</tr>
<tr>
<td>Post-SOX:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed EA</td>
<td>2,662</td>
<td>1.55</td>
<td>4.08</td>
<td>2.53***</td>
</tr>
<tr>
<td>Variable EA</td>
<td>2,269</td>
<td>0.14</td>
<td>3.83</td>
<td>3.70***</td>
</tr>
<tr>
<td>Post-Scandal:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed EA</td>
<td>2,125</td>
<td>-0.94</td>
<td>0.18</td>
<td>1.11</td>
</tr>
<tr>
<td>Variable EA</td>
<td>1,724</td>
<td>-1.71</td>
<td>1.65</td>
<td>3.36***</td>
</tr>
</tbody>
</table>
**TABLE 6**

**Logistic Regression of Lucky Grants**

This table presents the logistic regression of Lucky Grants. Dependent variable is “1” if the grant is “Lucky”, “0” otherwise. Lucky grants are defined for those grants awarded at the date with the lowest stock price within the month. Schedule: Indicator variable, “1” if the option is awarded within one day of the anniversary date of the prior year’s grant date or within one day of annual board meeting date, and “0” otherwise. Fixed EA: Indicator variable, “1” if earnings announcement is made three days before or after the anniversary date of the same quarter of prior year, and “0” otherwise. Firm size: The logarithm of the firm’s market value at the option grant date. Volatility: Historical volatility of stock returns within the year preceding the option grant date. WSJ firms: 136 firms listed on the Wall Street Journal website as the firms implicated by the SEC or the Justice Department due to option grant backdating. The information events include the number of conference call, management forecasts, and M&A announcements within 45-day window before and after option grants. *, **, and *** indicate the 0.1, 0.05, and 0.01 (two-tailed) significance levels, respectively.

<table>
<thead>
<tr>
<th></th>
<th>Pre-SOX</th>
<th>Post-SOX</th>
<th>Post-Scandal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff</td>
<td>p-value</td>
<td>Coeff</td>
</tr>
<tr>
<td><strong>Intercept</strong></td>
<td>-0.22</td>
<td>0.27</td>
<td>-3.16***</td>
</tr>
<tr>
<td><strong>Schedule</strong></td>
<td>-0.39***</td>
<td>0.0002</td>
<td>-0.12</td>
</tr>
<tr>
<td><strong>Firm Size</strong></td>
<td>-0.16***</td>
<td>&lt;.0001</td>
<td>0.02</td>
</tr>
<tr>
<td><strong>Volatility</strong></td>
<td>0.26***</td>
<td>0.001</td>
<td>0.65***</td>
</tr>
<tr>
<td><strong>WSJ firms</strong></td>
<td>1.43***</td>
<td>&lt;.0001</td>
<td>0.70***</td>
</tr>
<tr>
<td><strong>Fixed EA</strong></td>
<td>-0.016</td>
<td>0.73</td>
<td>0.43***</td>
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<td><strong>Info Events:</strong></td>
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<tr>
<td>Conference Call</td>
<td>-0.24***</td>
<td>&lt;.0001</td>
<td>-0.15**</td>
</tr>
<tr>
<td>Mgmt forecasts</td>
<td>0.23***</td>
<td>&lt;.0001</td>
<td>-0.04</td>
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<tr>
<td>M&amp;A</td>
<td>0.22***</td>
<td>&lt;.0001</td>
<td>0.005</td>
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</tbody>
</table>
TABLE 7
Portfolio Analysis
The table presents calendar-time Fama-French-Carhart four-factor regressions for the portfolio formed on the next
day following the option grant date. The portfolio is held for three months. The dependent variable is the portfolio
equal-weighted daily excess return, over the risk-free rate. MKT, SML, HML and UMD are the market, size, book-
to-market, momentum factors, respectively. * and *** indicate the 0.1 and 0.01 (two-tailed) significance levels,
respectively.

<table>
<thead>
<tr>
<th></th>
<th>post-SOX</th>
<th></th>
<th>post-Scandal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>t-statistic</td>
<td>Coefficient</td>
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<tr>
<td>Alpha</td>
<td>0.00094*</td>
<td>7.96***</td>
<td>0.00038</td>
</tr>
<tr>
<td>MKT</td>
<td>0.955***</td>
<td>70.88</td>
<td>0.889***</td>
</tr>
<tr>
<td>SML</td>
<td>0.767***</td>
<td>30.43</td>
<td>0.612***</td>
</tr>
<tr>
<td>HML</td>
<td>0.165***</td>
<td>4.38</td>
<td>0.0004</td>
</tr>
<tr>
<td>UMD</td>
<td>−0.179***</td>
<td>−8.66</td>
<td>−0.156***</td>
</tr>
</tbody>
</table>
Figure 1. Abnormal Returns around Unscheduled Option Grants to CEOs and Independent Directors in the Pre-SOX, Post-SOX, and Post-Scandal Periods.