



## Option grant backdating investigations and capital market discipline

Kenneth Carow <sup>a,1</sup>, Randall Heron <sup>a,2</sup>, Erik Lie <sup>b,3</sup>, Robert Neal <sup>a,\*</sup>

<sup>a</sup> Kelley School of Business, Indiana University, Indianapolis, IN 46202, United States

<sup>b</sup> Henry B. Tippie College of Business, University of Iowa, Iowa City, IA 52242, United States

### ARTICLE INFO

#### Article history:

Received 14 July 2008

Received in revised form 31 July 2009

Accepted 4 August 2009

Available online 12 August 2009

#### JEL classification:

G14

G34

M52

#### Keywords:

Stock option backdating

Agency problems

Perfect payday

### ABSTRACT

Using a large sample of option granting firms, some of which were investigated for option grant backdating, we develop a predictive model for such investigations and examine how the capital market responded as the backdating scandal unfolded. Firms that were investigated experienced significant stock price declines from the beginning of the Wall Street Journal's *Perfect Payday* series through the end of 2006. Firms predicted to have backdating problems, but not the subject of publicly revealed investigations, experienced normal stock price performance during the same period that was remarkably similar to that of firms with publicly revealed investigations. In contrast, firms not predicted to have backdating problems experienced normal stock price performance. Our results suggest that capital markets disciplined companies with suspicious option grant histories, often prior to, and irrespective of, any public revelation of an investigation into the matter.

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### 1. Introduction

Although the backdating hypothesis put forth by Lie (2005) was initially met with skepticism, Heron and Lie (2007) demonstrate that most of the puzzling return patterns around executive option grants, first identified by Yermack (1997) were indeed the product of backdated option grant dates. Public awareness and scrutiny of option backdating mushroomed beginning in March 2006, when the Wall Street Journal began its “Perfect Payday” series to expose the magnitude of the option grant backdating scandal by highlighting fortuitous option grant timing at several companies. Since then, numerous firms have been caught up in investigations of option grant backdating. By March 16, 2007, Glass-Lewis & Co. reported that at least 257 companies either had announced internal reviews or had been the subject of SEC and/or Department of Justice investigations into their option granting practices.

At least two studies show that share prices of firms alleged to have backdated option grants fall significantly surrounding the firm-specific news events suggesting that backdating has likely taken place. For instance, Narayanan et al. (2007) examine a sample of 80 firms that were listed on the Wall Street Journal's option scorecard of investigated companies as of September 13, 2006 and find that on average these companies experienced a stock price decline of 7% upon the revelation of backdating. Interestingly, they find that most of the decline occurs prior to the first public announcement of an investigation. This leads them to conclude “some insiders or hedge funds may be receiving word of the likely filing of backdating complaints and either selling or shorting the stock in advance.” More recently, Bernile and Jarrell (2009) examine the price reactions of 129 firms listed on the Wall Street Journal's option scorecard as of December 31, 2006 and similarly report significant declines in the stock prices of investigated firms. Bernile and Jarrell also perform

\* Corresponding author. Tel.: +1 317 274 3348.

E-mail addresses: [kcarow@iupui.edu](mailto:kcarow@iupui.edu) (K. Carow), [rheron@iupui.edu](mailto:rheron@iupui.edu) (R. Heron), [erik-lie@uiowa.edu](mailto:erik-lie@uiowa.edu) (E. Lie), [skyking@iupui.edu](mailto:skyking@iupui.edu) (R. Neal).

<sup>1</sup> Tel.: +1 317 274 2783.

<sup>2</sup> Tel.: +1 317 274 4984.

<sup>3</sup> Tel.: +1 319 335 0846.

cross-sectional analyses and report “Investors’ reaction to backdating accusations is negatively related to firms’ likely culpability and, consistent with increased information risk, shareholders’ losses are directly related to the magnitude of the resulting earnings restatements, despite their effect on cash flows being arguably small.” Their results illustrate that investors place a considerable weight on the information conveyed by backdating accusations, which suggest managerial self-dealing at shareholder expense. Specifically, investors tend to bid down the stock prices of the accused firms far in excess of estimates of direct costs in terms of future cash flows. These results are consistent with Karpoff et al.’s (2008a,b) conclusions that the reputational losses imposed by financial markets for financial misrepresentation are significant.

While Narayanan et al. (2007) and Bernile and Jarrell (2009) focus on companies that have been publicly thrust into the option timing spotlight, several academic studies, such as Heron and Lie (2009), Bebchuk et al. (2006), and Bizjak et al. (2008) suggest that a substantial number of companies with undisclosed problems remain. This raises interesting questions regarding how efficient capital markets are in disciplining companies when evidence exists to suggest heightened agency problems between owners and managers. For instance, it could be that the declining stock prices documented by Narayanan et al. (2007) and Bernile and Jarrell (2009), which begin prior to the revelation of backdating problems for firms in their samples (all of which have publicly revealed option investigations) are simply the result of market participants “hearing rumors” of impending announcements and reducing their exposures in anticipation of significant legal costs, possible management turnover, etc. Alternatively, it could be that capital market participants were taking calculated positions using publicly-available data to forecast the likelihood of option grant timing problems and simply reduced their exposure to companies where the evidence was suggestive of managerial self-dealing—even in the absence of an impending announcement of an investigation of the firm. This suggests that capital markets are proactive in disciplining companies for heightened agency problems and further suggests that companies are penalized by heightened costs of capital (and thus, lower stock prices) when the evidence is suggestive of managerial self-dealing, even in the absence of any public disclosure of investigations into the matter.

Thus, our main focus in this study is to examine the extent to which capital markets discipline firms for which there are reasons to believe that agency problems are heightened, yet for which no public allegations or revelations have been made. Given that (i) the number of firms estimated to have option backdating problems far exceeds the number with publicly revealed investigations and (ii) the evidence in Bernile and Jarrell (2009) shows that stock market reactions are negatively related to likely culpability for firms with publicly revealed indications of option timing problems, we believe that the option backdating scandal provides a unique setting to investigate this research question. Intuitively, if the market exerts backdating-related discipline, in addition to observing declines in the stock prices of firms with public announcements of backdating investigations, we should also observe declines in the prices of firms where the evidence that can be assembled from their historical option grant date selections is suggestive of heightened agency costs, even in the absence of any publicly disclosed inquiry.

We start our analysis by using the Glass-Lewis report to identify (as of March of 2007) firms that had either announced their own internal investigations or were at some point publicly revealed as being under investigation by the SEC or DOJ. Of these firms, 163 had restated their financial statements to account for option grant timing irregularities as of the time of the report. We then obtain the option grant histories and other firm-specific characteristics for all option granting firms covered on CRSP, Compustat, and Thomson Financial’s insider trading database. Consequently, our sample includes the 257 firms appearing in the Glass-Lewis report because of backdating investigations and a sample of 3164 option granting firms that are not included in the Glass-Lewis report because there were no publicly revealed option grant timing investigations at the company as of March of 2007.

Next, we estimate models to identify factors that contribute to an investigation into option grant backdating or to the relative size of a resulting restatement of financial statements. We use these models for predictive purposes on the sample of firms that were not under investigation to classify them into groups. We contrast two groups—those with option grant histories that lead to a prediction that they have a high probability of having backdated options, and those that the model suggests have a low probability of having backdated option grant dates. Similarly, we contrast the group where the predicted financial restatements are the largest with the group where the predicted financial restatements are the least.

We find that the stock price patterns for both of the portfolio groupings that our models predicted to have a high probability of backdating problems (high probability of an investigation; high estimated restatement) are very similar to that for the portfolio of firms that were the subject of publicly announced internal investigations (but not SEC or DOJ investigations) and mentioned in the Glass-Lewis report. For example, cumulative abnormal returns over the period spanning from March 9th, 2006 (roughly one week prior to the WSJ’s first *Perfect Payday* article) through December 31, 2006 are  $-7.2\%$  for the portfolio predicted to have a high probability of an options timing investigation and  $-8.3\%$  for the portfolio predicted to have the largest relative restatement. The corresponding abnormal return figure for the portfolio of firms with publicly revealed internal investigations is  $-8.8\%$ . These abnormal declines are all statistically different from zero, but do not statistically differ from each other. In contrast, the portfolios of firms that our models predict to have a low likelihood of either an options timing investigation or a low resulting financial restatement do not experience negative abnormal returns. Moreover, the abnormal returns of the portfolios of firms predicted to have a high probability of an option backdating investigation (high relative restatement) are significantly lower  $-10.4\%$  ( $-9.8\%$ ) than the abnormal returns for the portfolios of firms predicted to have a low probability of an option backdating investigation or a resulting financial restatement.

Our findings are consistent the recent work of Karpoff et al. (2008a,b), which finds that the reputational losses imposed by financial misrepresentation are significant. Our results also complement Bernile and Jarrell (2009), who study the stock price reactions of firms publicly identified as having potential option backdating problems and conclude that the majority of the stock price declines are due to investors updating their perceptions of agency costs between owners and managers. Our results suggest that capital markets actively discipline firms whose actions suggest that agency costs are heightened, even if there are no formal inquiries into the matter, by the firm, the SEC, or the Department of Justice. Specifically, investors appear to have been able to identify firms that were likely to have option granting problems and bid their prices down, even in the absence of any public announcement. One can also infer from our

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