Timely vs. Delayed CEO Resignation and Company Performance

Xuan Wu

A Thesis

In

The John Molson School of Business

Presented in Partial Fulfillment of the Requirements

for the Degree of Master of Science in Administration (Finance Option)

at

Concordia University

Montreal, Quebec, Canada

April 2014

CONCORDIA UNIVERSITY

School of Graduate Studies

This is to certify that the thesis prepared

By: **Xuan Wu**

Entitled: **Timely vs. Delayed CEO Resignation and Company Performance**

and submitted in partial fulfillment of the requirements for the degree of

Master of Science in Administration (Finance Option)

complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the final examining committee:

_____ Chair
Dr. Satyaveer Chauhan

_____ Examiner
Dr. Sandra Betton

_____ Examiner
Dr. Harjeet S. Bhabra

_____ Co-supervisor
Dr. Saif Ullah

_____ Co-supervisor
Dr. Thomas Walker

Approved by _____
Chair of Department or Graduate Program Director
Dr. Harjeet S. Bhabra

_____
Dean of Faculty
Dr. Steve Harvey

Date _____
April 8, 2014

ABSTRACT

Timely vs. Delayed CEO Resignation and Company Performance

Xuan Wu

This paper investigates changes in company performance following timely versus delayed CEO resignations after violations of financial wrongdoings. A resignation is considered timely if it is proactively pushed by the company, and delayed if it is driven by investigations initiated by SEC or other regulatory authorities. To date there are very few studies investigating the resignations of CEOs with financial wrongdoings and none that differentiate between timely versus delayed resignations. Our results show significant negative abnormal returns following announcement of CEO resignations. In addition, compared to timely resignations, the negative stock market reaction is larger and longer lasting for delayed resignations. This suggests that CEO resignations due to financial wrongdoings are not perceived as good news by investors, and the delayed resignations could make investors lose more confidence possibly because of worries about the ineffective corporate governance and supervision mechanism. Using a hand-collected dataset, this paper examines what factors may potentially influence the timeliness of CEO resignations and finds a significant negative correlation between CEO-chairman duality and the timeliness of CEO resignations. Moreover, this paper investigates the time-series patterns and within-firm differences in performance for up to three years around CEO resignations. Our results suggest a significant drop in the market-to-book ratio upon CEO resignations which coincides with findings of our event study.

ACKNOWLEDGEMENTS

I would like to express my deep appreciation to the following individuals:

- My supervisors, Dr. Saif Ullah and Dr. Thomas Walker, who have supervised and guided me patiently from the very beginning to the end of my thesis. Without their help and encouragement, I would have never been able to finish this thesis. They are such great persons in my most precious student career.

- My committee members, Dr. Harjeet S. Bhabra and Dr. Sandra Betton, who gave valuable suggestions to help me improve this thesis.

- My family, who give me unceasing support and unconditional love all the way in my life.

- My dear friends, who give me constant support and encouragement.

Table of Contents

List of Tables

List of Figures

1. Introduction

CEO turnovers are significant strategic events for companies. Seen from a corporate resources-based view, the CEO managerial capability and his/her entrepreneurship are important strategic resources which could determine the enterprise growth and performance to a large extent. Therefore, the study of CEO turnover has already aroused widespread interest in academic research.

The turnovers of CEO may be the result of forced replacements or voluntary resignations, and could be because of many different reasons, such as normal retirement, death or illness, a company reorganization, poor performance, or the pursuit of another career (Denis and Denis, 1995; Khurana and Nohria, 2000). Many prior studies have suggested that CEO resignations should have an influence on a company; when the announcement of CEO resignation is released to the public, the abnormal returns would be observed on the stock market (Furtado and Rozeff, 1987; Beatty and Zajac, 1987; Weisbach, 1988; Lubatkin et al., 1989; Bonnier and Bruner, 1989; Davidson et al., 1990). Moreover, the direction and magnitude of those stock prices fluctuations may differ for varied types of management changes (Mahajan and Lummer, 1993). In addition, it is widely accepted in academia that some potential factors exist to influence the probability of CEO turnovers, such as the board of directors, CEO characteristics, company performance, etc. (Weisbach, 1988; Morck et al., 1988; Finkelstein et al., 1990; Jensen, 1993; Yermack, 1996; Renneboog, 2000; Defond and Hung, 2004). Moreover, there are many studies that examine the impact

of the succession by a new CEO on company performance. It is believed that, differences exist in firm performance for different kinds of CEO resignations and successions (Furtado and Rozeff, 1987; Kang and Shivdasani, 1995; Huson et al. 2004).

News reports in recent years suggest that financial wrongdoings have become an important reason why CEOs resign from companies. Bob Diamond, CEO of Barclays, resigned due to manipulation of LIBOR; Kenichi Watanabe, CEO of NOMURA Securities, resigned because of insider trading; Oswald J. Grübel, CEO of UBS resigned because of unauthorized financial transactions. There are two scenarios that lead to the resignations of CEOs due to financial wrongdoings. Under the first scenario, the wrongdoing is found via a company internal probe or investigation; under the second scenario, the wrongdoing is uncovered by an outside authority, mainly the Securities and Exchange Commission (SEC) and either the CEO himself/herself has to resign under public pressure. To the best of our knowledge, there are very few studies that provide a focused investigation of CEO resignations due to financial wrongdoings, and very few use a classification of these two scenarios into studies of CEO resignations, so I empirically investigate these two types of resignations in this thesis.

We examine whether CEO resignations due to financial wrongdoings are proactively pushed by board of directors or driven by investigations initiated by the SEC or other regulatory authorities. Firstly, we explore whether the stock market reacts differently to timely and delayed actions by performing both short- and

long-term event study and examining the differences in abnormal returns. Second, we examine whether certain factors potentially influence the timeliness of CEO's resignations. Plus, this paper analyzes the within-firm variations in performance to see whether company performance changes around timely and delayed CEO resignations. To the best of our knowledge, this is the first study that investigates the timeliness of CEO resignations in connection with financial wrongdoings.

The remainder of this study is organized as follows. Section 2 reviews the relevant literature about CEO turnovers and company performance. Section 3 describes the data used in the paper. Section 4 introduces the applied methodologies and models. Section 5 reports and interprets the empirical results. Section 6 concludes this paper with a summary and a brief discussion and provides suggestions for future research in this area.

2. Literature Review

2.1 Impact of CEO Turnover on a Firm's Stock Price Performance

It is widely accepted that, upon announcement of CEO turnover, a firm's stock price is significantly impacted; yet, the existing literature has not arrived at an agreement about the direction of the impact. For example, Davidson et al. (1990) investigate 367 CEO change announcements in Fortune 500 companies and observe a positive stock market reaction. Other academic studies also find significant positive cumulative excess return around CEO change announcements (Bonnier and Bruner, 1989; Furtado and Rozeff, 1987; Weisbach, 1988). In contrast, some studies predict

that CEO changes exert a negative influence on the stock market (Beatty and Zajac, 1987). Such negative cumulative excess returns have been documented, for instance, by Furtado (1986). Finally, several studies find no significant correlation between CEO turnovers and cumulative excess returns (Borstadt, 1985; Klein, Kim and Mahajan, 1985; Reinganum, 1985).

These inconsistent research findings suggest that the impact exerted on the stock market by CEO change are not always the same; it is thus important to investigate this problem by introducing more classification conditions, such as whether the CEO change action is a timely or delayed one. Mahajan and Lummer (1993) note that the direction and magnitude of changes in stock prices results from the announcement of various types of management changes; and compared with resignations due to internal reasons, resignations driven by external reasons could lead to larger abnormal average stock returns.

2.2 Factors Influencing the Probability of CEO Turnover

There have been several studies that investigate the directional relationship between the potential influencing factors and the probability of CEO turnovers. Based on the research results achieved until now, recent empirical studies mainly focus on the following influencing factors, namely CEO-chairman duality, management compensation, the board size, the proportion of independent directors, the CEO's tenure, the company's size and the company's performance.

As for CEO-chairman duality, the contemporary corporate governance structure

theory believes that, if the positions of chair and CEO are held by one person, it is difficult to guarantee the independence of the board; stated in another way, the board cannot effectively perform its function to evaluate and replace the CEO if necessary. For instance, Dalton and Kesner (1987) and Pi and Timme (1993) both consider that boards controlled by management cannot fulfill their statutory functions of governance; in order to prevent the moral hazard and adverse selection of agents, the monitoring function of the board must be strengthened and the duties of management and chair have to be separated. Therefore, the extant literature agrees that the existence of duality is negatively related to the probability of CEO replacement. Goyal and Park (2000) examine 455 companies with CEO turnover occurring during the period of 1992-1996 and 823 companies without CEO turnovers occurring within the same period as the control group, and empirically verify that, the sensitivity of CEO turnovers towards poor performance is much weaker for companies with CEO-chairman duality. Based on a sample of 351 companies listed in Belgium from 1989 to 1994, Renneboog (2000) also confirms that it is much easier for CEO turnovers to occur for companies without duality. In addition, Chakraborty and Sheikh (2008) point out that the CEOs who also act as the chairman of the board or belong to a founding family face a lower likelihood of performance-related turnovers. Moreover, Plian (1995) applies the social network theory and finds that, the CEO's personal prestige and the existence of duality reduce the probability of a CEO being dismissed from office.

As for the CEO's compensation, it is often considered an important reflection of

the CEO's power within the company. Hermalin and Weisbach (1998) argue that, as the CEO's power relative to the board increases, the efficiency of the board will decline. Arrow (1962) suggests a learning by doing view, asserting that executives with large power can accumulate and control the business-critical resources, which strengthens the executives' irreplaceability and increases the dismissal cost. Furthermore, Finkelstein (1992) suggests that managerial power will be reflected on his/her ability to influence the compensation decisions made by the board and remuneration committee. Fahlenbrach (2009) finds that the executives' power significantly increases their compensation amount. Boyd (1994), Conyon (1997) and Bebchuk et al. (2002) agree that managerial power exerts a very important influence on improving executive compensation. Therefore, it can be assumed that the higher the CEO's compensation, the higher his/her power, and the lower the likelihood of turnover.

As to the relationship between tenure and the probability of turnovers, there are two broadly accepted hypotheses. The first is the entrenchment hypothesis proposed by Morck et al. (1988). The managerial entrenchment hypothesis suggests that the social networks of executives grow broader over time, which provides some resistance against outside pressures, thereby reducing the probability of executives being replaced. The second is the learning hypothesis proposed by Gibbons and Murphy (1992). The learning hypothesis suggests that a new CEO first takes office, the board only has little information about the CEO's true capacity; therefore, the board has a relatively high degree of tolerance for the expected performance of the

CEO. As the board learns more and more about the CEO, this tolerance decreases and the CEO's performance that was acceptable before may be not acceptable right now. In Gibbons' and Murphy's (1992) words, the variance of expected performance decreases and the likelihood of CEO turnover increases with CEO tenure.

With respect to board size, the majority of scholars agree that, it is easier for smaller boards to dismiss the CEOs with inferior performance. This is because small boards not only allow board members to discuss important issues in more detail, but are also more conducive to internal communications and exchanges, which help form a more cohesive board. Yermack (1996) collects a sample of 452 Fortune 500 companies and finds that when a company encounters poor performance, small boards are more inclined to dismiss their CEO. The threat of dismissal declines when board size increases. Chakraborty and Sheikh (2008) also find a positive correlation between the smaller boards and the probability of CEO turnover. Lipton and Lorsch (1992) and Jensen (1993) suggest that boards should be appropriately small and preferably consist of 8 to 9 members. They explain that before reaching the proper size, the supervision effectiveness may be enhanced with an increase in the number of board members; however, when boards go beyond their recommended size, an increase in the number of board members may cause problems such as inefficient decision making, less time for discussions of management performance, increasrd risk aversion and so on.

With respect to the proportion of independent directors, prior research has documented that boards that are dominated by inside directors are lacking

independence. When the company's CEO acts as a board member, independence will be reduced even further. In contrast, unlike inside directors, outside directors (also known as independent directors) are not directly influenced and constrained by either the controlling shareholders or the company management, so they are able to exercise independent judgment towards the company operating situations, thereby improving the effectiveness of board supervision. Therefore, when a company experiences poor performance or when the CEO has done something wrong, it is easier for independent directors to make decisions about CEO replacement. In addition, the human capital value and professional reputation of the independent directors are closely related to the company's performance. If an independent director does not take the initiative to challenge an executives' misbehavior which results in a decline in corporate performance or even a takeover of the company, he/she will suffer from damaged reputation and a depreciated human capital value, which will endanger both his/her compensation and even their employment career. In order to preserve and even increase the value of their own human capital, independent directors thus have sufficient motivation to monitor managers. Prior research generally suggests a positive relationship between independent directors and the probability of misbehaved or incapable CEOs being replaced. Based on a sample of 367 U.S. companies in the Forbes 500, Weisbach (1988) shows that it is more likely for outside independent directors to replace underperforming CEOs. Kaplan (1994), Kang and Shivdasani (1995), and Denis (1997) also confirm the positive relationship between the proportion of independent directors on the board and the probability of CEO

turnovers.

With respect to company size, prior research indicates that the larger the company size, the more dispersed its ownership structure; thus the more difficult it is to obtain sufficient votes on the board to dismiss the CEO. Also, the larger the company, the higher the requirements for the new CEO successor's knowledge and experience to run the company; thus the more difficult it is to find a suitable candidate to replace the incumbent CEO. Therefore, it is often argued that company size is negatively correlated with the probability of CEO turnover, which is empirically confirmed by, e.g. Finkelstein et al. (1990).

As to company performance, it is an important factor that may influence the probability of CEO turnover. As the company's highest level decision maker, the CEO shoulders the responsibility towards the company's operating results and organizational strategic design. Thus, the board of directors will evaluate the CEO's managerial capabilities and professional conduct mainly through the company's performance and the market value of the business. When there is a decline in corporate performance, the board will often believe that it is the CEO who fails to allocate corporate resources efficiently and effectively, and may advocate the replacement of the incumbent CEO. That is to say, the worse the company performance, the more likely the CEO will be dismissed. As a matter of fact, this kind of negative correlation between the likelihood of CEO turnover and company performance has been documented by a large body of empirical research. Defond and Hung (2004) use CEO turnover data across 33 countries from 1997 to 2001 and

analyze the correlation between performance and the probability of CEO turnovers under various legal environments. They conclude that the probability of CEO turnover is negatively correlated with company performance. Kato and Long (2006) investigates the relationship between CEO turnovers and corporate performance in Chinese firms and find that, there exists a significant negative correlation between the probability of CEO turnover and either the accounting performance or the market performance in the previous year. Similarly, Kaplan (1994) considers 119 Japanese companies within the list of Fortune 500 firms from 1980 to 1988 and concludes that for the Japanese companies, the possibility of top executive turnover is significantly negatively correlated with the company's stock returns and income levels. In the same vein, based on a sample of companies listed on the Tokyo Stock Exchange, Abe (1997) finds a significant negative correlation between CEO turnover and a company's long-term performance. Finally, Puffer and Weintrop (1991) find that CEO turnovers are more likely to occur when reported annual earnings per share fall short of expectations.

2.3 Influence of CEO Turnovers on Company Performance

As one of the company's most important policy makers, managers and controllers, a CEO's expertise and managerial skills are regarded as significant strategic resources for the company's sustained healthy development. Therefore, it is highly likely that a CEO's resignation and succession could exert a direct impact on the company's operating performance. As a matter of fact, many different points of view exist as to the influence of CEO turnover on corporate performance.

The succession adaption view suggests that CEO successions have a positive influence on corporate performance. This view holds that the board of directors tends to replace CEOs who have little expertise or whose skills do not match with the company's requirements. As such, the CEO replacement will be implemented as a method to adapt to the company's dynamic operating environment. It is also plausible that the company needs to make strategic adjustments and the former CEO's abilities do not satisfy the needs of the new development strategy. Therefore, under the succession adaption view, a CEO's succession should result in an improvement in corporate performance (Guest, 1962; Helmich, 1974; Singh et al., 1986; Virany et al., 1992). Under that hypothesis, we assume that the new executive should be able and shall have the enthusiasm to resolve the company's difficulties, thus an appropriate CEO succession could be an important way to enable an organization to become better attuned to the new organizational demands and thus lead to an improvement in performance (Kaplan, 1994; Denis, 1995; Kang and Shivdasani 1995; Farrell and Whidbee, 2000; Khurana, 2000). Weisbach (1988) and Bonnier and Bruner (1989) use event study methodology and document a positive reaction to CEO replacements in the stock market. Also, Huson (2004) finds a positive correlation between the abnormal returns of stocks and CEO turnover announcements. Compared with the year before the change in CEOs, total assets to sales and operating return to sales show a significant improvement in the third year after the CEO replacement.

Another theory is the vicious-circle view, which was proposed by Grusky (1963). It suggests that CEO turnovers may exert a negative impact on corporate performance

because the CEO replacement will likely result in an adjustment of the firm's corporate organizational structure, a change in corporate strategy and a change in staff personnel, thus disrupting and interrupting to the firm's organizational operations. This may lead to employee conflicts and low morale, eventually diminishing the company's performance (Allen et al., 1979; Carroll, 1984; Beatty and Zajac, 1987; Haveman, 1993). What's worse, a vicious circle may occur; the poor performance may lead to another CEO succession, which in turn disrupts the operations again and further worsens corporate performance. Therefore, frequent CEO successions are unfavorable for company performance.

Thirdly, Gamson and Scotch (1964) propose the scapegoating hypothesis. This hypothesis suggests no relationship between CEO succession and company performance because when the company experiences poor performance, the incumbent CEO will be treated as a scapegoat and will be replaced. As such, the CEO succession is a purely symbolic action aimed to send a signal to the outside that the organization is changing something in order to improve its performance. However, the succession is merely a ritual and will not substantially improve corporate performance. Zajac (1990) investigates 118 CEO turnovers and points out that CEO succession has nothing to do with corporate performance. Similarly, Reinganum (1985) and Warner et al. (1988) perform event studies and find that CEO successions do not have any significant impact on the firm's stock price. Eitzen and Yetman (1972), Lieberson and O'Connor (1972), Salancik and Pfeffer (1980), Friendman and Singh (1989) and McGuire et al. (1998) are all in favor of this view.

Fourthly is the conditional view, which suggests that it is not simple to judge whether or not a CEO succession has an impact on company performance, and argues that other factors need to be considered. For example, Denis and Denis (1995) classify CEO turnovers as normal retirements and forced resignations, and use the operating income on assets as proxy for company performance. They find that for forced resignations, the company performance deteriorates before the CEO turnover and shows a significant improvement after 2 years; yet, they observe little change in performance before normal retirements and only a slight improvement afterwards. Leker and Salomo (2000) also consider varied reasons for CEO turnover and observe that the post-transition performance during the succession period is different. Gibson (2003) suggests that emerging market mechanisms need to be considered, and finds no significant relationship between CEO turnovers and company performance based on stock market returns, yet a strong association between CEO turnovers and company performance based on earnings. In summary, the conditional view implies that the influence of CEO turnovers on company performance differs when taking some other potential influencing factors into consideration.

3. Hypotheses

Intuitively, announcements of CEO resignations due to financial wrongdoings should be considered bad news. The departure of a CEO will involve uncertainty about the company's operations. In addition, it may raise investor concerns about the potential damages caused by the CEO's misbehavior. As noted earlier, for timely CEO

resignations, the CEO's financial wrongdoings are typically uncovered through internal investigations, whereas for delayed CEO resignations, the wrongdoings are uncovered by outsiders. Mahajan and Lummer (1993) find that the direction and magnitude of the stock market reaction to CEO turnovers differ based on the type of management change. Therefore, it is reasonable to assume that:

Hypothesis 1: Upon the announcement of a CEO resignation due to financial wrongdoing, the firm experiences a negative abnormal return. The abnormal return differs between timely and delayed resignations.

Whether the CEOs' financial wrongdoings can be proactively discovered by the company's board depends on the effectiveness of the board. If the board has more effective governance and stronger monitoring mechanisms, it is more likely for the CEOs financial wrongdoings to be discovered internally. If the positions of board chairman and CEO are held by the same person, if the board has too many or too few directors, or if the board has too few independent directors, the board's governance function will be reduced. Similarly, if the CEO has too much power, which could be reflected by his/her compensation or tenure, he/she may influence the board's decision making. Therefore, we assume that:

Hypothesis 2: In firms with CEO-chairman duality, a higher level of CEO compensation, longer CEO tenure, or a higher proportion of independent directors on the board, the lower the probability that the CEO resigns on a timely basis if he/she is involved in financial wrongdoings.

Under the vicious-circle view, CEO resignations due to financial wrongdoings constitute abnormal management changes, which could cause large changes in the firm's managerial structure and personnel, or even interrupt the company's existing operations and strategies. Under the conditional view, the timeliness of a CEO's resignation is a reflection of differences in board structure and governance effectiveness and may cause different investors' reactions. Thus, differences in the timeliness of CEO resignations need to be taken into account when examining changes in the corporate performance. Therefore, we hypothesize that:

Hypothesis 3: Company performance declines after CEO resignations. In addition, we expect that corporate performance changes differ between companies with timely actions and companies with delayed actions.

4. Data

This thesis employs a sample of publicly traded U.S. companies in which CEOs resigned in connection with financial wrongdoings during the period from January 1996 to December 2007.

We classify CEO resignations based on timely vs. delayed board actions. Specifically, we distinguish between timely and delayed board actions by comparing the CEO resignation dates and the public dates when information about the CEO's financial wrongdoings was released to public by regulatory authorities such as the U.S. Securities and Exchange Commission (SEC), the Federal Bureau of Investigations (FBI), or the Internal Revenue Service (IRS). When a CEO resigns after his/her

financial wrongdoings have already been released to the public, we consider the resignation a delayed action; if the CEO resigns ahead of the public news release, it is considered a timely action.

Our initial sample consists of 112 publicly listed U.S. companies in which CEOs were accused of financial wrongdoings and resigned during our sample period. After excluding companies without public date information, our final sample comprises 95 companies in which CEOs resigned in connection with financial wrongdoings.

To exam whether and how investors react to the announcement of a CEO's resignation, we collect company identifiers from Wharton Research Data Services (WRDS) for our sample firms and then run an event study using Eventus.

In addition, we manually collect data on company characteristics as well as accounting-related data. Specifically, to investigate the influence of board and CEO characteristics on the firm's pre- and post- resignation performance, we collect information on CEO-chairman duality, compensation, board size, independent directors, the number of years of experience the CEO has within the firm and the new CEO's origin from Execucomp and SEC proxy statements. In terms of accounting-related data, we collect information on total assets, the market value of equity, the operating return on assets (OROA), and Tobin's Q from Compustat. Specifically, we retrieve data on total assets (Compustat item AT), the book value of equity (Compustat item CEQ), the market value of equity (Compustat item MKVALT) and operating income before depreciation (Compustat item OIBDP). The OROA is obtained by dividing operating income before depreciation by total assets

(OIBDP/AT).

To investigate the within-firm variation in performance, we follow Pérez-González (2006) and manually collect data and calculate the operating return on assets (OROA), and the market-to-book ratio (MTB) for a period from 3 years before the CEO's resignation to 3 years after the resignation from Compustat and CRSP. Specifically, we collect information on the firms' total assets (Compustat item AT), total liabilities (Compustat item LT), net income/loss (Compustat item NI), book value of equity (Compustat item CEQ), market value of equity (Compustat item MKVALT), operating income before depreciation (Compustat item OIBDP), and book value of deferred taxes (Compustat item TXDB). The MTB ratio is defined as the ratio of the sum of the book value of assets plus the market value of equity minus the sum of the book value of equity and deferred taxes to the book value of assets (((AT+MKVALT-(CEQ+TXDB))/AT).[1]

To control for different industry trends or mean-reversion from a firm's pre-transition performance (Barber and Lyon, 1996), we adjust our performance measures by using industry matched benchmarks. Specifically, we create industry controls by subtracting the median performance of all firms in the same industry from each company's performance measure. Industries are classified by using the Fama French industry classification system, which distinguishes between 48 industry sectors and can be found on Kenneth R. French's Data Library Website.[2]

[1] The MTB ratio is defined following Pérez-González (2006).
[2] http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/changes_ind.html

5. Methodology

5.1 Event Study

Event study methodology is applied to study the announcement effect of a CEO resignation on a company's stock returns. Event studies are typically used to conduct empirical analyses to explore the correlation between securities prices and a particular event, such as the announcement of a management change, stock repurchase, dividend payout, etc. Generally, there are three assumptions implied in an event study: the market is efficient, the event is not expected, and there are no other events in the event window. If the particular event is significant, the volatility of the company's stock price will differ from its normal performance when no such event occurs; thus abnormal returns will be generated. The main purpose of an event study is to capitalize statistical methods to test the status of abnormal returns to examine whether the event affects the company's share price and if so, what kind of influence it is. In our event study, we choose the date of the CEO's resignation as the announcement date. If the announcement date coincides with a non-trading day or with a holiday, we use the first subsequent trading date.

We conduct a short-term event study that examines a firm's daily abnormal returns and uses the market model to estimate the stock's expected return. The market model assumes a linear relationship between the stock return and the return on the market portfolio.

For each company i, the expected return R_{it} is given by:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

where $E[\varepsilon_{it}] = 0$, $Var[\varepsilon_{it}] = \sigma^2_{\varepsilon_i}$ and $\sigma^2_{\varepsilon_i} = (1 - R_i^2)Var[R_{it}]$

$R_{m,t}$ is the return on the market portfolio, usually a broad-based stock index is used as the market portfolio. α and β are estimated by performing an ordinary least squares regression of the data in the estimation window.

We calculate individual daily abnormal returns AR_{it} by subtracting the stock's expected return from the stock's actual return R_{actual}:

$$AR_{it} = R_{actual} - R_{it}$$

The sample portfolio average abnormal return for a certain day is the arithmetic mean of the daily abnormal returns for all sample stocks on that day:

$$AAR_t = \frac{\sum_{i=1}^{n} AR_{it}}{n}$$

The sample portfolio cumulative average abnormal return (*CAAR*) for time (-j,k) is:

$$CAAR_{(-j,k)} = \sum_{t=-j}^{k} AAR_t = \frac{1}{n}\sum_{i=1}^{n}\sum_{t=-j}^{t=k} AR_{it}$$

We also conduct a long-term event study by using both the buy-and-hold abnormal return (BHAR) approach and Jensen's alpha approach to investigate monthly abnormal returns. A firm's buy-and-hold return (BH) is the return that an investor earns by buying and holding a stock for a long period of time. The buy-and-hold abnormal return (BHAR) is the difference between the buy-and-hold

return of a sample firm and its expected buy-and-hold return usually based on a benchmark portfolio. For example, the market adjusted buy-and-hold abnormal return uses the market return as the benchmark. BHARs are calculated as follows:

$$\mathrm{BHAR_i} = \prod_{t=0}^{T}(1 + \mathrm{R_{it}}) - \prod_{t=0}^{T}[1 + \mathrm{E(R_{it})}]$$

where $\mathrm{R_{it}}$ is the buy-and-hold return for company stock i in month t; $\mathrm{E(R_{it})}$ is the expected buy-and-hold return for stock i or the buy-and-hold return of the benchmark portfolio in month t. By that analogy, the calculation of market-adjusted BHAR can be expressed as follows:

$$\mathrm{BHAR_i} = \prod_{t=0}^{T}(1 + \mathrm{R_{it}}) - \prod_{t=0}^{T}[1 + \mathrm{R_{mt}}]$$

where $\mathrm{R_{it}}$ is the buy-and-hold return for company i in month t and $\mathrm{R_{mt}}$ is the market buy-and-hold return in month t. The main difference between CARs and BHARs is that CARs do not take the compounding effect into account. Barber and Lyon (1997) advocate using BHARs to measure long-term abnormal returns because they better resemble investors' investment behaviors.

Finally, Jensen's alpha approach, also known as the calendar time approach, is expressed as:

$$\mathrm{R_{pt} - R_{ft} = a_p + b_p(R_{mt} - R_{ft}) + S_pSMB_{pt} + h_pHML_{pt} + m_pUMD_{pt} + e_{pt}}$$

where $\mathrm{R_{pt}}$ is the equally or value weighted return for calendar month t for the portfolio of event firms that experienced the event within the previous T months; $\mathrm{R_{ft}}$

is the risk-free rate; R_{mt} is the return on the CRSP value-weight market portfolio; SMB_{pt} is the difference between the return on the portfolio of small and large sized firms stocks; HML_{pt} is the difference between the return on the portfolio of high and low book-to-market stocks; UMD_{pt} is the difference between the return on the portfolio of winner and loser stocks during the previous 12 months; and a_p is the average monthly abnormal return, that is, the Jensen's alpha, on the portfolio of event firms over the T-month post-event period; b_p, S_p, h_p and m_p are sensitivities, that is betas, of the event portfolio to the four factors. It is often thought that Jensen's alpha approach is more likely to obtain results consistent with market efficiency as the returns are weighted equally by each period rather than by firm.

5.2 Logistic Regression

A logistic regression is applied to examine whether some factors potentially cause the boards to fire the CEO in a timely manner or not. Logistic regressions, also known as logit models, are one important method used for prediction. Because the dependent variable in our study is a dummy variable that identifies whether the CEO resignation is a timely or delayed action, thus the binary logistic regression model is used to analyze the relationship between the dependent binary variable and the independent variables. The logistic regression model is specified as follows:

$$\Pr(TIMELY) = \alpha_0 + \beta_1 DUAL + \beta_2 LOGCOMP + \beta_3 WITHFIRM + \beta_4 BDSIZE + \beta_5 INDEPROP + \beta_6 SIZE_{t=-1} + \beta_7 MVEQUITY_{t=-1} + \beta_8 OROA_{t=-1} + \varepsilon$$

where *TIMELY* is a dummy variable which equals one when the CEO resignation is a timely action and zero when it is a delayed action. As explained in the literature review above, we include *DUAL*, *LOGCOMP*, *WITHFIRM*, *BDSIZE*, and *INDEPROP* in the logistic regression as the independent variables, $SIZE_{t=-1}$, $MVEQUITY_{t=-1}$ and $OROA_{t=-1}$ as the controlled variables. *DUAL* is a dummy variable that equals one when the positions of CEO and chair are held by the same person, i.e. duality exists, and zero otherwise. $LOGCOMP$ is the natural logarithm of the resigning CEO's compensation. *WITHFIRM* represents the experience (measured in number of years) the resigning CEO has with the firm. *BDSIZE* is the number of board members on the board. *INDEPROP* is the proportion of the number of independent directors on the board. $SIZE_{t=-1}$, $MVEQUITY_{t=-1}$ and $OROA_{t=-1}$ denote the natural logarithm of the firm's total assets, the market value of equity and the operating return on assets one year before the CEO's resignation.

5.3 Ordinary Least Squares Regression

An ordinary least squares (OLS) regression is applied to investigate whether certain corporate characteristics factors may drive the short-term abnormal returns. Our OLS regression model is specified as follows:

$$CAR_{(i,j)} = \alpha_0 + \beta_1 DELAYED + \beta_2 DUAL + \beta_3 DELAYED * DUAL + \beta_4 LOGCOMP + \beta_5 WITHFIRM + \beta_6 BDSIZE + \beta_7 INDEPROP + \varepsilon$$

where $CAR_{(i,j)}$ represents the cumulative abnormal returns during different short-term periods. *DELAYED* is a dummy variable which equals one when the CEO

resignation is delayed and zero when it is timely. *DUAL* is a dummy variable that equals one when the positions of CEO and chair are held by the same person, i.e. duality exists, and zero otherwise. Because the delayed resignation dummy and the CEO-chairman duality dummy could interact, we include an interaction term of these two variables in the OLS regression. *LOGCOMP*, *WITHFIRM*, *BDSIZE* and *INDEPROP* have similar interpretations as in the logistic regression.

5.4 Within-Firm Variation in Performance

This paper closely follows the methodology applied in Pérez-González (2006) to examine the within-firm variation in performance. Pérez-González (2006) notes that when concentrating on differences in within-firm performance, one does not need to control for time-invariant company characteristics that may jointly affect a company's prospects and its decision to appoint a new CEO. The performance measures we use include the operating return on assets (OROA), and the firm's market-to-book ratio (MTB). Also, comparable to Pérez-González (2006), we adjust our performance variables using industry-matched benchmarks to control for potential industry trends and mean-reversion.

6. Empirical Results

6.1 Sample Characteristics

Table 1 reports yearly sample frequencies based on the CEO's resignation year. Our statistics show that CEO resignations due to financial wrongdoings occurred more frequently towards the end of our sample period (i.e. after 2002) than at the

beginning. These observations may be explained as follows. With the outburst of the Enron scandal in December 2001 and the Worldcom scandal in June 2002, the US compliance and regulatory institutions have greatly increased the supervision towards publicly listed companies, and released the Sarbanes-Oxley Act in 2002. The responsibilities shouldered by company executives and public audits have been greatly strengthened and made much more explicit, therefore, it would be easier to reveal the CEOs involved with financial wrongdoings. Table 2 provides summary statistics based on the industry distribution of our sample firms. The table shows that business services is the sector with the highest frequency of CEO resignations due to financial wrongdoings from 1996 to 2007. One possible reason could be that the business services sector is made up of companies that primarily earn revenue through providing intangible products and services, which could leave more room for managerial discretion and manipulation. Therefore, it is no surprise that the business services sector has the highest frequency of such CEO resignations.

Table 3 provides the summary statistics on the firm characteristics of our sample firms. Panel A focuses on information before CEO resignations, while Panel B provides information after CEO resignations. We observe that the means of CEO-chairman duality between timely subsample and delayed subsample before CEO resignation are different at the 0.01 significant level; but the difference of means between timely and delayed after CEO resignation is not significant any more. Also, the means of CEO-chairman duality, for both whole sample and delayed resignation sample, between before CEO resignation and after CEO resignation are different at

the 0.01 significant level. Therefore, we could say that after CEOs resign for financial wrongdoings, companies, especially those with delayed actions, reduce significantly CEO-chairman duality. Also, in both the timely and delayed subsamples, after a CEO resigns, the company reduces CEO compensation, and the gap between companies with timely or delayed actions has been greatly bridged confirmed by the change in significance level for difference. In 39 percent of all sample companies, new CEOs are promoted from within; for timely companies, the percentage is 50 and for delayed companies, the percentage is 35. This implies that CEOs resign for financial wrongdoings, companies undertake more outside appointments than inside appointments, especially so in the companies with delayed resignations. The board size and proportion of independent director characteristics before turnovers are quite similar to those afterwards. Finally, we observe that CEOs who resigned in a delayed manner tend to have worked for the firm longer than CEOs who resigned in a timely manner.

6.2 Short-term Event Study

This paper uses both the CRSP equally weighted market index and the S&P 500 index as a benchmark when calculating abnormal returns for the short term event study. Daily abnormal returns are calculated for a period of 61 days during the event window and are aggregated into cumulative average abnormal returns to test the cumulative effects of resignation announcements. Table 4 shows that in both the whole sample as well as the timely and delayed sub samples, the average abnormal returns around the announcement of a CEO resignation (CAAR (0, 0), (-1, 1), (-1, 3)

and (-3, 3)) are all significantly negative. Figure 1 to 4 clearly show that stock prices experience a sharp decline following the announcement of both timely and delayed CEO resignations. Not surprisingly, this implies that stock market investors react adversely towards CEO resignations. Furthermore, in all short-term event periods, the abnormal return is more negative for delayed than for timely resignations. Even though the mean differences for the periods (0, 0), (-1, 3) and (-3, 3) are not statistically significant, they are economically significant in all periods. In addition, they are statistically significant during the period (-3, 3). Using a 90% and 80% Winsorization to limit the presence of extreme values, the significance of the mean differences between timely and delayed resignations increases and becomes statistically significant during the periods (-1, 3) and (-3, 3). When performing a Wilcoxon test between timely and delayed resignations, the median differences are significant for the periods (0, 0), (-1, 3) and (-3, 3). This may imply that the announcement of a delayed CEO resignation leads to a stronger negative market reaction than a timely one. In addition, the graph implies that delayed CEO resignations lead to a longer lasting negative stock market reaction.

When a CEO resigns in a timely fashion, investors will learn for the first time that the CEO has done something wrong. This may raise shareholders' concerns that their own interests may have been violated, thereby causing damage to the stockholders' confidence in the company. Therefore, it is reasonable to assume that investors regard CEO resignations, even if they are timely, as a negative market signal. For delayed CEO resignations, although shareholders already know that the CEO has

engaged in financial wrongdoings through public announcements; the firm admitted the misbehavior only passively. Because the misbehavior had to be disclosed by the authorities, investors are likely to be concerned about the company's ineffective corporate governance and supervision mechanisms. Therefore, it is natural that the investors react adversely to the announcement of delayed CEO resignations.

In summary, the shareholders react negatively to the CEO resignations because of both the misbehavior of the former CEO and associated risk of legal claims and the future operational uncertainty for the firm. In addition, for delayed resignations, shareholders are also likely to be concerned about the company's ineffective corporate governance and monitoring functions. Investors may worry that there could be additional problems in the firm that have not yet been revealed because the monitoring is so poor. This could be the reason for larger and longer lasting negative market reaction in response to delayed CEO resignations.

6.3 Long-term Event Study

To test the long-term stock price reaction to the announcement of a CEO resignation, this paper employs a buy-and-hold abnormal return approach. Our results in Table 5 show that the negative abnormal returns for the whole sample have become less significant gradually over time. Even though the mean differences in cumulative abnormal returns between timely and delayed companies are not statistically significant; yet the median differences are statistically significant, and it is clear that for timely CEO resignations, the negative market reaction becomes insignificant about

one month after the announcement, while it is significant for delayed CEO resignations even two years after the announcement.

We also use the Jensen's alpha approach which provides results that are similar to the BHAR approach. Our results in Table 6 suggest that for timely CEO resignations, the abnormal returns become insignificant after about 6 months following the announcement, whereas they are significant for delayed CEO resignations well beyond that date.

This may be because, even though timely CEO resignations have a negative impact on investor confidence, the company's active investigations and disclosures somewhat save its corporate image. For delayed CEO resignations, besides the CEO's misbehavior, the investors probably also question the company's corporate governance and monitoring mechanisms, which may damage the corporate image and shareholders' confidence.

6.4 Logistic Regression of Factors on the Timeliness of CEO Resignations

Before running a regression, it is necessary to establish a Pearson correlation matrix to rule out any potential multicollinearity problems among our independent variables. Table 7 displays the pairwise correlations between our variables. As can be seen from the matrix, all correlation coefficients are within an acceptable range. Next, we estimate the logistic regression described in our methodology section, as well as other logistic regressions in which we use subsets of the variables. Our logistic regression results in Table 8 show that for certain regressions, the CEO-chairman

duality is significantly negatively related to the timeliness of CEO resignations. This suggests that companies in which the positions of CEO and board chairman are held by the same person, it is more likely that the CEO resignation due to financial wrongdoings is delayed.

6.5 OLS Regression of Factors Driving Short-term Abnormal Returns

Based on the pairwise correlation matrix in Table 9, there should be no multicollinearity problem with the variables in the OLS regression. Our OLS regression results in Table 10 show no significant relationship between our regressor factors and different short-term cumulative abnormal returns. One possible reason could be that because we are lacking sufficient data for some variables, the sample size for our OLS regression is quite small; a larger sample size in further research may resolve this issue.

6.6 Within-Firm Variation in Performance

Figures 7 to 10 depict trends in the median unadjusted and industry-adjusted operating return on assets for our sample companies. The graphs show that both after timely and delayed resignations operating performance drops in the year after the CEO resignation, and recovers gradually afterwards. Yet, even three years after CEO resignations company performance, in general, does not fully recover and remains below the performance level three years before the CEO resignation. Furthermore it appears that companies with delayed resignations outperform companies with timely resignations. To further investigate here, Table 11 depicts the prior performance of

timely versus delayed companies from three years before to one year before CEO resignations. It is confirmed that for nearly all of the time, the delayed companies outperform before the CEO resignations. Therefore, for delayed companies, it is possible those boards may be hesitant to fire the misbehaved CEOs just because of their good performance.

Table 12 presents the mean differences in company performance during a period of three years before and after CEO transitions. Our results suggest that our sample companies suffer a performance decline after CEO resignations. Specifically, the companies undergo an average decline in their industry-adjusted market-to-book ratio of 62.37 percent during a three-year period following the announcement, which is significant at the five percent level. For companies with timely action, we observe no significance decline. However for companies with delayed resignations, we observe a 65.95 percent decline in the industry-adjusted market-to-book ratio over the three-year post-transition, which is significant at the five percent level. This suggests that, in general, resignations of CEOs who are accused of financial wrongdoings exert a negative influence on company performance, and that the adverse impact is more pronounced for the delayed CEO resignations.

7. Conclusions and Discussion

This paper aims to examine changes in company performance around CEO resignations in connection with financial wrongdoings and differentiates between two types of CEO resignations, i.e. timely and delayed actions, to test whether the

performance changes differ between these two actions. To examine the market reaction to CEO resignations, we conduct both short-term and long-term event studies. In addition, we run a logistic regression to examine whether certain company characteristics influence the timeliness of resignations and an ordinary least squares regression to investigate whether certain factors may drive the short-term cumulative abnormal returns. Following Pérez-González (2006), we employ performance measures to analyze the within-firm variation in performance during a period from three years before to three years after the CEO resignation year.

Through summary statistics, we find that CEO-chairman duality significantly reduces after CEO resignations, and such a decline is also significant for the delayed resignations. We also find evidence that suggests that after CEOs involved with financial wrongdoing resign, their companies tend to make outside appointments rather than inside appointments, especially for companies with delayed actions.

When we examine companies' stock performance around CEO resignations, we find that the market reacts significantly adversely to the resignation announcements. Compared with timely resignations, the abnormal returns are more negative for delayed resignations. In addition, when examining cumulative abnormal returns, we find that delayed CEO resignations cause a longer lasting negative stock price reaction. Our findings show that investors regard resignations of CEOs with financial wrongdoings as a negative event, because they may be worried about the companies' operational decision making process and may be concerned that their interests have been violated by the departing CEO. For delayed CEO resignations, stockholders are

also likely concerned about the companies' ineffective corporate governance and supervision mechanism, making the negative reaction more serious.

When we compare the prior performance of timely versus delayed companies and graph the time series patterns in the operating performance for our sample firms, we find that delayed companies generally outperform the timely ones, which may imply that the delayed companies are reluctant to oust the misbehaved CEOs just because of their good performance. But all of our sample companies' performance deteriorates in the year of the CEO resignation and gradually recovers afterwards; yet even three years after a CEO resignation, the performance does not recover to its pre-resignation level.

Moreover, when we examine changes in the within-firm performance around CEO resignations, we again find that resignations of CEOs with financial wrongdoings have an adverse impact on company performance. In contrast to companies with timely resignations, companies with delayed resignations suffer a significant drop in their market-to-book ratio performance.

In summary, both our time-series pattern and within-firm performance analyses support the results of our short-term and long-term event study.

Such results may provide some enlightenment on the real-world company management. Because delayed resignations have a more pronounced negative effect on the companies than the timely resignations, companies should take the initiative to strengthen their corporate governance for timely actions. If CEOs are found to have

engaged in financial wrongdoings that jeopardize the company or infringe on shareholder interests, the company should take timely actions to oust the CEO, thereby alleviating the extent of the damage as much as possible.

Because the disclosure system of listed companies is not perfect and some relevant variables are not available, our sample size remains a limitation of our study. Using a larger sample size in future research should help solidify our findings. Also, there may be less than 30 days between the date of an SEC action and the date of the CEO resignation. In that case, the SEC action may exert influence on the stock market which may affect the event study results. Moreover, because we employ accounting performance variables as indicators, the issue of comparability may be a concern for our empirical analysis. Even though listed U.S. companies need to adhere to Generally Accepted Accounting Principles (GAAP) to prepare their annual reports, managers have flexibility with respect to some discretional accounting policies, which will somewhat reduce the comparability of company performance related indicators. Finally, in order to solidify the enlightenment on company corporate governance, whether our findings for timely and delayed resignations also apply to CEO resignations that are caused by reasons other than financial wrongdoings, or apply to other key managerial executives' resignations, it is worthwhile to be investigated as a further research.

Appendix

Table 1: Sample overview by CEO resignation year

This table reports sample frequencies by CEO resignation year. The sample consists of 95 firms announcing resignations of CEOs involved in financial wrongdoings between January 1996 and December 2007.

Year	Number of Firms	% of Sample
1996	2	2.11%
1997	5	5.26%
1998	6	6.32%
1999	3	3.16%
2000	7	7.37%
2001	3	3.16%
2002	15	15.79%
2003	11	11.58%
2004	4	4.21%
2005	17	17.89%
2006	17	17.89%
2007	5	5.26%

Table 2: Sample overview by industry

This table provides an industry distribution for our sample firms. Industries are based on the Fama French 48 industry classification system.

Industry No.	Industry	Number of Firms	% of Sample
2	Food Products	2	2.11%
10	Apparel	1	1.05%
11	Healthcare	4	4.21%
12	Medical Equipment	2	2.11%
13	Pharmaceutical Products	4	4.21%
17	Construction Materials	2	2.11%
18	Construction	1	1.05%
21	Machinery	2	2.11%
22	Electrical Equipment	2	2.11%
23	Automobiles and Trucks	1	1.05%
30	Petroleum and Natural Gas	3	3.16%
31	Utilities	1	1.05%
32	Communication	5	5.26%
33	Personal Services	1	1.05%
34	Business Services	22	23.16%
35	Computers	7	7.37%
36	Electronic Equipment	5	5.26%
40	Transportation	2	2.11%
41	Wholesale	8	8.42%
42	Retail	4	4.21%
43	Restaurants, Hotels, Motels	2	2.11%
44	Banking	5	5.26%
45	Insurance	6	6.32%
46	Real Estate	1	1.05%
47	Trading	2	2.11%

Table 3: Summary statistics of firm characteristics

This table reports the firm characteristics before and after CEO resignations for our sample firms. The CEO-Chairman dummy is equal to one if the CEO also acts as the chairman of the board. Origin is equal to one if the new CEO is promoted from within.

Panel A: Firm Characteristics before CEO Resignation

	All			Timely			Delayed			Difference of Means (2) - (1)
	Mean	Minimum	Maximum	Mean (1)	Minimum	Maximum	Mean (2)	Minimum	Maximum	
CEO-Chairman	0.74 [1]	0.00	1.00	0.47	0.00	1.00	0.82 [2]	0.00	1.00	0.35 ***
Compensation (in US$ thousands)	10,687.96	109.73	95,300.00	4,041.50	109.73	21,100.00	13,104.85	153.34	95,300.00	9,063.35 **
Age (in years)	54.15	30.00	80.00	53.00	41.00	71.00	54.54	30.00	80.00	1.54
Years working with firm (in years)	17.34	2.75	45.21	15.37	3.08	38.00	18.00	2.75	45.21	2.63
Years working as CEO (in years)	11.53	1.41	38.21	11.50	2.00	27.00	11.54	1.41	38.21	0.04
Board Size	8.29	5.00	15.00	7.76	5.00	11.00	8.50	5.00	15.00	0.74
Independent Directors Proportion	0.81	0.36	1.00	0.78	0.36	1.00	0.82	0.55	1.00	0.04
CEO Ownership (%)	6.89	1.00	30.55	5.95	1.00	17.00	7.30	1.10	30.55	1.35
Insider Ownership (%)	12.51	1.10	75.10	17.84	2.10	75.10	10.19	1.10	43.80	-7.65
Institutional Ownership (%)	35.67	5.10	99.10	40.01	12.70	73.50	33.85	5.10	99.10	-6.16

Panel B: Firm Characteristics after CEO Resignation

	All			Timely			Delayed			Difference of Means (4) - (3)
	Mean	Minimum	Maximum	Mean (3)	Minimum	Maximum	Mean (4)	Minimum	Maximum	
Origin	0.39	0.00	1.00	0.50	0.00	1.00	0.35	0.00	1.00	-0.15
CEO-Chairman	0.28 [3]	0.00	1.00	0.28	0.00	1.00	0.28 [4]	0.00	1.00	0.01
Compensation (in US$ thousands)	5,494.47	23.27	81,300.00	2,755.42	277.26	19,000.00	6,490.49	23.27	81,300.00	3,735.07
Age (in years)	53.05	35.00	70.00	52.13	39.00	70.00	53.35	35.00	69.00	1.23
Board Size	8.69	5.00	15.00	8.19	6.00	12.00	8.87	5.00	15.00	0.68
Independent Directors Proportion	0.81	0.57	1.00	0.79	0.63	0.91	0.82	0.57	1.00	0.03
Insider Ownership (%)	11.06	0.25	67.10	15.71	2.22	67.10	9.20	0.25	50.28	-6.51
Institutional Ownership (%)	36.41	5.10	90.06	37.72	12.20	79.54	35.92	5.10	90.06	-1.81

Note: Means 1 versus 3, 2 versus 4 are different at the 0.01 significance level.

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Table 4: Cumulative average abnormal returns (CAARs)

This table reports cumulative average abnormal returns (CAARs) based on a market model, using either equally weighted market index returns or S&P 500 index returns as the benchmark. The abnormal return (AR) for stock i on date t is calculated as $AR_{it} = R_{actual} - R_{it}$. The average abnormal return (AAR) for sample firms on date t is calculated as: $AAR_t = \frac{\sum_{i=1}^{n} AR_{it}}{n}$. The sample firms' CAAR for time (-j,k) is calculated as $CAAR_{(-j,k)} = \sum_{t=-j}^{k} AAR_t = \frac{1}{n}\sum_{i=1}^{n}\sum_{t=-j}^{t=k} AR_{it}$.

		Market Model, Equally Weighted Index		Market Model, S&P 500 Index	
Days	Comparison	CAAR	Patell Z	CAAR	Patell Z
(0, 0)	All	-7.82%	-22.042***	-7.94%	-22.112***
	Timely (1)	-5.99%	-12.263***	-6.10%	-12.098***
	Delayed (2)	-8.38%	-18.407***	-8.50%	-18.579***
	Tests between (1) and (2)	P-value (two-tail)	P-value (one-tail)	P-value (two-tail)	P-value (one-tail)
	Original Mean Test	0.5018	0.2509	0.4755	0.2378
	90% Winsorize Mean Test	0.3438	0.1719	0.3485	0.1743
	80% Winsorize Mean Test	0.3517	0.1759	0.3504	0.1752
	Median Test (Wilcoxon test)	Significance: 0.039**		Significance: 0.039**	
Days	Comparison	CAAR	Patell Z	CAAR	Patell Z
(-1, +1)	All	-8.93%	-14.404***	-9.03%	-14.155***
	Timely (3)	-5.42%	-5.927***	-5.49%	-5.711***
	Delayed (4)	-9.97%	-13.179***	-10.08%	-13.013***
	Tests between (3) and (4)	P-value (two-tail)	P-value (one-tail)	P-value (two-tail)	P-value (one-tail)
	Original Mean Test	0.2616	0.1308	0.2675	0.1338
	90% Winsorize Mean Test	0.3504	0.1752	0.2911	0.1456
	80% Winsorize Mean Test	0.3473	0.1737	0.3282	0.1641
	Median Test (Wilcoxon test)	Significance: 0.171		Significance: 0.099*	
Days	Comparison	CAAR	Patell Z	CAAR	Patell Z
(-1, +3)	All	-8.50%	-9.967***	-8.68%	-9.865***
	Timely (5)	-4.82%	-2.962***	-5.14%	-3.099***
	Delayed (6)	-9.60%	-9.747***	-9.73%	-9.555***
	Tests between (5) and (6)	P-value (two-tail)	P-value (one-tail)	P-value (two-tail)	P-value (one-tail)
	Original Mean Test	0.2825	0.1412	0.2931	0.1465
	90% Winsorize Mean Test	0.2189	0.1094	0.1980	0.0990*
	80% Winsorize Mean Test	0.0626*	0.0313**	0.1481	0.0740*
	Median Test (Wilcoxon test)	Significance: 0.036**		Significance: 0.030**	
Days	Comparison	CAAR	Patell Z	CAAR	Patell Z
(-3, +3)	All	-10.48%	-10.168***	-10.75%	-10.209***
	Timely (7)	-5.38%	-2.735***	-5.65%	-2.863***
	Delayed (8)	-12.00%	-10.097***	-12.26%	-10.074***
	Tests between (7) and (8)	P-value (two-tail)	P-value (one-tail)	P-value (two-tail)	P-value (one-tail)
	Original Mean Test	0.1247	0.0623*	0.1295	0.0648*
	90% Winsorize Mean Test	0.1219	0.0610*	0.1054	0.0527*
	80% Winsorize Mean Test	0.0369**	0.0185**	0.0999*	0.0499**
	Median Test (Wilcoxon test)	Significance: 0.022**		Significance: 0.024**	

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Table 5: Mean compound buy-and-hold abnormal returns (BHARs)
This table reports the mean compound abnormal returns based on a long-term event study that employs buy-and-hold abnormal returns (BHARs). We employ a Fama-French Time-Series Model with equally weighted market index returns as the benchmark. BHARs are calculated as $\mathrm{BHAR_i} = \prod_{t=0}^{T}(1 + \mathrm{R_{it}}) - \prod_{t=0}^{T}[1 + \mathrm{E(R_{it})}]$, where $\mathrm{R_{it}}$ is the buy-and-hold return for stock i in month t; $\mathrm{E(R_{it})}$ is the expected buy-and-hold return for stock i or the buy-and-hold return of benchmark portfolio in month t.

Fama-French Time-Series Model, Equally Weighted Index			
Months	Comparison	Mean Compound Abnormal Return	CSectErr t
(0, +1)	All	-18.01%	-4.880***
	Timely (1)	-6.81%	-1.054
	Delayed (2)	-21.04%	-4.898***
	Tests between (1) and (2)	P-value (two-tail)	P-value (one-tail)
	Original Mean Test	0.1156	0.0578*
	90% Winsorize Mean Test	0.0195**	0.0097***
	80% Winsorize Mean Test	0.0054***	0.0027***
	Median Test (Wilcoxon test)	Significance: 0.039**	
Months	Comparison	Mean Compound Abnormal Return	CSectErr t
(0, +3)	All	-21.90%	-4.803***
	Timely (3)	-14.46%	-1.610*
	Delayed (4)	-23.99%	-4.550***
	Tests between (3) and (4)	P-value (two-tail)	P-value (one-tail)
	Original Mean Test	0.3901	0.1951
	90% Winsorize Mean Test	0.4103	0.2051
	80% Winsorize Mean Test	0.0740*	0.0370**
	Median Test (Wilcoxon test)	Significance: 0.012**	
Months	Comparison	Mean Compound Abnormal Return	CSectErr t
(0, +6)	All	-29.58%	-4.589***
	Timely (5)	-16.85%	-1.163
	Delayed (6)	-33.16%	-4.617***
	Tests between (5) and (6)	P-value (two-tail)	P-value (one-tail)
	Original Mean Test	0.2977	0.1489
	90% Winsorize Mean Test	0.3787	0.1893
	80% Winsorize Mean Test	0.1980	0.0990*
	Median Test (Wilcoxon test)	Significance: 0.003***	
Months	Comparison	Mean Compound Abnormal Return	CSectErr t
(0, +12)	All	-41.25%	-3.099***
	Timely (7)	-22.77%	-1.256
	Delayed (8)	-46.45%	-2.853**
	Tests between (7) and (8)	P-value (two-tail)	P-value (one-tail)
	Original Mean Test	0.3360	0.1680
	90% Winsorize Mean Test	0.3082	0.1541
	80% Winsorize Mean Test	0.2820	0.1410
	Median Test (Wilcoxon test)	Significance: 0.071**	

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 6: Abnormal returns by Jensen's alpha approach

This table reports the abnormal return based on a long-term event study that uses Jensen's alpha approach. The Jensen's alpha approach is expressed by: $R_{pt} - R_{ft} = a_p + b_p(R_{mt} - R_{ft}) + S_p SMB_{pt} + h_p HML_{pt} + m_p UMD_{pt} + e_{pt}$, where R_{pt} is the equally or value weighted return for month t for the sample firms within the previous T months; R_{ft} is the risk-free rate; R_{mt} is the return on the CRSP value-weighted market portfolio; SMB_{pt} is the difference between the return on the portfolio of small and large cap stocks; HML_{pt} is the difference between the return on the portfolio of high and low book-to-market stocks; UMD_{pt} is the difference between the return on the portfolio of previous 12-month return winners and losers stocks; a_p is the average monthly abnormal return of the sample firms over the T-month post-event period; b_p, S_p, h_p and m_p are sensitivities of the event portfolio to the four factors.

Fama-French Calendar-Time Portfolio Regression, Equally Weighted Index			
		Intercept (Abnormal Return)	OLS t
(0, +1)	All	-0.1082	-4.14***
	Timely	-0.0723	-2.09**
	Delayed	-0.1059	-3.77***
(0, +3)	All	-0.0729	-3.37***
	Timely	-0.0417	-1.56*
	Delayed	-0.0623	-2.56***
(0, +6)	All	-0.0575	-3.01***
	Timely	-0.0119	-0.43
	Delayed	-0.0558	-2.79***
(0, +12)	All	-0.0215	-0.96
	Timely	0.0711	1.13
	Delayed	-0.0419	-2.56***
(0, +24)	All	-0.0053	-0.32
	Timely	0.0219	0.49
	Delayed	-0.016	-1.64*

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 7: Pairwise correlations between the variables used in our logistic regression

This table displays the pairwise correlation coefficients between our variables. The variables include a dummy variable that equals one if the CEO also acts as chairman of the board (DUAL), the natural logarithm of CEO compensation (LOGCOMP), the number of years the CEO has been working within the company (WITHFIRM), the number of directors sitting on the board (BDSIZE), the proportion of independent directors on the board (INDEPROP), the natural logarithm of total assets one year before the CEO's resignation (SIZE), the market value of equity one year before the CEO's resignation (MVEQUITY), and the operating return on assets one year before the CEO's resignation (OROA).

	DUAL	LOGCOMP	WITHFIRM	BDSIZE	INDEPROP	$SIZE_{t=-1}$	$MVEQUITY_{t=-1}$	$OROA_{t=-1}$
DUAL	1.0000							
LOGCOMP	0.2984*	1.0000						
WITHFIRM	0.3768*	0.1289	1.0000					
BDSIZE	0.1113	0.2006	0.3543*	1.0000				
INDEPROP	0.1312	0.2230	0.1708	0.1596	1.0000			
$SIZE_{t=-1}$	0.3381*	0.5912*	0.4244*	0.5876*	0.3253*	1.0000		
$MVEQUITY_{t=-1}$	0.1721	0.4206*	0.0766	0.3068*	0.1965	0.5817*	1.0000	
$OROA_{t=-1}$	0.2698*	0.1251	0.2747*	0.2787*	0.1252	0.3350*	0.1324	1.0000

Table 8: Logistic regression analysis of factors that may affect resignation timeliness

The table reports the results of a logistic regression analysis in which we explore the factors that affect the timeliness of CEO resignations. The dependent variable (TIMELY) is a dummy variable that equals one when the CEO resignation is a timely action and zero when it is a delayed action. The independent variables include a dummy variable that equals one if the CEO also acts as chairman of the board (DUAL), the natural logarithm of CEO compensation (LOGCOMP), the number of years the CEO has been working within the company (WITHFIRM), the number of directors sitting on the board (BDSIZE), the proportion of independent directors on the board (INDEPROP), the natural logarithm of total assets one year before the CEO's resignation (SIZE), the market value of equity one year before the CEO's resignation (MVEQUITY), and the operating return on assets one year before the CEO's resignation (OROA).

Logit Models	Obs	DUAL	LOGCOMP	BDSIZE	INDEPROP	WITHFIRM	$SIZE_{t=-1}$	$MVEQUITY_{t=-1}$	$OROA_{t=-1}$	Intercept	McFadden R-squared	P-value (LR statistic)
(1)	68	-1.6582								0.0000		
		(0.0065) ***								(1.0000)	0.0988	0.0060
(2)	60		-0.4205							1.6367		
			(0.3119)							(0.5311)	0.0154	0.2998
(3)	59			-0.1682						0.4601		
				(0.2522)						(0.7019)	0.0203	0.2305
(4)	59				-2.3099					0.9418		
					(0.3114)					(0.6076)	0.0144	0.3132
(5)	56					-0.0279				-0.6348		
						(0.4042)				(0.3031)	0.0118	0.3878
(6)	48	-1.6596	0.1682	-0.0844	-3.0209	0.0053				2.0894		
		(0.0339) **	(0.7395)	(0.6220)	(0.2789)	(0.8924)				(0.5508)	0.1281	0.1909
(7)	51	-1.6413	0.8458				-0.5874	-0.0002	1.3156	-3.2530		
		(0.0499) **	(0.2455)				(0.4849)	(0.4740)	(0.5789)	(0.4284)	0.1483	0.1135
(8)	47	-1.6204	1.1449	0.0721	-2.7351		-0.6426	-0.0002	1.7128	-3.2072		
		(0.0654) *	(0.1594)	(0.7052)	(0.3579)		(0.4649)	(0.3982)	(0.4853)	(0.4833)	0.1657	0.2197
(9)	44	-1.6704	1.2090			0.0236	-1.6629	-0.0001	1.2923	-3.2105		
		(0.0888) *	(0.1384)			(0.6244)	(0.1946)	(0.8133)	(0.5981)	(0.5112)	0.1842	0.1474
(10)	40	-1.7120	1.7522	0.0659	-3.5142	0.0294	-1.7597	-0.0002	1.6546	-3.9109		
		(0.1071)	(0.0772)	(0.7466)	(0.2947)	(0.5567)	(0.1980)	(0.6276)	(0.5131)	(0.4589)	0.2216	0.2116

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 9: Pairwise correlations between the variables used in our OLS regression

This table displays the pairwise correlation coefficients between our variables. The variables include a dummy variable that equals one if the CEO resignation is a delayed action (DELAYED), a dummy variable that equals one if the CEO also acts as chairman of the board (DUAL), the natural logarithm of CEO compensation (LOGCOMP), the number of years the CEO has been working within the company (WITHFIRM), the number of directors sitting on the board (BDSIZE), and the proportion of independent directors on the board (INDEPROP).

	DELAYED	DUALITY	LOGCOMP	BDSIZE	INDEPROP	WITHFIRM
DELAYED	1.0000					
DUALITY	0.3464*	1.0000				
LOGCOMP	0.1317	0.3076*	1.0000			
BDSIZE	0.1512	0.1228	0.2082	1.0000		
INDEPROP	0.1339	0.1628	0.2060	0.1246	1.0000	
WITHFIRM	0.1125	0.2946*	0.0766	0.3476*	0.1496	1.0000

Table 10: OLS regression analysis of factors that may affect short-term CARs

The table reports the results of an ordinary least squares regression analysis in which we explore which factors may drive the short-term cumulative abnormal returns around CEO resignations. The dependent variable ($CAR_{(i,j)}$) represents the cumulative abnormal returns during different short-term periods. The independent variables include a dummy variable that equals one when the CEO resignation is a delayed action (DELAYED), a dummy variable that equals one if the CEO also acts as chairman of the board (DUAL), the interaction term of DELAYED dummy and DUAL dummy (DELAYED*DUAL), the natural logarithm of CEO compensation (LOGCOMP), the number of years the CEO has been working within the company (WITHFIRM), the number of directors sitting on the board (BDSIZE), and the proportion of independent directors on the board (INDEPROP).

$CAR_{(i,j)}$	$CAR_{(0,0)}$ - Equally	$CAR_{(-1,1)}$ - Equally	$CAR_{(-1,3)}$ - Equally	$CAR_{(-3,3)}$ - Equally	$CAR_{(0,0)}$ - S&P500	$CAR_{(-1,1)}$ - S&P500	$CAR_{(-1,3)}$ - S&P500	$CAR_{(-3,3)}$ - S&P500
Obs	46	46	46	46	45	45	45	45
DELAYED	-0.0636	0.0316	-0.0038	-0.0002	-0.0650	0.0372	0.0111	0.0261
DUAL	-0.0528	-0.0293	-0.0261	-0.0001	-0.0530	-0.0208	-0.0077	0.0310
DELAYED*DUAL	0.0431	-0.0662	-0.0403	-0.0584	0.0405	-0.0791	-0.0606	-0.0977
LOGCOMP	0.0426	0.0950	0.0702	0.0721	0.0479	0.1014	0.0767	0.0802
BDSIZE	0.0097	0.0156	0.0216	0.0227	0.0074	0.0151	0.0220	0.0242
INDEPROP	-0.0530	-0.2384	-0.2761	-0.2997	-0.0304	-0.2316	-0.2832	-0.3408
WITHFIRM	0.0021	0.0035	0.0020	0.0019	0.0023	0.0035	0.0019	0.0019
Intercept	-0.3444	-0.6156	-0.4449	-0.4641	-0.3815	-0.6618	-0.4950	-0.5127
R-squared	0.1134	0.2165	0.1655	0.1619	0.1230	0.2262	0.1712	0.1777
P-value	0.6765	0.1968	0.3969	0.4144	0.6387	0.1827	0.3885	0.3589

Table 11: Performance prior to timely vs. delayed CEO resignations

The table reports the prior performance of timely versus delayed companies from three years to one year before CEO resignations.

Panel A: Average OROA	Timely	Delayed	
-3	0.0151290	0.0398802	delayed companies outperform
-2	-0.0065222	0.0941300	delayed companies outperform
-1	0.0022172	0.0650287	delayed companies outperform
(-3,-1)	0.0034127	0.0667940	delayed companies outperform
Panel B: Average adjusted OROA	Timely	Delayed	
-3	-0.0298053	-0.0074439	delayed companies outperform
-2	-0.0571197	0.0513184	delayed companies outperform
-1	-0.0412287	0.0267815	delayed companies outperform
(-3,-1)	-0.0429367	0.0239415	delayed companies outperform
Panel C: Average adjusted MTB	Timely	Delayed	
-3	0.2768495	0.5659449	delayed companies outperform
-2	0.3672847	1.8450470	delayed companies outperform
-1	0.6447037	0.6065748	timely companies outperform
(-3,-1)	0.4446699	1.0292967	delayed companies outperform

Table 12: Differential performance around CEO transitions

The table reports the differential performance within firms for up to three years before and after CEO resignations. Operating return on assets (OROA) is calculated as operating income before depreciation divided by total assets. Market to book ratio (MTB) is defined as the ratio of the sum of the book value of assets plus the market value of equity minus the sum of the book value of equity and deferred taxes to the book value of assets. Industry-adjusted OROA or MTB is adjusted by subtracting the company's unadjusted OROA or MTB by the median OROA or MTB of all firms in the same industry classified using the Fama-French 48 industry system. T-statistics are reported in parentheses.

	All	Timely	Delayed	Difference		All	Timely	Delayed	Difference
	(1)	(2)	(3)	(3) - (2)		(1)	(2)	(3)	(3) - (2)
A: Operating return on assets (OROA)									
(3-year average after) -	-0.0330	-0.0557	-0.0248	0.0309	(2-year average after) -	-0.0349	-0.0598	-0.0258	0.0340
(3-year average before)	(0.2829)	(0.5390)	(0.2952)	(0.5555)	(2-year average before)	(0.2936)	(0.5405)	(0.3307)	(0.5348)
B: Industry adjusted OROA									
(3-year average after) -	-0.0297	-0.0456	-0.0237	0.0219	(2-year average after) -	-0.0307	-0.0491	-0.0239	0.0253
(3-year average before)	(0.3526)	(0.6205)	(0.3458)	(0.6656)	(2-year average before)	(0.3746)	(0.6249)	(0.3913)	(0.6353)
C: Industry adjusted MTB									
(3-year average after) -	-0.6237	-0.5278	-0.6595	-0.1317	(2-year average after) -	-0.5813	-0.3556	-0.6654	-0.3099
(3-year average before)	(0.0080)***	(0.3020)	(0.0126)**	(0.7607)	(2-year average before)	(0.0183)**	(0.5088)	(0.0161)**	(0.4899)

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Figure 1: Cumulative average abnormal returns (CAARs) by market model, using equally weighted market index returns as a benchmark

This figure shows the CAAR for the period from 30 days before though 30 days after the announcement of CEO resignations. The abnormal return (AR) for stock i on date t is calculated as $AR_{it} = R_{actual} - R_{it}$. The average abnormal return (AAR) for sample firms on date t is calculated as: $AAR_t = \frac{\sum_{i=1}^{n} AR_{it}}{n}$. The sample firms' CAAR for time (-j,k) is calculated as $CAAR_{(-j,k)} = \sum_{t=-j}^{k} AAR_t = \frac{1}{n}\sum_{i=1}^{n}\sum_{t=-j}^{t=k} AR_{it}$.

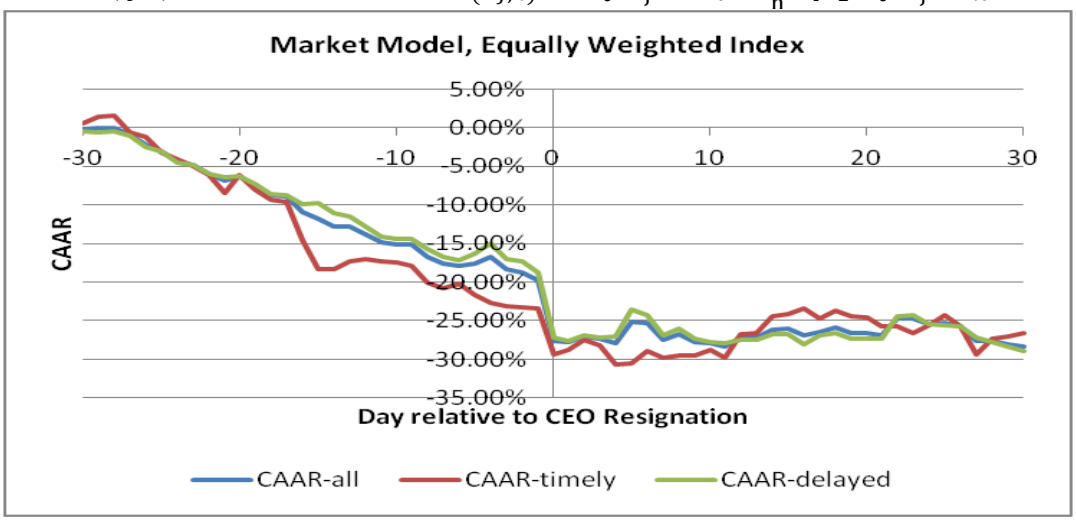


Figure 2: Cumulative average abnormal returns (CAARs) by market model, using S&P 500 index returns as a benchmark

This figure shows the CAAR for the period from 30 days before though 30 days after the announcement of CEO resignations. The abnormal return (AR) for stock i on date t is calculated as $AR_{it} = R_{actual} - R_{it}$. The average abnormal return (AAR) for sample firms on date t is calculated as: $AAR_t = \frac{\sum_{i=1}^{n} AR_{it}}{n}$. The sample firms' CAAR for time (-j,k) is calculated as $CAAR_{(-j,k)} = \sum_{t=-j}^{k} AAR_t = \frac{1}{n}\sum_{i=1}^{n}\sum_{t=-j}^{t=k} AR_{it}$.

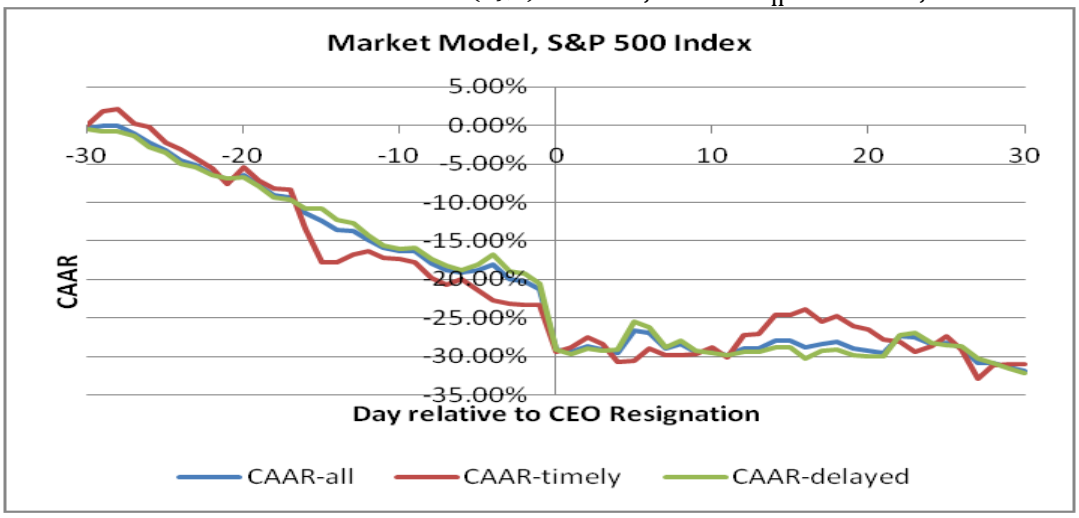


Figure 3: Cumulative average abnormal returns (CAARs) by market model, using equally weighted market index returns as a benchmark

This figure shows the CAAR for the period from 1 days before though 30 days after the announcement of CEO resignations. The abnormal return (AR) for stock i on date t is calculated as $AR_{it} = R_{actual} - R_{it}$. The average abnormal return (AAR) for sample firms on date t is calculated as: $AAR_t = \frac{\sum_{i=1}^{n} AR_{it}}{n}$. The sample firms' CAAR for time (-j,k) is calculated as $CAAR_{(-j,k)} = \sum_{t=-j}^{k} AAR_t = \frac{1}{n}\sum_{i=1}^{n}\sum_{t=-j}^{t=k} AR_{it}$.

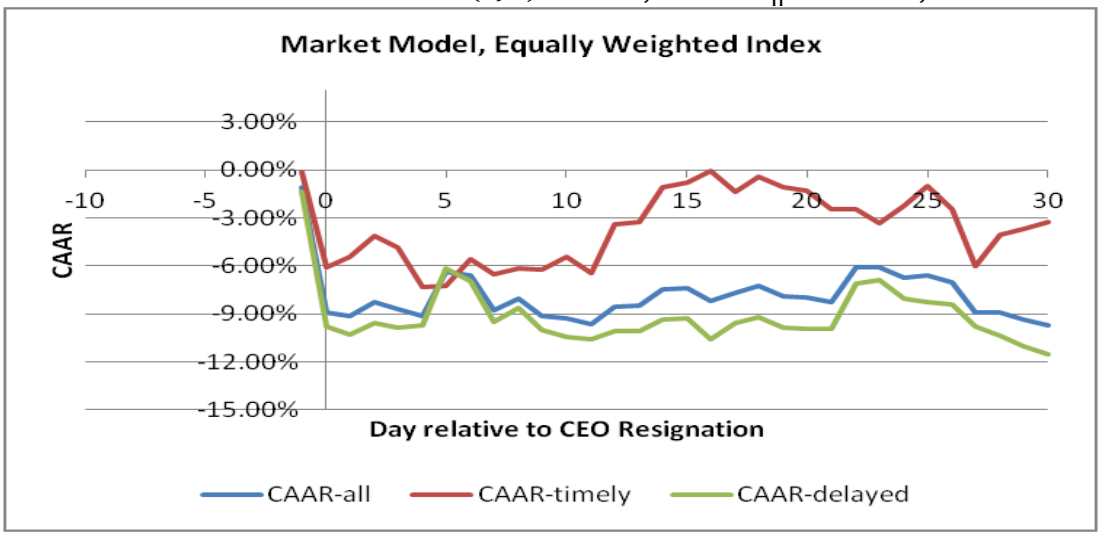


Figure 4: Cumulative average abnormal returns (CAARs) by market model, using S&P 500 index returns as a benchmark

This figure shows the CAAR for the period from 1 days before though 30 days after the announcement of CEO resignations. The abnormal return (AR) for stock i on date t is calculated as $AR_{it} = R_{actual} - R_{it}$. The average abnormal return (AAR) for sample firms on date t is calculated as: $AAR_t = \frac{\sum_{i=1}^{n} AR_{it}}{n}$. The sample firms' CAAR for time (-j,k) is calculated as $CAAR_{(-j,k)} = \sum_{t=-j}^{k} AAR_t = \frac{1}{n}\sum_{i=1}^{n}\sum_{t=-j}^{t=k} AR_{it}$.

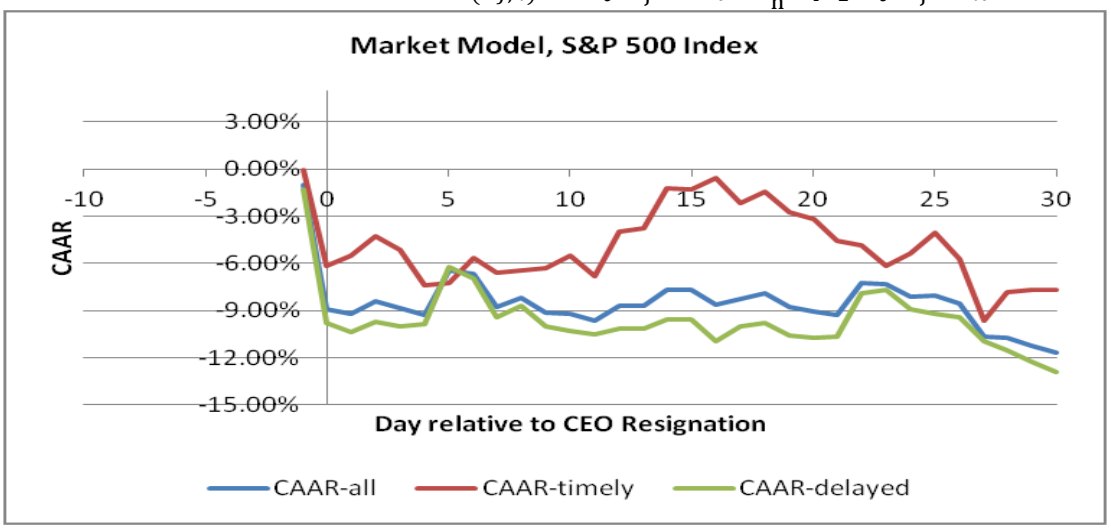


Figure 5: Median unadjusted operating return on assets (OROA) of all companies around CEO resignations

The figure shows the median of unadjusted OROA of all sample companies during a period of three years before and after the announcement of a CEO resignation. OROA is calculated as operating income before depreciation divided by total assets.

Figure 6: Median industry-adjusted operating return on assets (OROA) of all companies around CEO resignations

The figure shows the median of industry-adjusted OROA of all sample companies through three years before and after the announcement of a CEO resignation. OROA is calculated as operating income before depreciation divided by total assets. Industry-adjusted OROA is adjusted by subtracting the company's unadjusted OROA by the median OROA of all firms in the same industry classified based on the Fama-French 48 industry system.

Figure 7: Median unadjusted operating return on assets (OROA) around timely and delayed CEO resignations

The figure shows the median of unadjusted OROA of timely and delayed sample companies during a period of three years before and after the announcement of a CEO resignation. OROA is calculated as operating income before depreciation divided by total assets.

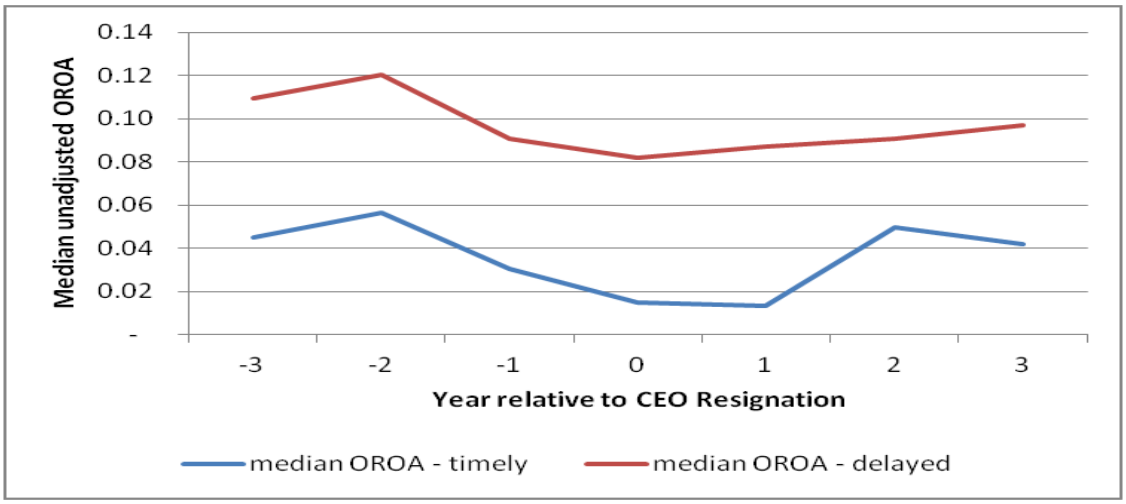
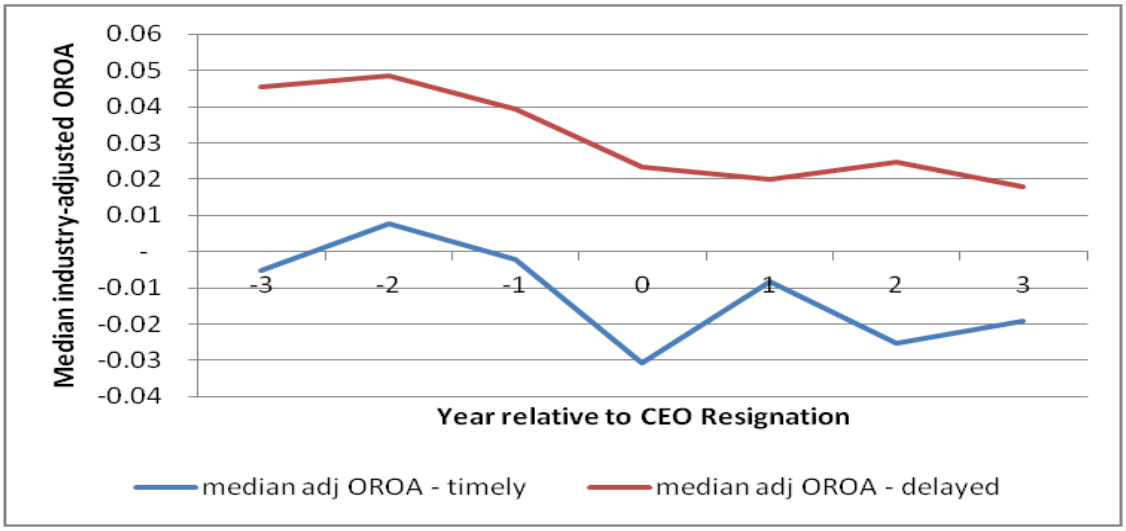


Figure 8: Median industry-adjusted operating return on assets (OROA) around timely and delayed CEO resignations

The figure shows the median of industry-adjusted OROA of timely and delayed sample companies during a period of three years before and after the announcement of a CEO resignation. OROA is calculated as operating income before depreciation divided by total assets. Industry-adjusted OROA is adjusted by subtracting the company's unadjusted OROA by the median OROA of all firms in the same industry classified based on the Fama-French 48 industry system.



References

Abe, Y. (1997). Chief executive turnover and firm performance in Japan. *Journal of the Japanese and International Economics*, *11*, 2-26.

Allen, M., Panian, S., and Lotz, R. (1979). Managerial succession and organizational performance: A recalcitrant problem revisited. *Administrative Science Quarterly*, *21*, 167-180.

Arrow, K. (1962). The economic implications of learning by doing. *Review of Economic Studies*, *29*, 155-173.

Barber, B., and Lyon, J. (1997). Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics*, *43*, 341-372.

Beatty, R., and Zajac, E. (1987). CEO change and firm performance in large corporations: Succession effects and manager effects. *Strategic Management Journal*, *8*, 305-317.

Bebchuk, L., Fried, J., and Walker, D.(2002). Managerial power and rent extraction in the design of executive compensation. *University of Chicago Law Review*, *69*, 751-846.

Bhagat, S., and Black, B. (1999). The uncertain relationship between board composition and firm performance. *The Business Lawyer*, *54*, 921-963.

Bhagat, S., and Black, B. (2001). Non-correlation between board independence and long-term firm performance. *Journal of Corporation Law, 27,* 231-274.

Bonnier, K., and Bruner, R. (1989). An analysis of stock price reaction to management change in distressed firms. *Journal of Accounting and Economics*, *11*, 95-106.

Borstadt, L. (1985). Stock price reactions to management changes. Unpublished working paper, University of Utah, Salt Lake City, UT.

Boyd, B. (1994). Board control and CEO compensation. *Strategic Management Journal*, *15*, 335-344.

Boyd, B. (1995). CEO duality and firm performance: A contingency model. *Strategic Management Journal*, *16*, 101-104.

Brunello, G., Graziano, C., and Parigi, B. (2003). CEO turnover in insider-dominated boards: The Italian case. *Journal of Banking & Finance*, *27*, 1027-1051.

Carroll, G. (1984). Dynamics of publisher succession in newspaper organizations. *Administrative Science Quarterly*, *29*, 303-329.

Chakraborty, A., and Sheikh, S. (2008). Corporate governance mechanisms and performance related CEO turnover. *International Finance Review*, *9*, 143-161.

Conyon, M., and Peck, S. (1997). Board control, remuneration committees, and top management compensation. *Academy of Management Journal*, *41*, 146-157.

Daily, C., and Dalton, D. (1992). The relationship between governance structure and corporate performance in entrepreneurial firms. *Journal of Business Venturing*, *7*, 375-386.

Daily, C., and Dalton, D. (1993). Board of directors leadership and structure: Control and performance implications. *Entrepreneurship: Theory and Practice*, *17*, 65-81.

Daily, C., and Schwenk, C. (1996). Chief executive officers, top management teams, and boards of directors: Congruent or countervailing forces? *Journal of Management*, 22, 185-208.

Dalton, D., and Kesner, I. (1985). Organizational performance as an antecedent of inside/outside chief executive succession: An empirical assessment. *Academy of Management Journal*, *28*, 749-762.

Davidson, W., Worrell, D., and Cheng, L. (1990). Key executive succession and stockholder wealth: The influence of successor's origin, position and age. *Journal of Management*, *16*, 647-664.

Defond, M., and Hung, M. (2004). Investor protection and corporate governance: Evidence from worldwide CEO turnover. *Journal of Accounting Research*, *42*, 269-312

Denis, D., and Denis, D. (1995). Performance changes following top management dismissals. *Journal of Finance*, *50*, 1029-1057.

Denis, D., Denis, D., and Sarin, A. (1997). Agency problem, equity ownership, and corporate diversification. *Journal of Finance*, *52*, 135-160.

Denis, D., Denis, D., and Sarin, A. (1999). Ownership structure and top management turnover. *Journal of Finance Economics*, *45*, 199-221.

Eitzen, D., and Yetman, N. (1972). Managerial change, longevity, and organizational effectiveness. *Administrative Science Quarterly*, *17*, 110-116.

Fahlenbrach, R. (2009). Shareholder rights and CEO compensation. Working paper, University of Pennsylvania.

Farrell, K., and Whidbee, D. (2000). The consequences of forced CEO succession for outside directors. *Journal of Business*, *73*, 597-627.

Finkelstein, S. (1992). Power in top management teams: Dimensions, measurement, and validation. *Academy of Management Journal*, *35*, 505-538.

Finkelstein, S., and Hambrick, D. (1990). Top management team tenure and organizational outcomes: The moderating role of managerial discretion. *Administrative Science Quarterly*, *35*, 484-503.

Friedman, S., and Singh, H. (1989). CEO succession and stockholder reaction: The influence of organizational context and event content. *Academy of Management Journal*, *32*, 718-744.

Furtado, E. (1986). The wealth effects of manager initiated management changes. Unpublished manuscript, Kansas University, Manhattan, KS.

Furtado, E., and Rozeff, M. (1987). The wealth effects of company initiated management changes. *Journal of Financial Economics*, *18*, 147-160.

Gamson, W., and Scotch, N. (1964). Scapegoating in baseball. *American Journal of Sociology*, *70*, 69-72.

Gibbons, R., and Murphy, K. (1992). Optimal incentive contracts in the presence of career concerns: Theory and evidence. *Journal of Political Economy*, *100*, 468-505.

Gibson, M.S. (2003). Is corporate governance ineffective in emerging markets? *Journal of Financial and Quantitative Analysis*, *38*, 231-250.

Goyal, V., and Park, C. (2000). Board leadership structure and CEO turnover. Working paper, Hong Kong University of Science and Technology.

Grusky, O. (1963). Managerial succession and organizational effectiveness. *American Journal of Sociology*, 69, 21-31.

Guest, R. (1962). Managerial succession in complex organizations. *American Journal of Sociology*, 68, 47-56.

Haveman, H. (1993). Ghosts of managers past: Managerial succession and organizational mortality. *Academy of Management Journal*, *36*, 864-881.

Helmich, D. (1974). Organizational growth and succession patterns. *Academy of Management Journal*, *17*, 771-775.

Hermalin, B., and Weisbach, M. (1991). The effects of board composition and director incentives on firm performance. *Financial Management*, *20*, 101-112.

Hermalin, B., and Weisbach, M. (1998). Endogenously chosen boards of directors and their monitoring of the CEO. *American Economics Review*, *88*, 96-118.

Huson, M., Malatesta, P., and Parrino, R. (2004). Managerial succession and firm performance. *Journal of Financial Economics*, *74*, 237-275.

Jensen, M. (1993). The modern industrial revolution, exit and the failure of internal control systems. *Journal of Finance*, *48*, 831-880.

Kang, J., and Shivdasani, A. (1995). Firm performance, corporate governance, and top executive turnover in Japan. *Journal of Financial Economics*, *38*, 29-58.

Kaplan, S. (1994). Top executive rewards and firm performance: A comparison of Japan and the United States. *Journal of Political Economy*, *102*, 510-546.

Kaplan, S., and Minton, B. (1994). Appointment of outsiders to Japanese boards: Determinants and implications for managers. *Journal of Financial Economics*, *36*, 225-257.

Kato, T., and Long, C. (2006). CEO turnover, firm performance, and enterprise reform in China: Evidence from micro data. *Journal of Comparative Economics*, *34*, 796-817.

Khanna, N., and Poulsen, A. (1995). Managers of financially distressed firms: Villains or scapegoats? *Journal of Finance*, *50*, 919-940.

Khurana, R., and Nohria, N. (2000). The performance consequences of CEO turnover. SSRN Working Paper.

Klein, A., Kim, W., and Mahajan, A. (1985). Information content of management changes. Unpublished manuscript, Baruch College, New York, NY.

Lehn, K., Patro, S., and Zhao, M. (2009). Determinants of the size and composition of US corporate boards: 1935-2000. *Financial Management*, *38*, 747-780.

Leker, J., and Salomo, S. (2000). CEO turnover and corporate performance. *Scandinavian Journal of Management*, *16*, 287-303.

Lieberson, S., and O'Connor J. (1972). Leadership and organizational performance: A study of large corporations. *American Sociological Review*, *37*, 117-130.

Lipton, M., and Lorsch, J. (1992). A modest proposal for improved corporate governance. *Business Lawyer*, *59*, 59-77.

Lubatkin, M., Chung, K., Rogers, R., and Owers, J. (1989). Stockholder reactions to CEO changes in large corporations. *Academy of Management Journal*, *32*, 47-68.

Mahajan, A., and Lummer, S. (1993). Shareholder wealth effects of management changes. *Journal of Business Finance*, *20*, 393-410.

McGuire, J., Schneeweis, T., and Naroff, J. (1988). Effects of top managers' cabinet appointments on shareholders' wealth. *Academy of Management Journal*, *31*, 201-212.

Morck, R., Shleifer, A., and Vishny, R. (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics*, *20*, 293-315.

Pearce, J., and Zahra, S. (1992). Board composition from a strategic contingency perspective. *Journal of Management Studies*, *29*, 411-438.

Pérez-González, F. (2006). Inherited control and firm performance. *American Economic Review*, *96* , 1559-1588.

Pi, L., and Timme, S. (1993). Corporate control and bank efficiency. *Journal of Banking and Finance*, *17*, 515-530.

Plian, P. (1995). Human capital or social networks: What constrains CEO dismissals? *Academy of Management Best Paper Proceedings*, *1*, 37-41.

Puffer, S., and Weintrop, J. (1991). Corporate performance and CEO turnover: The role of performance expectations. *Administrative Science Quarterly*, *36*, 1-19.

Reinganum, M. (1985). The effect of executive succession on stockholder wealth. *Administrative Science Quarterly*, *30*, 46-60.

Renneboog, L. (2000). Ownership, managerial control and the governance of companies listed on the Brussels stock exchange. *Journal of Banking & Finance*, *24*, 1959-1995.

Salancik, G., and Pfeffer, J. (1980). Effects of ownership and performance on executive tenure in US corporations. *Academy of Management Journal*, *23*, 653-664.

Singh, J., House, R., and Tucker, D. (1986). Organizational change and organizational mortality. *Administrative Science Quarterly*, *31*, 587-611.

Warner, J., Watts, R., and Wruck, K. (1988). Stock prices and top management changes. *Journal of Financial Economics*, *20*, 461-492.

Weisbach, M. (1988). Outside directors and CEO turnover. *Journal of Financial Economics*, *20*, 431-460.

Virany, B., Tushman, M., and Romanelli, E. (1992). Executive succession and organizational outcomes in turbulent environments: An organization learning approach. *Organization Science*, *3*, 72-91.

Volpin, P. (2002). Governance with poor investor protection: Evidence from top executive turnover in Italy. *Journal of Financial Economics*, *64*, 61-90.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, *40*, 185-211.

Zajac, E. (1990). CEO selection, succession, compensation and firm performance: A theoretical integration and empirical analysis. *Strategic Management Journal*, *11*, 217-230.