# Conflict-Induced Forced CEO Turnover and Firm Performance

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# ABSTRACT

## Conflict-Induced Forced CEO Turnover and Firm Performance

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We examine firm performance changes around forced CEO turnovers which are caused by conflicts between corporate boards and CEOs. We investigate firm performance using two measures: operating performance and abnormal stock returns. Many previous studies analyze firm performance changes around forced top management turnovers, but to date no one has examined conflict-induced CEO turnover events. Our results show that a firm's operating performance declines preceding turnovers and improves following turnovers. However, unlike most previous studies, we find negative abnormal stock returns following CEO turnovers, suggesting that investors do not perceive CEO turnover announcements as good news when CEOs are dismissed for conflicts. We employ a unique hand-collected dataset on forced CEO turnovers as well as board and CEO characteristics and use multivariate regression analyses to test whether board and successor CEO characteristics influence a firm's post-turnover firm performance. The results show no significant relationship between these variables and firm performance.

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# 1. Introduction

Chief executive officer (CEO) turnover events have attracted wide attention from both researchers and practitioners, because these events are often followed by managerial team reorganization and firm performance variation. Turnover events are happening for various reasons, such as normal retirement, death or illness, the pursuit of another career, poor performance, and policy differences with boards. Many studies examine changes in performance around CEO turnover events, and some of them further investigate differences in firm performance between firms that experience forced turnovers and firms that experience voluntary turnovers (Furtado and Rozeff, 1987; Denis and Denis, 1995; Borokhovich, Parrino, and Trapani, 1996; Huson, Malatesta, and Parrino, 2004; Adams and Mansi, 2009). However, very few studies have investigated firm performance changes by dividing forced CEO turnovers into more specific categories so far. Since boards are important in determining the direction of the firm when selecting a new CEO (Vancil, 1987; Weisbach, 1988; Lorsch and Maciver, 1989) and monitoring the performance of a CEO, and because the CEO is the key person in the management team whose decisions may influence firm performance, we are interested in the turnover related issues of the firms which experienced forced CEO turnovers that are caused by conflicts between boards and CEOs.

Our study aims to explore performance changes around conflict-induced forced CEO turnovers. First, we examine the traits and characteristics of the outgoing CEO and successor CEO, by exploring whether he/she is an insider or outsider, what powers he/she is given, his/her age, etc. In addition, we examine what kind of board characteristics, including board size and percentage of outside directors, are present in

the sample firms. Second, we investigate how stock price and operating performance react to such events by examining the short-term and long-term abnormal stock returns and changes in operating return on assets around turnover events. In addition, we explore whether the board intends to change the firm's business focus by entering a new market by initiating CEO turnovers. In this case, we look at the change in the number of the firms' geographic segments, and examine whether the change affects the firms' stock performance and operating performance. Finally, we analyze whether CEO characteristics and board characteristics have an impact on the firms' stock performance and operating performance. Specifically, we consider the CEO's age, compensation, ownership, etc. to see what kind of CEO and board can lead to better firm performance. Our results should not only be interesting for academics, but also for practitioners and regulators as they provide important insights about what factors may contribute to managerial entrenchment or more powerful boards. The results should also be of interest to investors as they will allow them to better interpret different types of CEO successions and their associated stock price impacts. Moreover, our study is the first to look at changes in firm's geographic market focus around CEO turnovers, and their influence on firm performance.

Our empirical results provide evidence that firm's operating performance is deteriorating prior to turnovers, and then improving following the turnover announcements. The average number of firm's geographic segments increase significantly through year -1 to year 1. Stock prices behave differently. In the short-term (i.e. over a four day window following the announcement day), abnormal returns are negative. In the subsequent twenty days, stock prices tend to recover. In the long-term, the abnormal return is significantly negative from 1 year before the turnover to 1 year after the turnover. In terms of regression analysis, any potential

effects of CEO and board characteristics on firm performance are not significant in our regression model. However, abnormal returns tend to decrease if another CEO turnover takes place within three years following a turnover event.

The remainder of the paper is organized as follows. Section 2 summarizes the literature related to CEO turnovers, firm performance, and board and CEO characteristics. Section 3 describes the data and the sample selection. In section 4 we introduce the methods that we use to examine firm performance and describe our models. The empirical results are reported and interpreted in section 5. Section 6 provides concluding remarks and discusses possible extensions of our study.

## 2. Literature review

### 2.1 Firm performance and the probability of CEO turnovers

CEOs leave their positions for various reasons, among which poor performance is the most common one. First we discuss pre-turnover activities, and see under what situations boards may dismiss CEOs. Some of the first studies on CEO turnover and firm performance were conducted in the 1980s. Many of these studies concluded that firms with poor performance are more likely to experience CEO turnovers. Coughlan and Schmidt (1985) find that CEOs who are younger than 64 years of age, firm's stock price performance is inversely related with the probability of a change in CEO leadership. Warner et al. (1988) report similar results which suggest that firms with poor stock returns are more likely to change their CEO, president, or chairman. Weisbach (1988) argues that in outsider-dominated firms, the likelihood of CEOs losing their job is higher if their firm experienced bad stock performance. In a more

recent study, Lausten (2002) observes an inverse relationship in Danish firms. However, Brickley (2003) points out that although the negative relation between CEO turnover and firm performance is statistically significant, its economic significance is very small. Also, firm performance has little power to explain the cross sectional and time-series variation in CEO turnovers.

In more recent years, researchers have analyzed the conditions under which CEO turnovers occur. Specifically, some of the recent literature examines what events are leading to and which parties exert pressures to CEO turnovers. Poor firm performance by itself does not necessarily result in CEO turnover (Farrell and Whidbee, 2002). In fact, factors such as blockholder pressure, takeovers, financial wrongdoing, and/or lawsuits may lead to forced management resignations rather than normal board monitoring (Denis and Denis, 1995). Martin and McConnell (1991) show that poorly performing top managers are more likely to be forced to leave in the case of a takeover attempt, because a bidder who takes control of the firm tends to correct the non-value maximizing behavior of existing management. Farrell and Whidbee (2002) examine Wall Street Journal news stories about forced CEO turnovers, and find that scrutiny by the financial press will increase the probability of forced CEO turnovers. Defond and Hung (2003) suggest that strong law enforcement institutions have a higher possibility to dismiss their CEO for poor performance in order to protect their investors. Parrino et al. (2003) demonstrate that in cases in which institutional investors are dissatisfied with a firm's management quality, they tend to put pressure on the firm by decreasing their ownership of the firm. They thus conclude that the likelihood of forced CEO turnovers is inversely related to institutional ownership changes. Jenter and Kanaan (2006) hold that CEOs are more

likely to be dismissed after their firms underperform most of the other firms in the same industry.

### 2.2 The impact of CEO turnover on firm performance

Studies show that changes happen on firm performance if any turnover event takes place. Furtado and Rozeff (1987) suggest that stock prices and shareholder wealth tend to rise following forced CEO dismissals. Moreover, Borokhovich, Parrino, and Trapani (1996) find a significant positive abnormal performance when an outsider succeeds the CEO. Denis and Denis (1995) examine changes in operating performance around top management turnover using 908 non-takeover events. They find that firms' operating performance significantly declines before the events and that it increases afterwards. However, the cumulative market-adjusted return is negative prior to the turnover, and not significantly different from zero in the subsequent year, which is inconsistent with their hypothesis. They explain this finding with the confounding negative information of the management dismissal news. In addition, they mention a significant corporate downsizing in total assets, employment, and capital expenditures following the turnover events. Huson, Malatesta, and Parrino (2004) look at both stock performance and operating performance changes around turnover events. Their results suggest a deteriorative operating performance preceding turnovers, and a significant managerial quality improvement following turnovers. When examining stock performance, they use a calendar-time portfolio method to explore long-run firm performance, and find a positive average announcement-period abnormal return for their 1,302 sample firms. Perez-Gonzalez (2006) demonstrates that both in the short-term and long-term, family successions are associated with insignificant abnormal returns, while unrelated successions cause positive abnormal

returns. Similarly, Adams and Mansi (2009) report a positive cumulative abnormal stock return in a (-1, 1) 3-day event window around turnover announcements. Dedman and Lin (2002) show contrary evidence in the UK market which suggests that the stock market reaction to a turnover announcement is negative if top managements are forced to leave and get new jobs in other companies.

### 2.3 Differences between forced and voluntary turnovers

Much of the academic literature that studies on top management turnover differentiates forced turnovers from voluntary turnovers. Reasons such as poor performance, conflict, and financial wrongdoing would be classified as forced turnover causes, while reasons like pursuit of other interests, normal retirement, and illness would be regarded as voluntary turnovers reasons (Denis and Denis, 1995). Most prior studies find that, abnormal returns following forced turnovers are significantly higher than those following voluntary turnovers (Furtado and Rozeff, 1987; Borokhovich, Parrino, and Trapani, 1996; Huson, Malatesta, and Parrino, 2004; Adams and Mansi, 2009). Moreover, changes in operating firm performance around forced turnovers are greater than those around voluntary turnovers (Denis and Denis, 1995; Huson, Malatesta, and Parrino, 2004). Our paper focuses on turnovers over conflicts between board and CEO, thus we expect to find a significant change in both abnormal stock return and operating performance around CEO turnover events.

### 2.4 Board characteristics and firm performance

A firm's board of directors plays an important role in determining the direction of the firm when selecting a new executive officer (Vancil, 1987; Weisbach, 1988; Lorsch and Maciver, 1989). Studies show that independent boards are more likely to initiate needed CEO turnover and management replacements in order to give

stockholders a higher reward. Fama and Jensen (1983) argue that outside directors have incentives to act in shareholder interests as they are decision experts from other firms. Weisbach (1988) note that after controlling for size, ownership, and industry effects, CEOs are more likely to be removed for poor performance in companies with outsider-dominated boards than in companies with insider-dominated boards. Weisbash argues that inside directors have a closer relationship with CEOs with respect to their career path, thus they are unwilling to remove incumbent CEOs. Weisbach further shows that the presence of outsider-dominated boards tends to increase firm value around CEO resignations, while insider-dominated boards do not have that effect. Moreover, Farrell and Whidbee (2000) demonstrate that outside directors are rewarded when they remove a poorly performing CEO and bring in a CEO that improves firm performance. On a related note, Bhagat and Bolton (2008) find that given poor firm performance, the probability of management turnover is positively associated with board ownership and board independence. On the contrary, Lorsch and Maciver (1989) argue that not all outside directors are necessarily acting in the shareholders' interest, because in the board nomination process, CEOs may recommend outside directors who will support their decisions. Westphal and Zajac (1995) provide evidence that if incumbent CEOs are more powerful than the boards, new directors tend to be demographically similar to the CEOs; if the CEOs are less powerful, new directors resemble the existing board.

Once a CEO turnover takes place, firms with different board structures perform differently. Shen and Cannella (2003) suggest that the market reacts positively to the promotion of an already-identified CEO successor if the board is outsider-dominated. Borokhovich et al. (2006) find evidence that with more outside directors, boards are more likely to make improvements in management when a sudden CEO turnover

happens. Combs et al. (2007) find that CEO power moderates the relationship between board composition and firm performance. Specifically, the relationship between board independence and abnormal stock returns following CEO turnovers is more negative if CEOs have greater ownership or when CEOs also serve as chairmen. He concludes that shareholders welcome the dismissal of high-power CEOs when boards are insider-dominated and low-power CEOs when boards are outsider-dominated.

In addition to board independence, board size can also influence board efficiency. Lipton and Lorsch (1992) suggest that boards with more directors are better able to monitor management, but are slower in making decisions. Jensen (1993) finds a negative correlation between firm value and the size of a firm's board of directors. Eisenberg et al. (1998) report a negative relationship between board size and firm profitability in small firms.

Some papers focus on the joint position of CEO and board chairman. If the CEO is also the chairman of the board, the board's decision may partially reflect the CEO's intention (Jensen, 1993). Brickley et al. (1997) show that shareholders and regulators advocate separating the chairman-CEO positions because that will reduce agency costs and improve firm performance. Nevertheless, the separation has potential costs, such as the agency costs of controlling the behavior of an independent chairman, the information costs of transferring important information between the CEO and chairman, and the costs of changing the succession process. Their evidence suggests that firm performance will be better if the roles of chairman and CEO are combined, and the announcement of the combination does not significantly affect shareholder wealth. Given that the costs of separation are larger than the benefits, Brickley et al. (1997) conclude that a unitary leadership structure is efficient and consistent with

shareholder interests in most large firms. Goyal and Park (2002) show that CEO turnovers are less sensitive to firm performance in firms in which the CEO also chairs the board, because the board will have difficulties removing poorly performing managers due to the lack of independence.

### 2.5 CEO characteristics and firm performance

As a CEO is the key person of a firm's management team, his or her quality and decisions may influence firm performance. Many previous studies have tested the relationship between CEO characteristics and firm performance, some of those studies focus on executive compensation. Murphy (1985) looks at 500 executives from 73 of the largest U.S. publicly held firms for the period between 1964 and 1981. Using abnormal stock returns and firm sales growth as measurements of firm performance, he finds that firm performance is significantly positively related to executive compensation. Abowd (1990) argues that the sensitivity of managerial compensation to corporate performance in one year is positively related to corporate performance in the next year, suggesting that increasing the performance sensitivity of compensation can lead to better performance in the following year. The evidence is weak for accounting-based performance, but strong with respect to stock market performance. Core, Holthausen, and Larcker (1999) report that CEOs earn greater compensation when governance structures are less effective, and firms with greater agency problems perform worse. They use CEO-chairman duality, board size, percentage of outside directors on the board, CEO ownership, and blockholder ownership to predict CEO compensation. Their results show that the predicted compensation is negatively related to subsequent operating and stock market performance.

Outside CEO successions result in different consequences than inside successions in term of a firm's direction and performance. Outsiders are almost always hired to change the direction of a firm (Parrino, 1997). Helmich (1974) suggests that firms grow more rapidly following outsider replacements. Cannella and Lubatkin (1993) find that accounting returns are negatively related to the likelihood of outside succession. Huson et al. (2004) argue that firm performance changes as turnover events occur and note that the degree of performance improvement is positively related to the appointment of an outsider CEO.

Our study adds to these strands of the corporate governance literature by investigating the impact of conflict-induced CEO turnovers on firm performance. CEOs sometimes resign for personal reasons or wrongdoing, but it has not been proved that whether the resignation is because of their personal issues or poor performance in cases that they resign for conflicts with the boards. The firms in our sample have been publicly announced that CEOs resigned for policy differences with the boards. We suppose that there are some hidden reasons that the board dismisses a CEO, such as the board want to lead the firm to a new industry and conduct a business expansion. Thus, we examine possible causes that may lead to disagreements between boards and CEOs, such as poor performance and change in direction of the firms. In addition, we examine whether changes in firm performance can be explained by board and CEO characteristics, and whether firms with certain characteristics perform better after a conflict-induced turnover. To the best of our knowledge, our study is the first to explore these links in the context of forced CEO successions.

## 3. Data

Our study focuses on a sample of forced CEO turnovers which results from disagreements between boards and CEOs during the period from January 1995 to December 2007.

We classify a turnover as a forced turnover if corresponding announcement in the Dow Jones Inc. Factiva publications library reports that the CEO has been fired, forced from the position, or departed due to unspecified policy differences. Further, we identify forced turnovers if the CEO resigned over differences with the company board, or the CEO resigned because of fundamental differences over the direction of the company.

We initially obtain a sample of 156 forced CEO turnover events. After excluding firms without proxy statements in the U.S. Securities and Exchange Commission (SEC) Edgar database, our sample consists of 80 firms with forced CEO turnovers.

In order to examine board and CEO characteristics, we manually collect information on outside board, board size, CEO age, CEO tenure, compensation and ownership from SEC proxy statements. Board members who do not hold any management positions are regarded as outside board members and we defining variable ‘outside directors’ that represents the proportion of the number of outside directors on the board. We also collect additional the CEO information from the Execucomp database. In addition, we differentiate between insiders and outsiders new CEOs. New CEOs who have been with their firms for less than one year are classified as outsiders; all others are classified as insiders.

We consider an event period that lasts from three years before announcement year to three years after announcement year. For this seven-year period, we employ operating return on assets (OROA) and stock return as two measures of firm performance. Information on accounting measures is obtained from Standard & Poor's Compustat files. Specifically, we collect variables including operating income before depreciation (Compustat item 13), total asset (Compustat item 6), net income (Compustat item 172), common equity (Compustat item 235), fiscal year close price (Compustat item 199), common shares outstanding (Compustat item 25), and capital expenditures (Compustat item 128). Based on these, we calculate OROA, return on assets, and book-to-market ratios. To control for industry effects, we adjust the accounting measures by subtracting the median value of the data of all firms in the same industry. We classify industries using the Fama French industry classification, system that differentiates between 49 industry sectors can be found on Kenneth R. French's Data Library website.[1] To examine changes in the number of geographic segments, we collect firms' historical segments data from Compustat database.

We collect stock return data from the Center for Research in Security Prices (CRSP) and Thomson Reuters' Datastream database. Specifically, we download daily and monthly stock returns from CRSP, and then complement the seven-year period dataset using data from Datastream. As Datastream only provides the total return index (RI), we calculate a firm's stock return as: $Return_t = \frac{RI_t}{RI_{t-1}} - 1$. We also obtain the equally-weighted, value-weighted, and S&P composite index return from CRSP, which we employ for our event study analysis.

[1] http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/changes_ind.html

To examine turnover effects more explicitly, we construct a control group which consists of 75 one-to-one matched firms that have no CEO turnover event during our seven-year sample period. We matched each of the sample firms on the basis of total assets, market value, and return on assets using the following criteria: (1) the matching firm is in the same Fama-French industry with the sample firm, (2) the matching firm does not experience any turnover events during the seven-year event period, (3) information of the matching firm is available in Compustat and CRSP for the same fiscal years as the sample firms, and (4) the matching firm earns the closest score as the sample firm as the result of a propensity score matching process. We use data for the one year preceding the forced turnover to run the matching process. We exclude two sample firms that do not have available data during the year preceding the turnover, one sample firm that does not have any available data on Compustat and CRSP, and two sample firms that have missing market value data. Thus, our comparison sample consists of 75 matching firms.

## 4. Methodology

To examine changes in operating performance around CEO turnovers, we use operating return on assets (OROA) as the measure. OROA is calculated as:

$$OROA_{it} = \frac{OIBDP_{it}}{AT_{it}} \quad (1)$$

where $OIBDP_{it}$ is the operating income before depreciation of firm *i* in year *t* and $AT_{it}$ are the total assets of firm *i* in year *t*.

The change in OROA of year *a* to year *b* is calculated as:

$$COROA_{a\ to\ b} = OROA_b - OROA_a \quad (2)$$

We use event study methodology to measure the short-term impact of CEO turnover announcements on a firm's stock performance. The model we use to predict expected returns is the market model:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (3)$$

where $R_{it}$ and $R_{mt}$ are the returns on security *i* and the market portfolio on day *t*, and $\varepsilon_{it}$ is the error term. For each firm *i*, the abnormal return is calculated as the difference between the actual return ($Return_{it}$) and the expected return ($R_{it}$) on day t:

$$AR_{it} = Return_{it} - R_{it} \quad (4)$$

To ensure the robustness of our results with respect to the market index we use in our market model, we calculate abnormal stock returns by using the CRSP equally weighted index, the CRSP value weighted index, and the S&P 500 index as the market portfolio, respectively, and thus report three sets of results.

We are interested in the time series effect of abnormal return, because some of the abnormal return behavior show up in the pre-event period, and post-event returns provides information on market efficiency (Kothari and Warner, 2006). Thus we consider each firm's cumulative abnormal returns (CARs) around the turnover event to examine the firm's stock performance over a short period, which is the sum of each day's average abnormal return performance. The CAR starting at time $t_1$ through time $t_2$ is calculated as:

$$CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_t \quad (5)$$

For long-run abnormal returns, buy-and hold abnormal returns (BHARs) has been widely used in the recent years, which are defined as the differences between the

long-run returns of sample firms and those of benchmark firms selected to capture expected return. Mitchell and Stafford (2000) describe the BHAR as "the average multiyear return from a strategy of investing in all firms that complete an event and selling at the end of a pre-specified holding period versus a comparable strategy using otherwise similar nonevent firms". Barber and Lyon (1997) and Lyon et al. (1999) suggest that BHARs measure the long-run investor experience, and they can capture the investor's experience from buying and holding securities for 3 to 5 years. Barber and Lyon (1997) also show that CAR is a biased predictor of BHAR, the difference of BHAR and CAR is due to compounding.

Following the literature, we examine the long-term abnormal stock performance by computing BHAR for our sample firms[2]. Specifically, we calculate BHAR using equally weighted market return, value weighted market return, and return of matching sample as the benchmark return, respectively. The BHAR for firm *i* from time period *a* to *b* is calculated as:

$$BHAR_i = \prod_{t=a}^{b}(1 + R_{i,t}) - \prod_{t=a}^{b}(1 + R_{benchmark,t}) \quad (6)$$

where $R_{i,t}$ refers to the monthly return of firm *i* in month *t*, and $R_{benchmark,t}$ is the return on benchmark in month *t*. We examine returns during the event month and for a one year period afterwards. The mean buy-and-hold abnormal return is calculated as the equally weighted average of the individual BHARs:

$$\overline{BHAR} = \frac{1}{n}\sum_{i=1}^{n} BHAR_i \quad (7)$$

where *n* is the number of sample firms.

[2] We don't use calendar-time portfolio approach because Loughran and Ritter (2000) argue that this approach tends to find results that consistent with market efficiency, and under-weights managers' timing decisions when estimating abnormal returns.

In order to examine whether successor CEO and board characteristics have an influence on a firm's post-event performance, we estimate a multivariate regression model that explores the determinants of firm performance changes following CEO turnovers. The models are specified as follows:

$$\begin{aligned} BHAR_{it} = {} & \beta_0 + \beta_1 Compensation_{it} + \beta_2 CEOOwnership_{it} + \beta_3 Age_{it} \\ & + \beta_4 InsiderCEO_{it} + \beta_5 CEOChairman_{it} + \beta_6 BoardSize_{it} \\ & + \beta_7 OutsideDirectors_{it} + \beta_8 LaggedBHAR_{it} \\ & + \beta_9 SegmentIncrease_{it} + \beta_{10} SegmentDecrease_{it} \\ & + \beta_{11} Turnover_{it} + \beta_{12} FirmSize_{it} + \varepsilon_{it} \end{aligned} \tag{8}$$

$$\begin{aligned} COROA_{it} = {} & \beta_0 + \beta_1 Compensation_{it} + \beta_2 CEOOwnership_{it} + \beta_3 Age \\ & + \beta_4 InsiderCEO_{it} + \beta_5 CEOChairman_{it} + \beta_6 BoardSize_{it} \\ & + \beta_7 OutsideDirectors_{it} + \beta_8 SegmentIncrease_{it} \\ & + \beta_9 SegmentDecrease_{it} + \beta_{10} Turnover_{it} + \beta_{11} FirmSize_{it} + \varepsilon_{it} \end{aligned} \tag{9}$$

We use buy-and-hold abnormal returns (BHARs) as a measure of stock performance, and changes in operating return on assets (COROA) as a measure of operating performance. With respect to our independent variables, $Compensation$ is the dollar value of a CEO's salary and bonus, $CEOOwnership$ is the percentage of shares owned by the CEO, $Age$ is the successor CEO's age, $InsiderCEO$ is a dummy variable which equals one if the successor CEO is promoted from within the firm and zero if the successor CEO is an outsider, $CEOChairman$ is a dummy variable which equals one if the CEO also serves as chairman and zero if the CEO is not in the chairman position, $BoardSize$ is the number of directors sitting on the

board, $OutsideDirectors$ is the percentage of outside directors on the board, $SegmentIncrease$ is a dummy variable which equals one if the firm increases its number of geographic segments and zero if the number of segments does not change, $SegmentDecrease$ is a dummy variable which equals one if the firm decreases its number of geographic segments and zero if the number of segments does not change, $Turnover$ is a dummy variable which equals one if a subsequent turnover event occurs within three years following the forced turnover and zero otherwise, and $FirmSize$ is the firm's size, calculated as the natural logarithm of the total assets.

Compensation, ownership, age, insider appointment, and chairman duality are CEO characteristics while compensation, ownership, and chairman duality are also measures of CEO power (Finkelstein, 1992; Daily and Johnson, 1997). Board size and outside board membership are characteristics of the board, and $FirmSize$ is used to control for firm size effects. We also use one year $LaggedBHAR$ as a control variable of BHAR, to test whether former returns have effect on current returns. We add two segment dummies because we expect that a change in the number of geographic segments indicates that the firm is expanding or reducing its business geographically, which may result in changes in overall firm performance. Finally, we include a subsequent turnover dummy because there are 23 out of our 80 sample firms that initiate a second or a third turnover within three years following our sample events[3]. We hypothesize that subsequent turnover events suggest that the initial turnover may be of an interim nature or that the firm may be facing more serious performance troubles or disagreements on the board of directors[4].

[3] Eight of these 23 firms appoint an outsider as successor and the rest 15 firms appoint an insider as successor.

[4] We also run regressions by including some other instrument variables and year dummy variables and find that the results have no difference with the current regression in terms of significance.

# 5. Empirical results

## 5.1 Sample characteristics

Table 1 describes sample frequencies of CEO turnover years. CEO turnover occurred most frequently in 2002 and less frequently in 1995, 1996, and 2007. Table 2 reports sample frequencies of industries. In our sample, firms in computer software and retail industry are most frequently experience CEO turnovers. Table 2 shows that 12.5% of the firms are in computer software industry and 13.75% of the firms are in retail industry.

Table 3 provides information on CEO and board characteristics for a number of sub-periods prior to and after a turnover. Panel A and Panel B provide summary statistics on CEO characteristics around turnover events. Outgoing CEOs have a median age of 48 and the age ranges from 26 to 63. The median age of incoming CEOs is 53, i.e. 5 years older than that of outgoing CEOs. We observe that firms with forced CEO turnovers employ older CEOs to replace the dismissed CEOs. Outgoing CEOs stayed with the firm for a median of 7.84 years, 16% of them are founders of their company. Fifty six percent of incoming CEOs are outsiders, suggesting that the proportion of outside appointments is larger than that of inside appointments. Forty nine percent of the outgoing CEOs hold a dual position of CEO and chairman, while only 34% of the incoming CEOs hold a dual position, indicating that firms tend to separate the chairman and CEO leadership positions after they change a CEO. When examining CEO compensation, we find that in most cases the compensation of incoming CEOs is close to the compensation of outgoing CEOs. Panel C and Panel D provide information on board characteristics around CEO turnovers. On average, there are eight directors who sit on the board and the board size does not experience

any changes around the events. The median percentage of outside directors is 80 for firms in the pre-event period, while it increases to 85.71 in the post-event period, suggesting that boards are more outsider-dominated after CEO turnover events. With respect to ownership, incoming CEOs own a smaller percentage of shares than outgoing CEOs, insiders own a lower percentage in the post-event period than in the pre-event period, and post-event institutional ownership is smaller in terms of means and larger in terms of medians than pre-event institutional ownership.

Table 4 reports firm characteristics around CEO turnover events. Panel A and Panel B provide information for 79 sample firms while Panel C and Panel D provide information for 75 matched firms. For our sample firms, the median OROA is 0.09 during both the pre-event and the post-event periods. The median total assets are $448.44 million before turnovers and $353.42 million after turnovers. The median capital expenditures are $14.36 million before turnovers and $7.95 million after turnovers. The median book-to-market ratio is 0.43 before turnovers and 0.53 after turnovers. The median return on assets does not change around turnovers. For matched firms, the median OROA, the median book-to-market ratio, and the median ROA are similar between the pre- and post-event period, while the median of total assets and capital expenditures is larger in the post-event period than in the pre-event period. To compare sample firms with matched firms, we examine differences in median values during the same period. In the pre-event period, the median OROA, total assets, and book-to-market ratio are similar between the sample group and the matched group, the median capital expenditures of the sample group are $4.25 million larger than those of the matched group, and the median ROA of the sample group is slightly smaller than that of the matched group. In the post-event period, the median of OROA, the book-to-market ratio, and the ROA of the two groups are close, while

the median of total assets and capital expenditures of matched firms are larger than those of sample firms. The median total assets of sample firms are $353.42 million, and that of matched firms are $893.77 million. The data show that sample firms' total assets and capital expenditures decrease after the turnovers while those of matched firms increase, suggesting that sample firms are downsized after CEO turnovers.

Table 5 provides Pearson correlation coefficients correlations between our variables. Firm size is positively correlated with compensation, board size, and the percentage of outside directors on the board, possibly because large firms require CEOs with higher quality and board with more directors who can provide monitoring services. Other variables are not highly correlated.

**5.2 Changes in operating performance around forced CEO turnovers**

Figures 1 to 3 display time series patterns in the operating return on assets for our sample firms. The figures depict the median unadjusted OROA changes, the median industry-adjusted OROA changes, and the matched group-adjusted OROA changes. The graphs suggest that operating performance of the sample firms deteriorates before the CEO turnover event, reaches a low point at the turnover announcement year, and recovers afterwards. Figure 4 depicts the median unadjusted OROA changes of no multiple turnover firms and multiple turnover firms. The graph suggests that firms with no multiple turnovers outperform firms with multiple turnovers. Figure 5 displays the median operating performance change of insider succession firms and outsider succession firms. The graph suggests that firms with insider successions outperform firms with outsider successions.

Following Denis and Denis (1995) and Huson et al. (2004), we examine changes in operating return on assets during the year prior to the turnover event (year

-1) as well as the changes from year -3 to year -1, year -1 to year 1, and year -1 to year 3 etc. The results, provided in Table 6, suggest that the median change in the matched firm-adjusted OROA for year -1 to year 1 is positively significant at the 0.1 level, and that both the mean and median changes in industry-adjusted OROA for years -1 to 2 are positively significant at the 0.1 level. Changes from year -3 to year -1 and year -1 to year 3 are not significant.

To compare the operating performance during the pre-event and post-event period, we examine changes around year 0. The results, provided in Table 7, show that the unadjusted median OROA change is negatively significant in the period from year -3 to year 0, all median changes are positively significant in the period from year 0 to year 1, mean and median industry-adjusted OROA changes are positively significant in the period from year 0 to year 2, and the median matched group-adjusted OROA change is positively significant in the period from year 0 to year 3. We also find that the median industry-adjusted OROA in the period from year 0 to year 2 is 0.0204, which is larger than that of year 0 to year 1. The median matched group-adjusted OROA in the period from year 0 to year 3 is 0.0348, which is larger than the value of 0.02 in the period from year 0 to year 1. The results confirm that the operating performance of firms with forced CEO turnovers decreases before turnover events, and improves after the new CEOs takes charge.

### 5.3 Changes in total assets, capital expenditures, return on assets, and book-to-market ratio around forced CEO turnovers

Table 8 reports median percentage changes in the book value of total assets, capital expenditures, return on assets, and book-to-market ratios in year -1 while Table 9 reports changes in year 0. Denis and Denis (1995) review a series of prior

studies in this area that document a tendency for firms to engage in corporate downsizing following organizational changes. In their own paper, they find mixed evidence of corporate restructuring following turnovers. Huson et al. (2004) argue that examining restructuring activities would help understand the sources of improvements in OROA because increases in OROA may be a result of reducing capital intensity, eliminating poorly performing businesses, or writing down the book values of assets. Panel A of Table 8 shows that median total assets significantly increase by 15.61 percent from year -3 to year -1, and decrease by 7.41 percent from year -1 to year 1. The changes in total assets during year 2 and year 3 are not significantly different from zero. Median capital expenditures increase by 12.28 percent from year -3 to year -1. In Panel A and Panel B of Table 9 we can observe that median total assets increase by 9.48 percent before turnover events and that median capital expenditures decrease by 10.6 percent from year 0 to year 1. The results provide significant evidence of upsizing before turnovers and weak evidence of downsizing after turnovers.

Panels C and D of Tables 8 and 9 report changes in the return on assets (ROA) and book-to-market ratios. Aside from OROA, ROA can be used as a measure of firm performance as it captures the return that shareholders receive relative to total assets, while market-to-book ratios can be used as a forward-looking measure of performance (Perez-Gonzalez, 2006). As shown in Tables 8 and 9, the median return on assets decreases throughout our sample period, while changes in the median book-to-market ratio are mostly insignificant.

### 5.4 Changes in the number of geographic segments

Table 10 shows mean changes in the number of geographic segments. The average number of geographic segments increases by 0.16 from year -1 to year 0 (significant at the 0.1 level), and then increase by 0.22 from year 0 to year 1 (significant at the 0.05 level), while the changes are insignificantly different from zero for other periods. This suggests that firms expand their business to more countries around turnovers. One possible explanation for this phenomenon is that the board and the CEO have disagreements on the business expansions, and then the board replaces the former CEO with someone that will support their business decisions.

We also explore whether firms change their industry focus in connection with a CEO turnovers, but find evidence of industry changes for only two firms. We suggest that in our sample, change industry in not the general case that causes the boards to dismiss the CEOs.

### 5.5 Changes in stock performance around forced CEO turnovers

#### 5.5.1 Short-term abnormal stock returns around CEO turnovers

Daily abnormal returns are calculated based on daily return data for a (-230, -30) estimation period and a (-30, 30) event window. Figures 4 to 6 depict trends in cumulative abnormal returns (CARs) around CEO turnovers by using equally weighted market index returns, value weighted market index returns and S&P 500 index returns as the market portfolio, respectively. The time series patterns in CARs in the three models are similar to each other. The figures show that CARs from day -30 to day -1 varies in a small range, while they experience a sharp decline following turnover announcement day and reach a low point on day 4. Afterwards, CARs keep increasing until the end of our event window. We suggest that investors perceive conflict-induced turnovers as a negative signal possibly because they are concerned

about the internal turmoil associated with a forced turnover, but buy back into the firm once the firm resolves those problems.

### 5.5.2 Long-term abnormal stock returns around CEO turnovers

Table 11 reports the mean long-term buy-and-hold abnormal returns (BHARs). Panels A, B, and C show that our sample firms experience significant negative abnormal returns in year -1 and year 1, and insignificant BHARs in the remaining years. In Panel A, the BHAR in year -1 is -35.33% and the BHAR in year 1 is -20.06%. In Panel B, the BHAR in year -1 is -32.95 and the BHAR in year 1 is -15.64%. This suggest that boards may decide to fire CEOs in reaction to poor stock price performance and that investors observe internal disagreements in the firm and thus reduce their demand for the firm's stock. We also note that 80.77% of the sample firm stocks underperform relative to the equally weighted market index and 76.92% underperform relative to the value weighted market index in year -1. In the first year following turnovers, the average abnormal returns are still negative, but only 68.83% and 63.64% of the sample firm stocks underperform relative to the equally weighted market index and the value weighted market index, respectively. In subsequent years after year 1, the proportion of sample firm stocks that underperform the market continues to decline. In Panel C, the BHAR in year -1 and 1 are negative, with fewer firms underperforming matched firms over time. In year -3, year -2, year 2, and year 3, abnormal returns are not significantly different from zero, and only 50% to 66% of the sample firms underperform the market index or matched firms, suggesting that the underperformance is concentrated in year -1 and year 1.

Figure 9 and 10 display BHARs changes of subsamples. Figure 9 provides information on BHARs of no multiple turnover firms and multiple turnover firms. This graph shows a fluctuating pattern of abnormal returns of both firms with no multiple

turnovers and firms with multiple turnovers. Figure 10 shows that firms with insider successions outperform firms with outsider successions in year -3, year 2, and year 3, while they have similar stock performance in year -2, year -1, and year 1.

### 5.6 Regression analysis of post-turnover firm performance

We run regressions with panel data and estimate them using a fixed effect model based on a Hausman specification test. The dependent variables are the BHARs and OROA changes during years 1 to 3. The regression results are reported in Table 12. The results for the equally-adjusted BHARs model, value-adjusted BHARs model, and match-adjusted BHARs model are very similar. The regression results suggest that CEO and board characteristics are not significantly related to abnormal stock returns. We find that BHARs are negatively related to the turnover dummy and positively related to firm size, with coefficients of -0.693 and 1.431, respectively. The dummy that identifies subsequent turnovers within three years following a sample turnover event is negatively related to the firm's stock performance, possibly because these firms experience bigger corporate governance problems than other firms. We also find that BHARs are negatively related to lagged BHAR, suggesting that former abnormal stock returns have reverting effect on current abnormal stock returns.

Table 12 also provides regression results for models that use changes in OROA as a dependent variable. CEO ownership is positively related to unadjusted OROA changes while firm size is negatively related to unadjusted OROA changes. Industry-adjusted OROA changes are only negatively related to firm size. Matched group-adjusted OROA changes are negatively related to CEO ownership. We find very little evidence to support that CEO characteristics are related to firm's operating

performance changes, and no evidence to support the notion that board characteristics affect firms' operating performance changes.

## 6. Conclusions and discussion

This paper considers firms that experienced a conflict-induced forced CEO turnover and examines characteristics of the boards and CEOs in these firms. In addition, we examine firm performance changes around turnover events and explore what factors influence the post-turnover firm performance. We present evidence that suggest that successor CEOs are older than outgoing CEOs, that a majority of them are appointed from the outside, that fewer of them hold a dual position of CEO and chairman. In addition, boards tend to be more outsider-dominated after the turnover than before it.

In terms of firm performance, we examining changes in OROA around the event year, and show that operating performance deteriorates prior to forced turnover events and improves after the turnovers. This finding is consistent with previous studies which find significant declining and improving operating performance around forced top management dismissals (Denis and Denis, 1995; Huson, Malatesta, and Parrino, 2004). In addition, we find moderate evidence that firms downsize their operations following CEO turnovers and significant evidence of declining ROAs. Interestingly, we find a significant increase in the number of firms' geographic segments in the years (-1, 0) and (0, 1). We conjecture that boards fire CEOs if there is disagreement about business expansion and replace them with someone who will support their decisions. The relationship between business expansions and the

probability of forced CEO turnovers remains an interesting question for future research. When we analyze firms' stock performance we find that in the short-term, abnormal returns are declining in the first four days following the announcement, and increasing thereafter. In the long-term, abnormal returns are significantly negative in year -1 and year 1, but not significantly different from zero in other periods. This suggests that forced CEO turnovers resulting from disagreements between the board and the CEO are not a positive signal for investors during the first four days and the first year.

We also examine whether boards and CEOs with certain characteristics would lead to a better post-turnover firm performance. The regression results do not present any evidence that board characteristics, CEO characteristics and firm performance have a significant relationship. However, long-term abnormal stock returns are negatively associated with the occurrence of subsequent CEO turnovers, suggesting that CEO turnovers do have negative influence on stock returns in certain instances. We also find that firm size is positively related to stock performance and negatively related to operating performance.

In our sample, 23 out of 80 firms initiate multiple turnovers within three years and those subsequent turnovers generate negative effect on firm performance. Based on the large proportion of firms that experience multiple turnovers, we suggest that boards may exert too much pressure on CEOs, thus many successor CEOs are not willing to work with the current boards. Investors may also perceive the conflicts as the boards' problems, thus stock price falls when a second and a third turnover takes place.

This study is conducted with 80 turnover events that happened in the January 1995 to December 2008 period related to conflict-induced CEO turnover. The sample

size remains a limitation of our study. It will be useful to explore this relationship further using a larger sample in future research. In addition, future study can examine whether business expansion is the reason that cause the conflicts between boards and CEOs, and whether they are associated with a higher probability of CEO turnovers. Moreover, our study contains several interesting phenomenon. For example, some original CEOs resigned within three years preceding the forced turnover and then the second CEO succeeds. When the second CEO was fired because of policy differences with the board, the original CEO was reinstated in the CEO position again. It is interesting for future research to look at the performance issues of the firms which assigned a former CEO as the new successor.

# Appendix

Table 1: Description of turnover years

This table reports sample frequencies of years of CEO turnovers. The sample consists of 80 forced CEO turnover events occurred between January 1995 and December 2007.

| Year | Number of firms | % of sample |
|---|---|---|
| 1995 | 3 | 3.75 |
| 1996 | 2 | 2.50 |
| 1997 | 9 | 11.25 |
| 1998 | 9 | 11.25 |
| 1999 | 9 | 11.25 |
| 2000 | 8 | 10.00 |
| 2001 | 4 | 5.00 |
| 2002 | 12 | 15.00 |
| 2003 | 5 | 6.25 |
| 2004 | 4 | 5.00 |
| 2005 | 8 | 10.00 |
| 2006 | 4 | 5.00 |
| 2007 | 3 | 3.75 |

Table 2: Description of turnover firms' industries

This table reports sample frequencies of industries of CEO turnover firms. The sample consists of 80 forced CEO turnover events occurred between January 1995 and December 2007. Industries are classified using criteria of the Fama French 49 industry classification.

| Industry No. | Industry | Number of firms | % of sample |
|---|---|---|---|
| 2 | Food Products | 1 | 1.25 |
| 7 | Entertainment | 1 | 1.25 |
| 8 | Printing and Publishing | 1 | 1.25 |
| 9 | Consumer Goods | 3 | 3.75 |
| 10 | Apparel | 2 | 2.50 |
| 11 | Healthcare | 3 | 3.75 |
| 12 | Medical Equipment | 4 | 5.00 |
| 13 | Pharmaceutical Products | 6 | 7.50 |
| 14 | Chemicals | 2 | 2.50 |
| 18 | Construction | 1 | 1.25 |
| 31 | Utilities | 2 | 2.50 |
| 32 | Communication | 2 | 2.50 |
| 33 | Personal Services | 1 | 1.25 |
| 34 | Business Services | 8 | 10.00 |
| 35 | Computer Hardware | 6 | 7.50 |
| 36 | Computer Software | 10 | 12.50 |
| 37 | Electronic Equipment | 3 | 3.75 |
| 38 | Measuring and Control Equipment | 1 | 1.25 |
| 42 | Wholesale | 1 | 1.25 |
| 43 | Retail | 11 | 13.75 |
| 44 | Restaurants, Hotels, Motels | 4 | 5.00 |
| 45 | Banking | 3 | 3.75 |
| 46 | Insurance | 2 | 2.50 |
| 48 | Trading | 1 | 1.25 |
| 49 | Other | 1 | 1.25 |

Table 3: Summary statistics of CEO and board characteristics

This table reports statistics for a sample of 80 forced CEO turnover events occurred between January 1995 and December 2007. For each firm, we collect information from three years before through three years after the turnover year. CEO-Chairman equals one if the CEO also serves as chairman of the board, and zero otherwise. Founder CEO equals one if the outgoing CEO is the founder of the firm, and zero otherwise. Years with the firm is positive if the incoming CEO is an insider, and zero if he/she is an outsider. Outsider CEO equals one if the incoming CEO has not been employed by the firm before the turnover, and zero otherwise. Outside directors are directors who are not affiliated with the firm. CEO ownership is the percentage of common stock ownership held by the CEO. Insider ownership is the percentage of common stock ownership of officers and directors. Institutional ownership is the ownership of institutions who own beneficially more than five percent of any class of the company's voting securities.

| | Mean | Minimum | Median | Maximum | Std. Dev. |
|---|---|---|---|---|---|
| Panel A: Outgoing CEO Characteristics | | | | | |
| Age (in years) | 47.61 | 26.00 | 48.00 | 63.00 | 7.00 |
| Years with firm (in years) | 9.82 | 1.17 | 7.84 | 37.00 | 7.47 |
| CEO tenure (in years) | 7.94 | 1.17 | 6.50 | 25.58 | 5.32 |
| Founder CEO | 0.16 | 0.00 | 0.00 | 1.00 | 0.37 |
| CEO-Chairman | 0.49 | 0.00 | 0.00 | 1.00 | 0.50 |
| Salary (in US$ thousands) | 484.44 | 0.00 | 378.53 | 3,961.17 | 453.59 |
| Bonus (in US$ thousands) | 342.10 | 0.00 | 34.45 | 12,421.35 | 1,085.41 |
| Total compensation (in US$ thousands) | 6,481.30 | 45.41 | 1,268.54 | 139,718.69 | 16,401.14 |
| Panel B: Incoming CEO Characteristics | | | | | |
| Age (in years) | 53.70 | 37.00 | 53.00 | 72.00 | 7.77 |
| Years with firm when appointed as CEO (in years) | 4.14 | 0.00 | 0.75 | 34.00 | 6.30 |
| Outsider CEO | 0.56 | 0.00 | 1.00 | 1.00 | 0.50 |
| CEO-Chairman | 0.34 | 0.00 | 0.00 | 1.00 | 0.48 |
| Salary (in US$ thousands) | 453.49 | 0.00 | 351.48 | 1,500.00 | 366.32 |
| Bonus (in US$ thousands) | 432.17 | 0.00 | 50.00 | 8,624.00 | 988.42 |

| | | | | | |
|---|---|---|---|---|---|
| Total compensation (in US$ thousands) | 4,556.54 | 0.00 | 1,164.52 | 49,014.24 | 8,461.31 |
| | | | | | |
| Panel C: Board characteristics before the turnover | | | | | |
| Board size | 8.36 | 4.00 | 8.00 | 16.00 | 2.44 |
| Outside directors (%) | 76.70 | 45.24 | 80.00 | 92.31 | 11.80 |
| CEO ownership (%) | 4.86 | 0.00 | 1.79 | 37.70 | 7.83 |
| Insider ownership (%) | 18.71 | 0.45 | 13.30 | 62.01 | 17.24 |
| Institutional ownership (%) | 32.33 | 0.00 | 27.37 | 88.87 | 22.56 |
| | | | | | |
| Panel D: Board characteristics after the turnover | | | | | |
| Board size | 8.47 | 4.00 | 8.00 | 15.00 | 2.42 |
| Outside directors (%) | 81.74 | 35.00 | 85.71 | 92.30 | 10.27 |
| CEO ownership (%) | 4.16 | 0.00 | 0.97 | 70.67 | 10.99 |
| Insider ownership (%) | 15.30 | 0.00 | 9.20 | 66.22 | 22.56 |
| Institutional ownership (%) | 31.99 | 0.00 | 30.40 | 90.26 | 20.60 |

Table 4: Summary statistics of firm characteristics

This table reports statistics for a sample of 79 firms with forced CEO turnover events and a sample of 75 firms with no CEO turnover event occurred between January 1995 and December 2007. For each firm, we collect information from three years before through three years after the turnover year. OROA is operating return on assets, calculated as operating income before depreciation divided by total assets. Book-to-market ratio is the ratio of a firm's book value of equity and market value. ROA is return on assets, calculated as net income divided by total assets.

| | Mean | Minimum | Median | Maximum | Std. Dev. |
|---|---|---|---|---|---|
| Panel A: Sample firms before turnover | | | | | |
| OROA | -0.12 | -23.83 | 0.09 | 0.28 | 1.72 |
| Total assets (in US$ millions) | 4,165.55 | 0.04 | 448.44 | 76,138.00 | 10,678.46 |
| Capital expenditures (in US$ millions) | 176.04 | 0.00 | 14.36 | 3,173.00 | 430.39 |
| Book-to-market ratio | 0.44 | -6.44 | 0.43 | 1.75 | 0.64 |
| ROA | -0.26 | -23.91 | 0.01 | 0.28 | 1.78 |
| Panel B: Sample firms after turnover | | | | | |
| OROA | 0.00 | -2.58 | 0.09 | 0.45 | 0.29 |
| Total assets (in US$ millions) | 4,820.79 | 0.95 | 353.42 | 113,331.00 | 13,701.95 |
| Capital expenditures (in US$ millions) | 151.08 | 0.00 | 7.95 | 3,040.00 | 421.44 |
| Book-to-market ratio | -1.09 | -311.90 | 0.53 | 27.49 | 23.29 |
| ROA | -0.08 | -3.14 | 0.01 | 0.56 | 0.33 |
| Panel C: Matched firms before turnover | | | | | |
| OROA | 0.07 | -1.59 | 0.12 | 0.46 | 0.24 |
| Total assets (in US$ millions) | 1,643.55 | 6.76 | 437.31 | 21,309.30 | 3,272.16 |
| Capital expenditures (in US$ millions) | 122.69 | 0.00 | 10.13 | 6,171.74 | 497.39 |
| Book-to-market ratio | 0.64 | -1.41 | 0.43 | 25.63 | 1.82 |
| ROA | -0.02 | -1.71 | 0.05 | 0.59 | 0.27 |

| | | | | | |
|---|---|---|---|---|---|
| Panel D: Matched firms after turnover | | | | | |
| OROA | 0.05 | -2.53 | 0.12 | 0.43 | 0.32 |
| Total assets (in US$ millions) | 2,930.51 | 3.43 | 893.77 | 27,303.93 | 5,090.90 |
| Capital expenditures (in US$ millions) | 115.97 | 0.00 | 19.79 | 1,886.01 | 256.87 |
| Book-to-market ratio | 0.30 | -46.53 | 0.48 | 10.85 | 3.85 |
| ROA | -0.03 | -2.52 | 0.04 | 1.04 | 0.37 |

Table 5: Correlations between independent variables

This table reports correlations between the independent variables. The variables include the CEO's cash compensation (Compensation), the percentage of shares owned by the CEO (CEO ownership), the CEO's age (Age), a dummy variable that equals to one if the CEO is an insider (Insider CEO), a dummy variable that equals one if the CEO is also the chairman of the board (CEO-Chairman), the number of directors sitting on the board (Board size), the percentage of outside directors on the board (Outside directors), the lagged buy-and-hold abnormal return (Lagged BHAR), a dummy variable that equals one if the firm increases or decreases its number of geographic segments (Segment), a dummy variable that equals one if a subsequent turnover event occurs (Turnover), and the firm's size measured as the natural logarithm of the firm's total assets (Firm size).

| | Compensation | CEO ownership | Age | Insider CEO | CEO-Chairman | Board size | Outside directors | Lagged BHAR | Segment | Turnover | Firm size |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Compensation | 1 | | | | | | | | | | |
| CEO ownership | -0.1295 | 1 | | | | | | | | | |
| Age | 0.1900 | -0.0811 | 1 | | | | | | | | |
| Insider CEO | -0.1522 | 0.2125 | -0.1978 | 1 | | | | | | | |
| CEO-Chairman | 0.3043* | 0.2859* | 0.3984* | -0.0395 | 1 | | | | | | |
| Board size | 0.2960* | 0.0615 | 0.2877* | -0.0709 | 0.3047* | 1 | | | | | |
| Outside directors | 0.2626* | -0.4583* | 0.1298 | -0.1187 | 0.0513 | 0.3947* | 1 | | | | |
| Lagged BHAR | 0.0330 | -0.0399 | 0.0843 | -0.1162 | 0.1075 | 0.0952 | 0.0013 | 1 | | | |
| Segment | -0.0726 | 0.0238 | -0.1859 | -0.0062 | -0.1292 | -0.1996 | 0.0605 | 0.0887 | 1 | | |
| Turnover | -0.1703 | -0.0810 | 0.0550 | -0.0904 | -0.1078 | -0.1456 | -0.1470 | -0.1014 | -0.0871 | 1 | |
| Firm size | 0.6751* | -0.2093 | 0.2752* | -0.0676 | 0.2840* | 0.5569* | 0.4268* | 0.1347 | -0.0551 | -0.1182 | 1 |

* denote statistical significance at the 0.1 level.

Table 6: Changes in operating return on assets in Year -1

This table reports mean and median changes in operating return on assets (OROA) for 68 sample firms during the period from January 1995 to December 2007 period. The sample contains 80 firms originally. When firms with missing data are excluded, there are 68 firms left. The sample period for each firm is three years before through three years after the turnover year. Industry-adjusted OROA is adjusted by subtracting the Fama French 49 industry level median OROA from the firm's unadjusted OROA. Matched group-adjusted OROA is adjusted by subtracting matched group median OROA from the matched firm's unadjusted OROA. The significance of mean and median changes is based on a standard two-tailed t-test and a median sign-test.

| Years | -3 to 3 | | -3 to -1 | | -1 to 1 | | -1 to 2 | | -1 to 3 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | mean | median | mean | median | mean | median | mean | median | mean | median |
| Operating return on assets (OROA) | -0.0323 | -0.0209 | -0.0131 | -0.0111 | -0.0004 | 0.0033 | 0.0232 | 0.0114 | 0.0079 | 0.0099 |
| Industry-adjusted OROA | 0.0000 | 0.0098 | -0.009 | -0.0028 | 0.0164 | 0.0083 | 0.0439* | 0.0217* | 0.0332 | 0.0232 |
| Matched group-adjusted OROA | -0.0098 | 0.0179 | 0.0155 | 0.0092 | -0.0272 | 0.0088* | -0.0087 | 0.0043 | -0.0113 | 0.0083 |

***, **, and * denote statistical significance at the 0.01, 0.05, and 0.1 level, respectively.

Table 7: Changes in operating return on assets in Year 0

This table reports mean and median changes in operating return on assets (OROA) for 64 sample firms during the period from January 1995 to December 2007 period. The sample contains 80 firms originally. When firms with missing data are excluded, there are 64 firms left. The sample period for each firm is three years before through three years after the turnover year. Industry-adjusted OROA is adjusted by subtracting the Fama French 49 industry level median OROA from the firm's unadjusted OROA. Matched group-adjusted OROA is adjusted by subtracting matched group median OROA from the matched firm's unadjusted OROA. The significance of mean and median changes is based on a standard two-tailed t-test and a median sign-test.

| Years | -3 to 0 | | 0 to 1 | | 0 to 2 | | 0 to 3 | |
|---|---|---|---|---|---|---|---|---|
| | mean | median | mean | median | mean | median | mean | median |
| Operating return on assets (OROA) | -0.0515 | -0.0316** | 0.0623 | 0.0119** | 0.0878 | 0.0226 | 0.0531 | 0.0238 |
| Industry-adjusted OROA | -0.0380 | -0.0271 | 0.0723 | 0.0183** | 0.1016* | 0.0204** | 0.0709 | 0.0266 |
| Matched group-adjusted OROA | 0.0898 | -0.0116 | -0.0902 | 0.0200* | -0.0875 | 0.0134 | -0.1176 | 0.0348* |

***, **, and * denote statistical significance at the 0.01, 0.05, and 0.1 level, respectively.

Table 8: Median percentage changes in the book value of total assets, capital expenditures, return on assets, and book-to-market ratio in Year -1

This table reports median percentage changes in the book value of total assets, capital expenditures, return on assets, and book-to-market ratio for 71 sample firms during the period from January 1995 to December 2007. The sample contains 80 firms originally. When firms with missing data are excluded, there are 71 firms left. Industry-adjusted values are adjusted by subtracting the Fama French 49 industry level median OROA from each firm's unadjusted OROA. The significance of median percentage changes is based on a two-tailed Wilcoxon matched-pairs signed-rank test. The null hypothesis of the signed-rank test is that the median changes do not differ from zero.

| Years | -3 to -1 | -1 to 1 | -1 to 2 | -1 to 3 |
|---|---|---|---|---|
| Panel A: Book value of total assets | | | | |
| unadjusted | 15.61*** | -7.41* | -4.46 | -4.34 |
| industry-adjusted | 6.82 | -10.90* | -2.46 | -4.89 |
| | | | | |
| Panel B: Capital expenditures | | | | |
| unadjusted | 12.28*** | -27.25 | -27.35 | -28.57 |
| industry-adjusted | 90.96 | -11.15 | -5.57 | -44.10* |
| | | | | |
| Panel C: Return on assets | | | | |
| unadjusted | -54.85*** | -41.38 | -50.49** | -68.12*** |
| industry-adjusted | -33.52 | -65.43** | -83.56*** | -101.36*** |
| | | | | |
| Panel D: Book-to-market ratio | | | | |
| unadjusted | 2.46 | 8.88 | 8.27 | 9.40 |
| industry-adjusted | 60.47 | -33.01 | -34.73 | -69.07 |

***, **, and * denote statistical significance at the 0.01, 0.05, and 0.1 level, respectively.

Table 9: Median percentage changes in the book value of total assets, capital expenditures, return on assets, and book-to-market ratio in Year 0

This table reports median percentage changes in the book value of total assets, capital expenditures, return on assets, and book-to-market ratio for 66 sample firms during the period from January 1995 to December 2007. The sample contains 80 firms originally. When firms with missing data are excluded, there are 66 firms left. Industry-adjusted values are adjusted by subtracting the Fama French 49 industry level median OROA from each firm's unadjusted OROA. The significance of median percentage changes is based on a two-tailed Wilcoxon matched-pairs signed-rank test. The null hypothesis of the signed-rank test is that the median changes do not differ from zero.

| Years | -3 to 0 | 0 to 1 | 0 to 2 | 0 to 3 |
|---|---|---|---|---|
| Panel A: Book value of total assets | | | | |
| unadjusted | 9.48*** | -1.14 | -0.97 | 1.51 |
| industry-adjusted | -2.32 | -6.19* | -2.66 | 2.42 |
| | | | | |
| Panel B: Capital expenditures | | | | |
| unadjusted | -8.74 | -10.60** | -20.92 | -30.34 |
| industry-adjusted | -21.52 | -5.66 | -24.07 | -31.16 |
| | | | | |
| Panel C: Return on assets | | | | |
| unadjusted | -87.11*** | -13.40 | -75.68*** | -88.04*** |
| industry-adjusted | -86.15** | -15.74 | -73.28 | -76.26** |
| | | | | |
| Panel D: Book-to-market ratio | | | | |
| unadjusted | 12.95* | -2.36 | 6.55 | -1.87 |
| industry-adjusted | -61.71 | -18.74 | -16.09 | -42.33 |

***, **, and * denote statistical significance at the 0.01, 0.05, and 0.1 level, respectively.

Table 10: Mean changes in the number of geographic segments

This table reports mean changes in the number of geographic segments for 67 sample firms during the period from January 1995 to December 2007. Geographic segments represent countries that in a firm's target market. The significance of mean changes is based on a standard two-tailed t-test.

| Year | -3 to -2 | -2 to -1 | -1 to 0 | 0 to 1 | 1 to 2 | 2 to 3 |
|---|---|---|---|---|---|---|
| Change in number of geographic segments | 0.12 | -0.08 | 0.16* | 0.22** | 0.07 | -0.08 |
| T-statistic | -1.53 | 0.93 | -1.93 | -2.09 | -0.63 | 0.88 |

***, **, and * denote statistical significance at the 0.01, 0.05, and 0.1 level, respectively.

Table 11: Long-term buy-and-hold abnormal returns (BHARs)

This table reports the mean long-term buy-and-hold abnormal returns (BHARs) for 78 sample firms during the period from January 1995 to December 2007 in Panel A and Panel B, and 73 firms in Panel C. BHARs are calculated as: $BHAR_i = \prod_{t=a}^{b}(1 + R_{i,t}) - \prod_{t=a}^{b}(1 + R_{benchmark,t})$, where $R_{i,t}$ refers to the monthly return of firm *i* in month *t*, and $R_{benchmark,t}$ is the return on the associated benchmark in month *t*. For our benchmarks, we use equally weighted market returns, value weighted market returns, and returns on the matching sample, respectively. The mean buy-and-hold abnormal return is calculated as the equally weighted average of the individual BHARs: $\overline{BHAR} = \frac{1}{n}\sum_{i=1}^{n} BHAR_i$, where n is the number of sample firms. The significance of mean changes is based on a standard two-tailed t-test.

| Year | -3 | -2 | -1 | 1st | 2nd | 3rd |
|---|---|---|---|---|---|---|
| Panel A: Equally weighted market-adjusted returns | | | | | | |
| Sample return | 31.15 | 19.38 | -23.45 | -5.72 | 22.97 | 11.84 |
| Benchmark return | 17.34 | 17.80 | 11.89 | 14.34 | 12.42 | 12.74 |
| Abnormal return | 13.81 | 1.58 | -35.33*** | -20.06*** | 10.55 | -0.91 |
| T-statistic | 0.94 | 0.18 | -5.81 | -2.96 | 0.82 | -0.09 |
| % of negative abnormal returns | 60.27 | 59.21 | 80.77 | 68.83 | 63.38 | 58.82 |
| | | | | | | |
| Panel B: Value weighted market-adjusted returns | | | | | | |
| Sample return | 31.15 | 19.38 | -23.45 | -5.72 | 22.97 | 11.84 |
| Benchmark return | 12.32 | 13.00 | 9.51 | 9.92 | 6.04 | 4.77 |
| Abnormal return | 18.83 | 6.38 | -32.95*** | -15.64** | 16.92 | 7.07 |
| T-statistic | 1.27 | 0.71 | -5.35 | -2.33 | 1.29 | 0.73 |
| % of negative abnormal returns | 58.90 | 55.26 | 76.92 | 63.64 | 50.70 | 55.88 |
| | | | | | | |
| Panel C: Matched sample-adjusted returns | | | | | | |
| Sample return | 34.58 | 19.85 | -20.05 | -7.57 | 27.42 | 8.46 |
| Benchmark return | 18.52 | 20.88 | 16.82 | 29.33 | 56.59 | 5.44 |
| Abnormal return | 16.06 | -0.93 | -36.86*** | -36.90*** | -29.17 | 3.02 |

| | | | | | | |
|---|---|---|---|---|---|---|
| T-statistic | 0.84 | -0.09 | -2.79 | -2.98 | -1.27 | 0.35 |
| % of negative abnormal returns | 51.61 | 56.52 | 73.97 | 57.75 | 65.63 | 50.00 |

***, **, and * denote statistical significance at the 0.01, 0.05, and 0.1 level, respectively.

Table 12: Regression analysis of post-turnover firm performance

This table reports the results of six regression models, in which the dependent variables are the equally weighted market index-adjusted abnormal return, the value weighted market index-adjusted abnormal return, the matched group-adjusted abnormal return, the change in unadjusted OROA, the change in industry-adjusted OROA, and the change in matched group-adjusted OROA. The independent variables include the CEO's cash compensation (Compensation), the percentage of shares owned by the CEO (CEO ownership), the CEO's age (Age), a dummy variable that equals to one if the CEO is an insider (Insider CEO), a dummy variable that equals one if the CEO is also the chairman of the board (CEO-Chairman), the number of directors sitting on the board (Board size), the percentage of outside directors on the board (Outside directors), the one year lagged buy-and-hold abnormal return (Lagged BHAR), a dummy variable that equals one if the firm increases its number of geographic segments (Segment increase), a dummy variable that equals one if the firm decreases its number of geographic segments (Segment decrease), a dummy variable that equals one if a subsequent turnover event occurs (Turnover), and the firm's size measured as the natural logarithm of the firm's total assets (Firm size). T-statistics are reported in parentheses below each coefficient.

| | BHAR | | | Change in OROA | | |
|---|---|---|---|---|---|---|
| | Equally-adjusted | Value-adjusted | Match-adjusted | Unadjusted | Industry-adjusted | Match-adjusted |
| Intercept | -26.197*** | -26.325*** | -48.755*** | 9.078*** | 9.386*** | 3.089 |
| | (-2.96) | (-2.92) | (-3.08) | (3.61) | (3.66) | (0.56) |
| Compensation | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | (0.17) | (0.27) | (0.20) | (0.52) | (0.61) | (0.29) |
| CEO ownership | 0.023 | 0.038 | -0.125 | 0.044* | 0.039 | -0.124** |
| | (0.29) | (0.46) | (-0.80) | (1.79) | (1.58) | (-2.15) |
| Age | -0.041 | -0.046 | 0.002 | 0.007 | 0.008 | 0.005 |
| | (-1.28) | (-1.40) | (0.03) | (0.67) | (0.84) | (0.23) |
| Insider CEO | -0.461 | -0.683 | -0.307 | 0.090 | 0.086 | 0.265 |
| | (-0.69) | (-1.01) | (-0.26) | (0.45) | (0.42) | (0.61) |
| CEO-Chairman | 0.444 | 0.460 | -0.342 | 0.031 | 0.005 | 0.007 |
| | (0.88) | (0.89) | (-0.38) | (0.20) | (0.03) | (0.02) |
| Board size | -0.094 | -0.115 | 0.139 | 0.032 | 0.030 | 0.017 |
| | (-0.88) | (-1.05) | (0.72) | (1.07) | (0.99) | (0.25) |
| Outside directors | 0.568 | 1.173 | -0.885 | -0.552 | -0.601 | 0.812 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (0.26) | (0.53) | (-0.22) | (-0.84) | (-0.90) | (0.55) |
| Lagged BHAR | -0.558*** | -0.519*** | -0.633*** | | | |
| | (-4.95) | (-4.76) | (-5.67) | | | |
| Segment increase | -0.402 | -0.448 | 0.099 | 0.035 | 0.033 | 0.241 |
| | (-1.28) | (-1.40) | (0.18) | (0.35) | (0.33) | (1.12) |
| Segment decrease | -0.323 | -0.488 | 0.060 | 0.110 | 0.116 | 0.527** |
| | (-0.82) | (-1.21) | (0.08) | (0.97) | (1.00) | (2.15) |
| Turnover | -0.693** | -0.756*** | -1.122** | 0.119 | 0.116 | -0.027 |
| | (-2.55) | (-2.73) | (-2.16) | (1.50) | (1.44) | (-0.15) |
| Firm size | 1.431*** | 1.440*** | 2.396*** | -0.468*** | -0.484*** | -0.198 |
| | (3.26) | (3.21) | (3.07) | (-3.77) | (-3.82) | (-0.72) |
| N | 126 | 126 | 120 | 121 | 121 | 116 |
| $R^2$ within | 0.386 | 0.394 | 0.430 | 0.264 | 0.261 | 0.177 |
| $R^2$ between | 0.003 | 0.000 | 0.087 | 0.178 | 0.186 | 0.011 |
| $R^2$ overall | 0.004 | 0.010 | 0.056 | 0.090 | 0.093 | 0.014 |

***, **, and * denote statistical significance at the 0.01, 0.05, and 0.1 level, respectively.

Figure 1: Median unadjusted operating return on assets (OROA) around CEO turnover events

The sample period for each firm is three years before through three years after the turnover year. OROA is operating return on assets, calculated as operating income before depreciation divided by total assets.

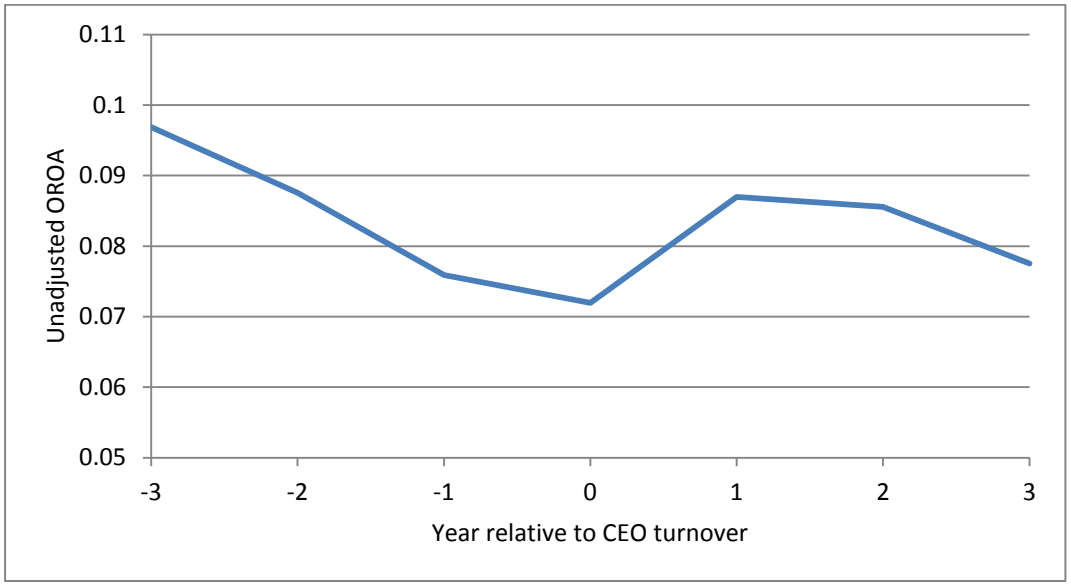



Figure 2: Median industry-adjusted operating return on assets (OROA) around CEO turnover events

The sample period for each firm is three years before through three years after the turnover year. OROA is operating return on assets, calculated as operating income before depreciation divided by total assets. Industry-adjusted OROA is adjusted by subtracting the Fama French 49 industry level median OROA from the firm's unadjusted OROA.

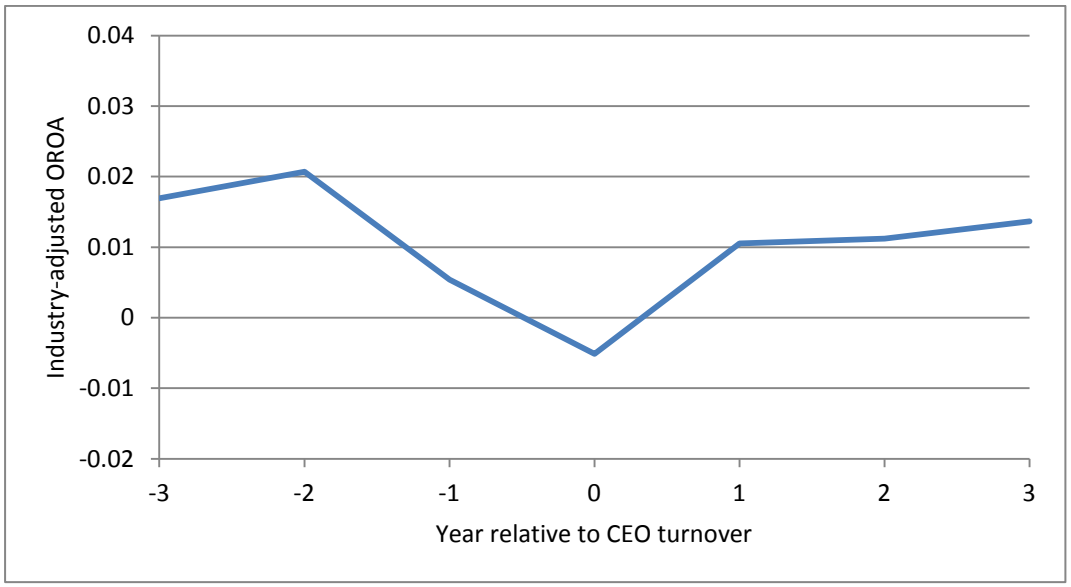


Figure 3: Median matched group-adjusted operating return on assets (OROA) around CEO turnover events

The sample period for each firm is three years before through three years after the turnover year. OROA is operating return on assets, calculated as operating income before depreciation divided by total assets. Matched group-adjusted OROA is adjusted by subtracting matched group median OROA from the matched firm's unadjusted OROA.

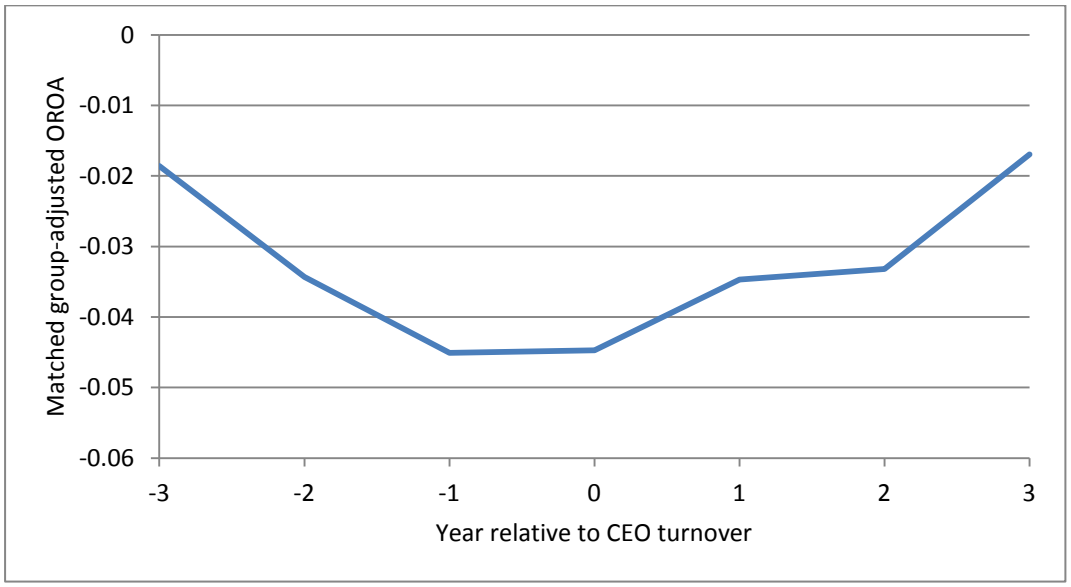



Figure 4: Median unadjusted operating return on assets (OROA) of no multiple turnover firms and multiple turnover firms

The sample period for each firm is three years before through three years after the turnover year. There are 57 no multiple turnover firms and 23 multiple turnover firms in the sample.

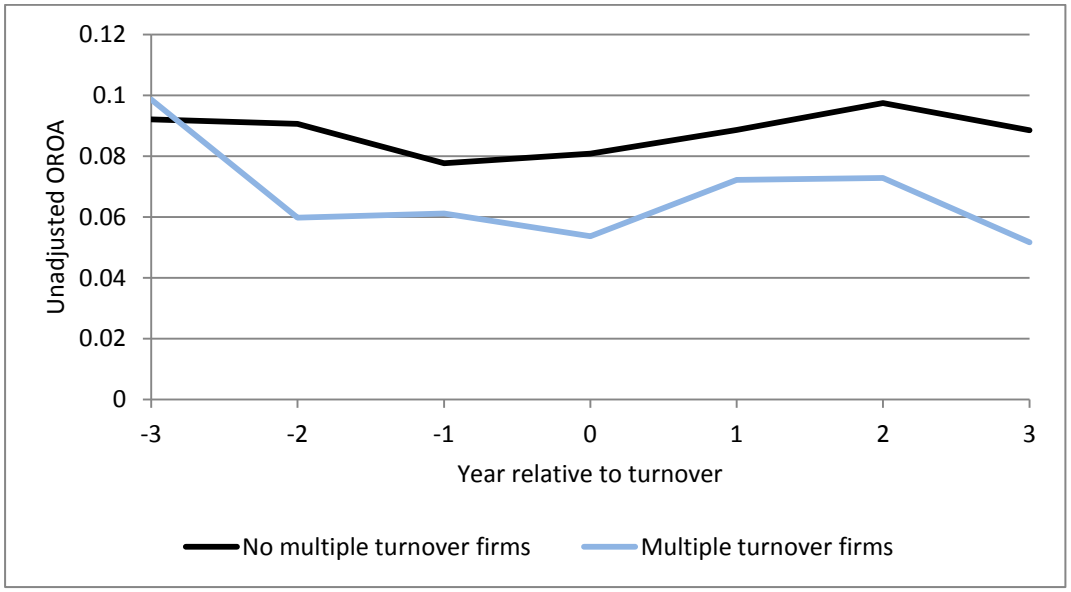


Figure 5: Median unadjusted operating return on assets (OROA) of insider succession firms and outsider succession firms

The sample period for each firm is three years before through three years after the turnover year. There are 29 insider successions and 51 outsider successions in the sample.

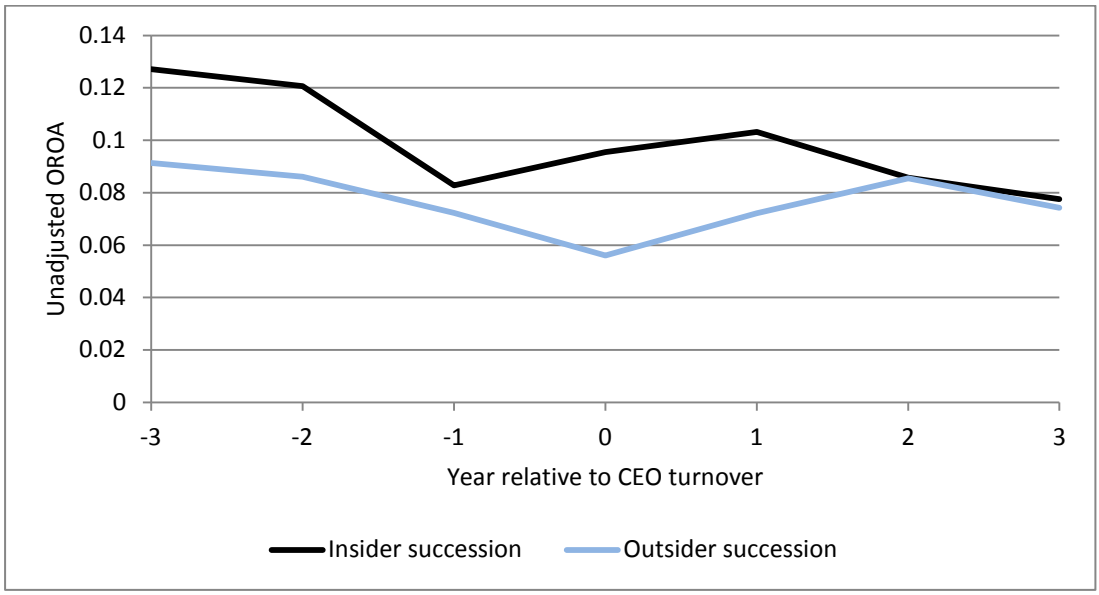



Figure 6: Cumulative abnormal returns (CARs) using equally weighted market index returns as a benchmark

The sample period of short-term stock returns is thirty days before through thirty days after the turnover announcement date. Abnormal return is calculated as the difference between the actual return ($Return_{it}$) and the expected return ($R_{it}$) on day t: $AR_{it} = Return_{it} - R_{it}$, where expected returns is predicted using equally weighted market index returns:$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$. The CAR starting at time $t_1$ through time $t_2$ is calculated as: $CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_t$.

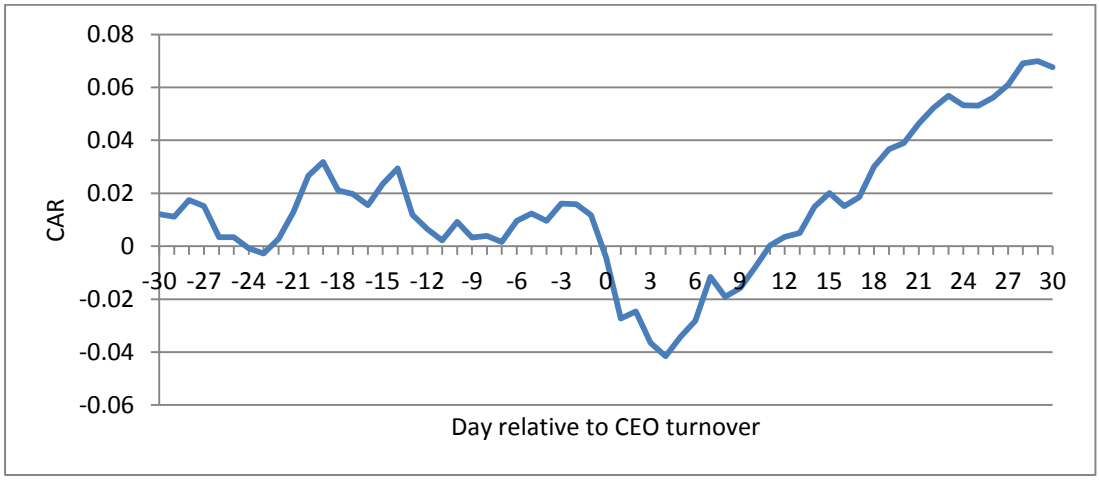


Figure 7: Cumulative abnormal returns (CARs) using value weighted market index returns as a benchmark

The sample period of short-term stock returns is thirty days before through thirty days after the turnover announcement date. Abnormal return is calculated as the difference between the actual return ($Return_{it}$) and the expected return ($R_{it}$) on day t: $AR_{it} = Return_{it} - R_{it}$, where expected returns is predicted using value weighted market index returns:$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$. The CAR starting at time $t_1$ through time $t_2$ is calculated as: $CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_t$.

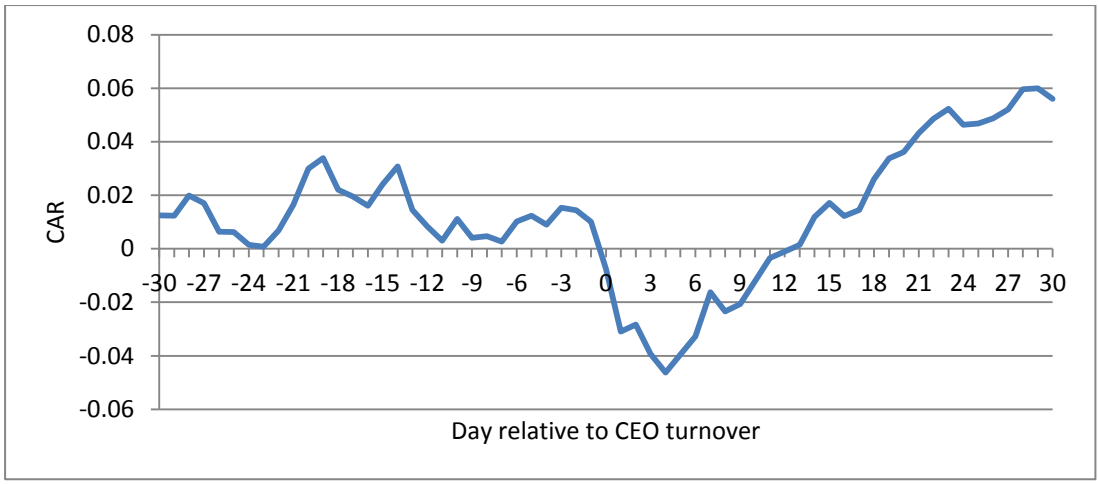



Figure 8: Cumulative abnormal returns (CARs) using S&P 500 market index returns as a benchmark

The sample period of short-term stock returns is thirty days before through thirty days after the turnover announcement date. Abnormal return is calculated as the difference between the actual return ($Return_{it}$) and the expected return ($R_{it}$) on day t: $AR_{it} = Return_{it} - R_{it}$, where expected returns is predicted using S&P 500 market index returns: $R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$. The CAR starting at time $t_1$ through time $t_2$ is calculated as: $CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_t$.

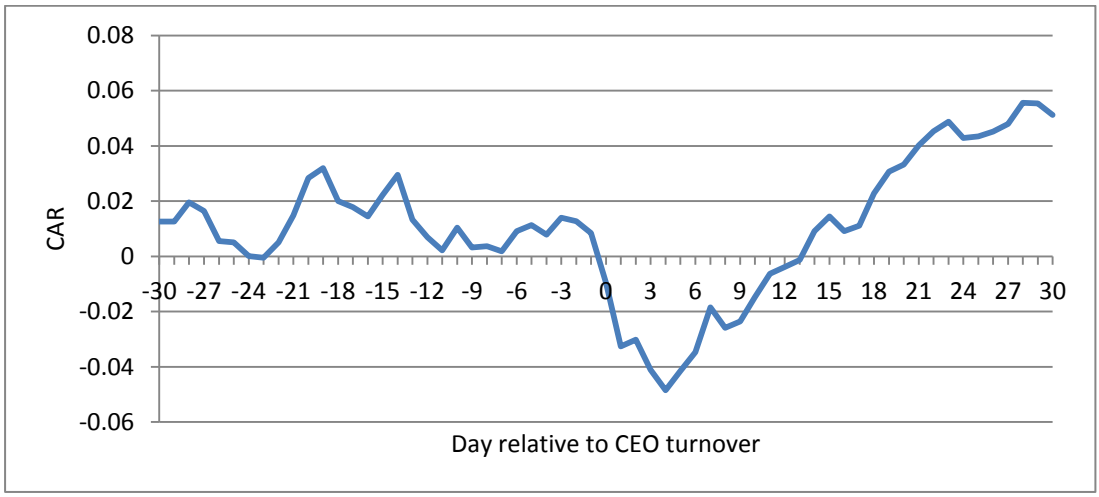


Figure 9: Equally-adjusted buy-and-hold abnormal returns (BHARs) of no multiple turnover firms and multiple turnover firms

The sample period for each firm is three years before through three years after the turnover year. There are 56 no multiple turnover firms and 23 multiple turnover firms in the sample.

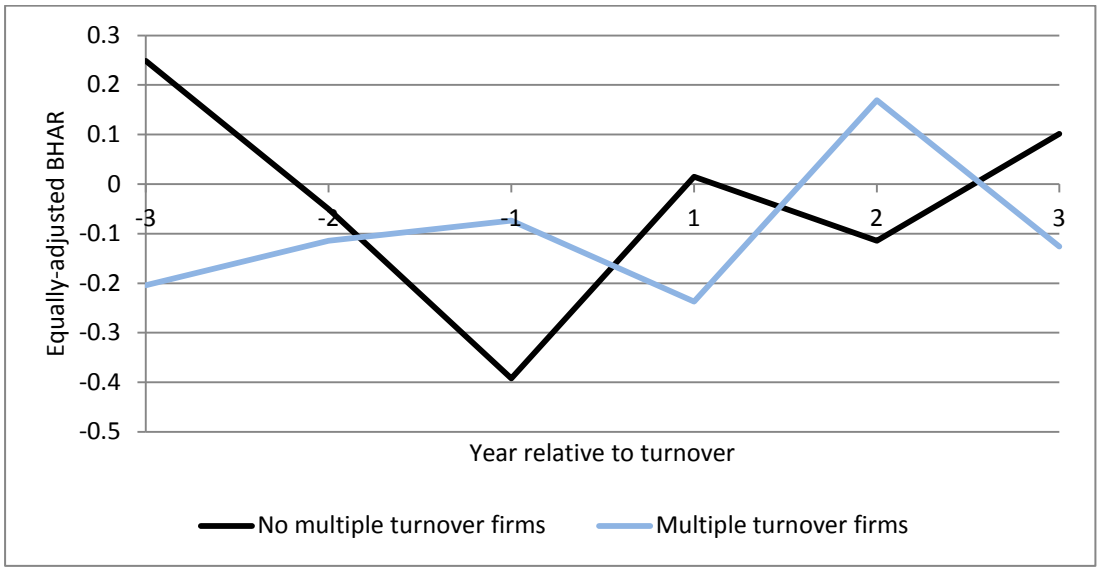
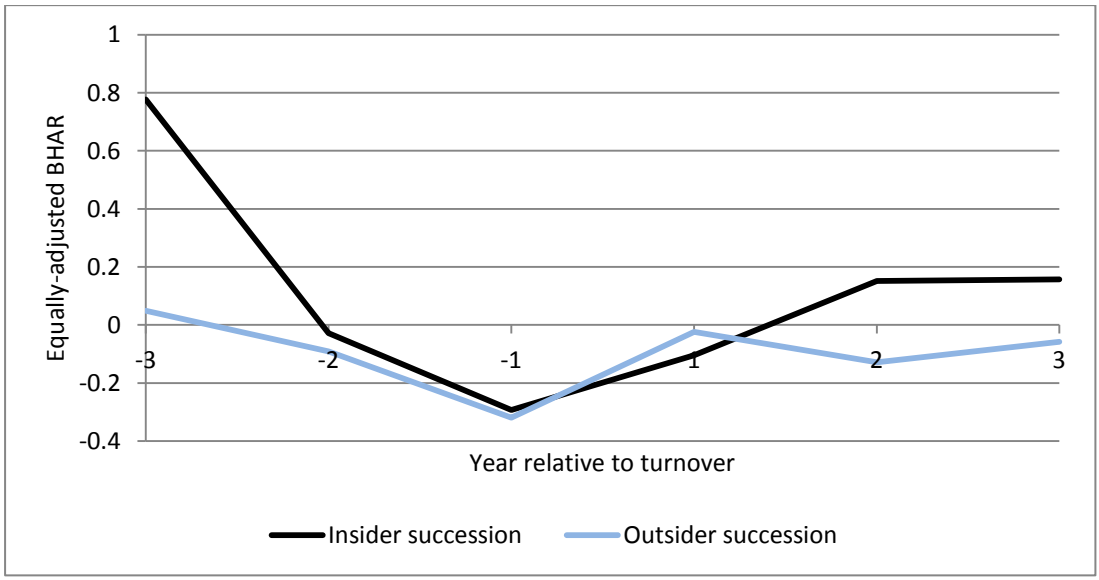



Figure 10: Equally-adjusted buy-and-hold abnormal returns (BHARs) of insider succession firms and outsider succession firms

The sample period for each firm is three years before through three years after the turnover year. There are 29 insider successions and 50 outsider successions in the sample.



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