Is Cash Compensation for Long-Tenured CEOs Efficiently Allocated?[1]

Yoshie Saito

Assistant Professor

Strome College of Business
Old Dominion University

Office 757-683-5722

8 June 2016

[1] The author would like to thank Richard A. Lord, Mike Stein, Nana Amoah, and Masako Darrough, seminar participants at Old Dominion University and anonymous reviewers for their useful comments and suggestions for earlier version of this paper.

Is Cash Compensation for Long-Tenured CEOs Efficiently Allocated?

Abstract

Uncertainty about a CEO's ability is related to his/her length of service to a firm. Accordingly, monitoring systems should vary depending upon CEOs' tenure. Long-tenured CEOs require less monitoring because their ability has been revealed over time. However, as CEOs advance in their careers, they are more likely to acquire power to influence board decisions. To analyze this implication, I use the previously reported differential sensitivity of CEO cash compensation to income-increasing and -decreasing disposals. Contrary to prior findings, I find that cash compensation for long-tenured CEOs is positively associated with both income-decreasing but is shielded from income-increasing divesture decisions.

Keywords: Long-tenured CEO, Cash Compensation, Efficient contract

JEL: G34, M41, J33

Is Cash Compensation for Long-Tenured CEOs Efficiently Allocated?

1. Introduction

Economic theory offers two competing hypotheses to explain the different sensitivities of CEO cash compensation to income-increasing and -decreasing components of earnings reported in prior studies (Gaver and Gaver 1998; Comprix and Muller 2006). Income-increasing accounting items tend to flow through to cash compensation, but compensation committees often shield CEO pay from the effect of income-decreasing components. The rent-seeking hypothesis predicts that when managers have superior power, discretion and knowledge, they have incentives to alter their compensation contracts for their own benefit (e.g., Edlin and Stiglits 1995; Shleifer and Vishny 1989; Hill and Phan 1991).[2] On the other hand, the efficient contracting hypothesis predicts that a reward system can reduce problems associated with unobservable effort. Thus, compensation committees can devise well-designed contracts to reward managers for appropriate value enhancing activities (e.g., Grossman and Hart 1983; Milgrom and Roberts 1992). The findings that the immediate positive effects flow through to cash compensation while negative ones do not can be interpreted as evidence of rent-seeking. However, income-decreasing discontinued operations (hereafter DCs) contemporaneously reduce earnings and cash compensation, which can be interpreted as an efficient contracting mechanism. These off-setting phenomena make it difficult for us to distinguish empirically between the rent-seeking and efficient contracting. I tackle this problem by concentrating on long-tenured CEOs who have already revealed their ability, but who also have perceived power to influence board members' decisions.

Murphy (1986) analyzes the incentive and learning hypotheses and shows that long-tenured CEOs require less monitoring in late periods because their ability is revealed over time. However, the rent-seeking hypothesis suggests that since long-tenured CEOs can be entrenched, they are more likely to pursue their own interests rather than those of shareholders. Therefore, the design of their cash

[2] Dikolli, Mayew and Nanda (2014) discuss a similar notion, which they call the managerial power hypothesis in the context of CEO dismissal.

compensation scheme provides an opportunity to empirically distinguish between the above two hypotheses. I pursue this course.

Widely publicized critiques of high executive compensation often imply that CEOs possess exceptional abilities that allow them to extract high rents (Friedman and Lev 1974; Darrough and Melumad 1995; Adel-Khalik 2003; Murphy and Zaboinik 2007). However, since managerial skills are difficult to verify *ex ante*, this uncertainty creates tension between owners and CEOs in the early stages of an executive's career at a corporation. As managers make a series of separate decisions over time, his ability to choose value-enhancing projects becomes increasingly apparent (Murphy 1986; Dikolli, Mayew and Nanda 2014). Presumably weak CEOs are eventually replaced by more capable ones, so there should be apparent differences in the certainty of long-tenured CEOs' abilities compared to short-tenured managers.

Yet, as CEOs advance in their careers, they are more likely to acquire the power to exercise influence over the board's decisions. Fredrickson, Hambrick and Baumrin (1988) argue that over time, CEOs gain the power to control board members by nominating them. Shivdasani and Yermack (1999) find evidence that executives have inordinate influence over the selection of board members, which contributes to deterioration of the board's ability to monitor CEOs. Newman and Mozes (1999) find that CEOs often negotiate with compensation committees to adjust the terms of their pay packages.[3] This leaves an intriguing question of whether, and to what extent, boards implement some sort of systems that force longer-tenured CEOs to demonstrate their continued ability to make value-enhancing decisions.

Because cash-based compensation is usually directly tied to accounting numbers, it is easier for board members to use this component of CEO pay to provide incentives rather than contracts based on security prices, which are influenced by market expectations. Prior research suggests that CEO turnover is closely tied to accounting-based performance measures (Hermalin and Weisbach 1998; Murphy 1986).

[3] For example, it is well-known that Steve Jobs accepted an annual salary of $1 when he rejoined Apple as interim CEO in 1997. He then received option grants worth $600 million in 2000. But when Apple's stock price plunged, he received additional options valued at $90 million. Was this the result of negotiation, or did board members make these decisions independently?

Together, these threads of research indicate that accounting numbers are the useful and clear measures for board members to evaluate a CEO's ability.

DCs, which are reported in the income statement, provide a broad sample of readily observable disposal decisions. They are aggregated figures, and income-decreasing DCs most likely represent divestures of poorly performing units. However, the rationale behind of income-increasing DCs is not very clear. They can represent disposals of successful lines but they can also represent fire sales.[4] The Financial Accounting Standards Board (FASB) seems to desire that DCs should represent strategic shifts that have an effect on an entity's operations and financial results (FASB 2013; 2014). Because managers must receive board approval for these actions, board members can closely monitor decisions about DCs and subsequent firm performance. [5] Therefore, I use DCs to analyze whether compensation committees utilize the link between CEOs' decisions and subsequent firm performance to determine appropriate incentives for long-tenured CEOs.

Prior studies extensively analyze rent-seeking activities through earnings management. CEOs often use earnings management to avoid missing a target if it will have a negative effect on their bonuses (e.g., Healy 1985; Dechow, Sloan Sweeney 1996; Guidry, Leone and Rock 1999). They also time the release of information to obtain benefits (Yermack 1997; Aboody and Kasznik 2000) and use their private information to increase profits (Ke, Huddart and Petroni 2003). CEOs influence the board's decisions (e.g., Shivdasani and Yermack 1999; Newman and Mozes 1999; Graham, Li and Qiu 2012). However, there is also evidence consistent with the efficient contracting theory. Murphy (1986); Defeo, Lambert and Larcker (1989); and Demski, Patell and Wolfson (1984) note that if board members can observe managerial actions, they can design CEO compensation contracts to preclude actions that they believe are contrary to the shareholders' interests.

[4] For example, IBM reported negative discontinued operations in 2002. According to *USATODAY* (07/10/2002), "The fourth-quarter of 2001 was a big loser for IBM's hard-disk drive business, which has struggled with profitability for years. IBM said that its after tax loss from the operations that quarter was $232 million and that net income after discontinued operations was $2.333 billion." Xerox also reported discontinuing a poorly performing line of insurance and other financial services businesses in its 199510-k.

[5] For example, the 2001, 10k for ADAPTEC INC clearly reports the approval as follows "The Board of Directors formally approved a plan to spin-off their Software segment, Roxio on April,30, 2001."

There are also studies that provide justifications as to why compensation committees should shield CEO cash payments from income-decreasing nonrecurring items. Dechow, Huson and Sloan (1994) suggest that compensation committees encourage CEOs to undertake value-enhancing but income-decreasing activities. Duru, Iyenhar and Thevaranjan (2002) suggest that overly heavy reliance on market-based compensation creates inordinate emphasis on capital market performance.

However, from the efficient contracting point of view, CEO cash compensation is sheltering income-decreasing DCs can be difficult to justify because of CEOs influence over board members' decisions. Therefore, pushing long-tenured CEOs further, I investigate whether they are willing to bear the effect of income-decreasing DCs on their cash compensation in order to demonstrate their ability to make effective decisions. Long-tenured CEOs also must overcome market perceptions that they have overarching executive power to obtain inordinate compensation. If their decisions can improve future performance, this may easily offset the costs of bearing a one-time negative effect on current profits. Therefore, under the efficient contracting theory, I hypothesize that income-decreasing DCs should be positively associated with cash compensation for long-tenured CEOs, which result in reducing current bonuses. Similarly, I hypothesize that there should be no association between income-increasing DCs and the cash compensation of long-tenured CEOs. Decisions to dispose of profitable lines of business are problematic because such a choice increases current CEO remuneration. The rationale behind the divestiture can be desperation sales due to lack of cash, but, a decision might also result in stagnant future firm performance that can linger for several years.

If markets pay little attention to managerial decisions, it is easier for executives to engage in rent-seeking activities. Therefore, in preliminary analysis, I check whether market participants perceive that DCs send useful signals about value-enhancing managerial actions. Finally and importantly, I examine whether disposal decisions are associated with improved subsequent firm performance, measured by earnings, gross margins and operating cash flows.

I find evidence that cash compensation for long-tenured CEOs is positively associated with income-decreasing DCs and is shielded from income-increasing DCs . I also find that market participants

react favorably to managerial decisions for both income-increasing and -decreasing DCs, consistent with the notion that they view these DCs as value-enhancing activities.

To test whether disposal decisions improve operating performance in the ensuing period. I calculate the rolling average of DCs over 6-year periods between 1993 and 2003 and regress the calculated rolling averages on earnings, gross margins and operating cash flows in the subsequent period from 2004 to 2008. I find compelling evidence that if the average of DCs over the prior 6 years is negative, earnings and operating cash flows improve. There is no evidence that disposing of profitable operations weakens distant future performance; however the effect of income-decreasing DCs on future earnings lasts as long as 6 to 8 years.

Together these results support the efficient contracting hypothesis for long-tenured CEOs, suggesting that compensation committees provide opportunities for CEOs to demonstrate their abilities to actively engage in value-enhancing disposal decisions. Market participants perceive these activities as increasing firm value, which provides a venue for long-tenured CEOs to enhance their reputation. Finally, a post-performance analysis confirms that the firms meet market expectations.

My analysis contributes to the prior research on nonrecurring items by reexamining previous findings of an asymmetrical relationship between CEO cash compensation and income-increasing or -decreasing DCs (e.g., Gaver and Gaver 1998; Dechow, Huson, and Sloan 1994). I provide new insights regarding variations in the previously presented asymmetry and show that the shielding phenomenon reported in prior studies does not apply for long-tenured CEOs.

My research also contributes to contracting theory, as my results regarding long-tenured CEOs are more consistent with the efficient contracting than rent-seeking hypothesis (Murphy 1986; Defeo, Lambert and Larcker 1989; Demski, Patell and Wolfson 1984; Darrough and Melumad 1995). The findings suggest that compensation committees strategically design executive cash compensation to provide opportunities for long-tenured CEOs to combat the market perception of their influence over board decisions.

I also contribute to research in management control systems (Milgrom and Roberts 1992; Dikolli, Mayew and Nanda 2014). I show that capital market reactions to disposal decisions in conjunction with the sensitivity of such decisions to CEO cash compensation likely provide a dynamic monitoring structure, which underscores the superior ability of surviving CEOs. This system provides an opportunity for effective monitoring within an organization to assure that executives maintain their ability to make productive decisions.

A caveat to my analyses of long-tenured CEOs is the difficultly in determining the time-frame needed for board members to develop trust in their CEO's ability. For example, Murphy (1986) analyzes the effect of CEO tenure on cash compensation for executives with less than 4.6 years of tenure compared to executives with over 10 years of tenure. I define a long tenure as greater than 4 years. Using additional hand-collected data from 1992 to 2013, I show the executives in my sample actually have an average tenure of 11 years. There is also a concern about the characteristics of firms and industries. Firms with short lives or more frequent changes in CEO probably have unique characteristics. Thus, I require my sample firms to have at least four years observations and no change in a CEO during this period to test the sensitivity of cash compensation for long-tenured CEOs. This can potentially create bias in my results. However, when I relax data restriction to at least three years of observations and control for firm characteristics that are akin to firms that have short life or that frequently change a CEO, I find similar results.

The remainder of the paper is organized as follows. In Section 2, I outline and develop the hypotheses. In Section 3, I describe the sample, and in Section 4, the research design. In Section 5, I present the results, and I provide the conclusions in Section 6.

2. Hypotheses Development Concerning The Management Control System

In this section, I develop three hypotheses to test whether the design of CEO cash compensation, and subsequent firm performance are consistent with the efficient contracting or the rent-seeking theories. These three hypotheses together test the logical structure of a management control system. First, I test whether asymmetric sensitivity of CEO cash compensation to income-decreasing and -increasing DCs

differs by CEO tenure. I define "tenure" as the time that an executive has served as CEO of a firm and "long-tenured CEOs" as those who have held the position longer than 4 years.[6] The second and third hypotheses tests whether accounting performance measures in the subsequent period are significantly associated with these past decisions, and if so, how long the effects last.

2.1 Long-tenured and CEO Cash Compensations

Gaver and Gaver (1998) as well as Comprix and Muller (2006) provide evidence that CEO cash compensation has an asymmetric association with income-increasing and -decreasing components of earnings. CEOs are often shielded from the effect of income-decreasing activities, but the effect of income-increasing activities flows through to CEO cash compensation. The rent-seeking hypothesis posits that managers take advantage of their positions, discretion and knowledge to influence board members so that they may receive a desired compensation design, while the efficient contracting hypothesis holds that managers are rewarded for appropriate value-enhancing activities that have long-run implications for firm performance. Prior studies have established several reasons why the weights assigned to the components of earnings differ. For example, Abdel-Khalik (1985) suggests that compensation committees adjust for the one-time effect of accounting changes by sheltering CEO compensation from the income-decreasing effect of a switch to the LIFO method. Natarajan (1996) argues that since some transactions are more vulnerable to managerial discretions and manipulation than others, compensation contracts adjust for these differences in order to effectively utilize these components of earnings to provide incentives to executives. Dechow, Huson and Sloan (1994) suggest that CEO compensation is shielded from restructuring charges in order to avoid penalizing executives for value enhancing activities. These studies focus on the characteristics of earnings to explain the asymmetric association.

[6] The 4 year horizon is somewhat arbitrary. Thus, in the empirical analysis I vary this length. Because I use data from 1993 to 2003 in this part of the analysis, the tenure has an upper bound of 2003. This makes 11 years the longest tenure. To trace information about these CEOs further, I hand collected from data up to 2013 and provide additional information about the means of age and tenure of these CEO in the company. This is reported in Table 2.

Gaver and Gaver (1998) suggest that the observed asymmetric sensitivity is potentially a rational response to competitive labor markets to retain talented CEOs. However, previous research has not explored this link between CEOs' abilities and firms' desire to retain talented CEOs. Thus, the current study analyzes whether compensation committees change CEO cash compensation based on a CEO's longevity with the company as well as whether there is a system for executives to demonstrate their ability to produce value-enhancing activities.

Dikolli, Mayew and Nanda (2014); Hermalin and Weisbach (1998); and Murphy (1986) provide some evidence that a long tenure helps to resolve uncertainty about a CEO's ability, and this certainty further reduces monitoring costs. However, the ability of long-tenured CEOs to exercise influence over board members creates a caveat for compensation committees when appropriately designing their compensation. Dechow, Huson and Sloan (1994) find that CEO cash compensation actually increases as restructuring charges increase. This can be seen as an aggressive form of rent-seeking: executives make discretionary decisions to increase their cash pay despite of their previous poor operating decisions. Alternatively, this result can be interpreted as compensation committees encouraging CEOs to make such value-enhancing choices. I believe that varying the degree of CEOs' tenure offers a unique opportunity to analyze the design of executive compensation in order to understand compensation committees' intentions.

*2.1.1.**CEOs' Abilities and Incentives***

Economic theory suggests high executive compensation indicates that these CEOs possess unique abilities that are in high demand (Friedman and Lev 1974; Adel-khalik 2003; Murphy and Zaboinik 2007). Compensation committees should be willing to pay competitive compensation to CEOs whom they perceive to have exceptional knowledge and abilities. However, unobservable CEO ability creates an adverse selection problem where one party possesses private information that creates a disadvantage for others in a contracting situation. Board members assume that CEOs have the expected ability *ex ante*; therefore, an efficient contract should have a system to verify this assumption. An effective incentive system must produce value-enhancing outcomes and encourage CEOs to strive to attain corporate goals.

CEOs have the incentive to demonstrate their ability to differentiate their talent from others' and enhance their reputation, and the board members have a strong interest in ensuring the legitimacy of high levels of executive compensation.

Income-decreasing DCs reduce current bottom line earnings. Therefore, it is reasonable to argue that cash compensation should be shielded from these immediate decreases in current earnings in order to encourage CEOs to undertake such activities if they are value-enhancing. Efficient contracting theory typically assumes that CEOs are risk averse and shareholders are risk neutral. The objective of the contract is to provide adequate incentives for executives to make value-enhancing decisions. However, many argue that the shielding phenomenon can be the result of long-tenured CEOs' influence over the board's decisions (Fredericson, Hambrick and Baumrin 1988; Hill and Phan 1991; Shivdasani and Yermack 1999). Hill and Phan (1991) argue that CEOs are often more interested in empire building than maximizing shareholders' value. This stream of literature views the shielding as CEO rent-seeking activities. Therefore, for the efficient contracting theory, the shielding is not a sufficient contract.

Long-tenured CEOs present an interesting case. While relatively inexpensive to monitor managers with well-established reputations, their influence over the board is probably strong. For these executives, I propose a revised version of the efficient contracting hypothesis: rather than shielding them from the effects of income-decreasing DCs, their cash compensation should be exposed to these effects.

Income-increasing and -decreasing DCs have asymmetrical impacts on current and future CEO cash compensation, as shown in Figure 1. Compensation committees can utilize this asymmetry to provide effective incentives for long-tenured CEOs to continue to demonstrate their ability to make value-enhancing decisions.

I propose that long-tenured CEOs should be willing to swallow the short-term ill consequence of income-decreasing DCs (the lower left-hand-side of the 2 by 2 matrix in Figure 1) to show their confidence in the long-term positive effects of their decision. They can enjoy the effect of improved future firm performance on their subsequent compensation (the lower right-hand-side of the 2 by 2 matrix in Figure 1), as well as on their reputation, without leaving doubts about their influence over board

decisions. Therefore, the negative effects flowing through to cash compensation demonstrate a CEOs' willingness to make long-term value-enhancing decisions.

If income–increasing DCs represent the disposal of profitable lines of business, it can send favorable signals about successful prior investment decisions. Long-tenured CEOs who have made such value-enhancing investment decisions may be willing to sell these ventures to establish the value of corporate assets or of their reputation. However, income–increasing DCs can also represent desperate choices where long-tenured CEOs are forced to sell assets due to lack of cash or the threat of missing debt obligations. They should be reluctant to make such a choice because announcing these items reveals prior ill-investment choices and they may lead even worse future operating performance. Black, Carnes and Richardson (2000) find that markets respond "negatively" to income–increasing DCs, presumably because investors perceive that such decisions reduce the future value of firms (the upper right-hand-quadrant of the 2 x 2 matrix in Figure 1). Their argument and findings are more consistent with the latter scenario. If experienced CEOs are confident that their choices will not decrease future performance, they should be willing to make these disposal decisions even if their cash compensation is shielded from an income-increasing effect.[7] But, compensation committees should wish to encourage such choices, therefore they should allow the positive effect to flow-through to cash compensation. However, if they are worried about decreasing future performance, CEO cash compensation should be shielded from the positive effect. Accordingly, I develop my revised efficient contracting hypothesis more consistent with the second scenario for long-tenured CEOs as

> H1a: For long-tenured CEOs, cash compensation is positively associated with income-decreasing DCs and is shielded from income-increasing DCs.

On the other hand, if long-tenured CEOs try to extract rents by exerting power in negotiations with board members, cash compensation should be shielded from income-decreasing DCs, and income-increasing DCs should flow-through to cash compensation. Accordingly, the traditional rent-seeking hypothesis is

> H1b: For long-tenured CEOs, cash compensation is shielded from income-decreasing DCs and positively associated with income-increasing DCs.

[7] Darrough and Melumad (1995) suggest that better managers are always willing to take risks.

2.1.2 The Effect on Future Firm Performance

An effective management control system should provide an evaluation process that reinforces the value-enhancing goal and ties this organizational goal to the manager's reward system. Monitoring subsequent firm performance is critical to achieving this goal and to encouraging CEOs to take responsibility for their decisions regardless of their tenure. In the following final analysis, I evaluate whether CEOs' decisions produce value-enhancing outcomes.

Cash compensation is usually tied to an accounting-based performance measure (e.g., earnings, ROA or ROE) that encourage CEOs to engage in value-enhancing activities and that better enhance goal congruence than market-based compensation, which is influenced by factors outside of a manager's control (Sloan 1993; Duru, Iyenhar and Thevaranjan 2002). *Ex post* performance evaluation of CEOs serves to enhance responsibility for their decisions. If firm performance deteriorates subsequent to DCs, this might indicate an unsuccessful choice and possibly heighten CEO career concerns. *Ex post* feedback provides completeness to assure that CEOs have and exercise the ability to accomplish organizational goals.

Black, Carnes and Richardson (2000) find that capital markets penalize firms for disposing of profitable units, suggesting that market participants might perceive that such actions will create a future slowdown in business. However, if a change in strategy is effective, such decisions should not create a long-term decline in firm performance even though there might be a temporary dip following the disposition or spinoff of a profitable operation. In the long-run, effective downsizing decisions should not harm future business operations regardless of whether reports of DCs are income-increasing or income-decreasing. The efficient contracting hypothesis requires assessment of CEOs' value-enhancing decisions. I test this premise in the *ex post* performance hypotheses:

H2a: Income-decreasing DCs will improve future performance.

H2b: Income-increasing DCs do not cause a sustained decline in future firm performance.

The implication of the rent-seeking hypothesis is that executives make myopic decisions to obtain short-term benefits. Thereby, the rent-seeking hypothesis predicts the following:

H3a: There is no long-term implication for income-decreasing DCs.

H3b: Income-increasing DCs cause a sustained decline in future firm performance.

3 Sample Selections

3.1. Sample Description

My initial sample comprises all available observations on the Annual Industrial and Research Compustat databases for U.S. firms from 1992 through 2008. I use the data from 1992 to 2003 to test hypotheses H1 and data from 2004 to 2008 to conduct the post-performance analysis.[8] I eliminate all firm-years that have missing data for any of the following items: assets, earnings before DCs, sales, and book value of equity. I also collect capital market data from the Center for Research in Security Prices (CRSP) data base. I take the data on managerial compensation from the EXECUCOMP database, which contains comprehensive information for a sample corresponding roughly to the S&P 1,500. I lose the first-year observation for each firm because some variables require a one-year lag in the analysis. Because the interpretation of gross margin and operating cash flow differ between bank/financial institutions and other enterprises, I exclude the former sector from this analysis. For firms not reporting DCs, I set the values of that item to zero. These selection criteria result in a sample of 10,529 firm-year observations for the fiscal years 1993 to 2003, for a total of 1,821 firms, which I refer to as "the full sample" (Tables 1 and 2). This sample includes firms that did not report any DCs during this period.

I also create a smaller sample by eliminating firms that do not report DCs at least once between 1993 and 2003. This results in a sample of 3,993 firm-year observations for 581 firms. I refer to this smaller sample as "the restricted sample" (Tables 1 and 2). Both of these samples include firms that

[8] Because the implementation of SFAS No. 131 in 1998 and No. 144 in 2002 might increase reports of DCs by widening the scope of definition, in the sensitivity analysis, I analyze the effect of this implementation on the results of hypothesis H1. But main results did not change.

change a CEO. For example, more than 60% out of 10,529 observations belong to firms that change a CEO.

I use the restricted sample to test my hypothesis H1. However, more than a 40% of the firms in this sample changes their CEO and some have only one, two or three years of observations (Panel A in Table 2). This raises a concern about differences in characteristics among these enterprises. Short lived firms and those that change CEO often probably are very different from those with a long-tenured manager. Therefore, to test the hypothesis H1, I impose further restrictions that firms must have at least four years observations and no change in CEOs during this period. This reduces firm-year observations to 877 for 133 firms.

To test the *ex post* hypothesis, I calculate firm-specific rolling averages of discontinued operations over six-year periods between 1993 and 2003. I then merge these with data from 2004 to 2008. This results in 2,898 firm-year observations of 672 firms.

Many prior studies (e.g., Comprix and Muller 2006; Leone, Wu and Zimmerman 2006) winsorize all variables at the top and bottom 1% to mitigate the potential influence of outliers. However, firms that report DCs can face unusual business environments or serious operating or financial problems. Because of this possibility, winsorization that truncates the data is not the best choice for the current study. Instead, I conduct outlier analysis by eliminating all observations that have residuals with a Cook's D value higher than one and/or an R-Student value with an absolute value greater than three for each estimated regression model.[9]

3.2. Descriptive Statistics

Table 1 presents the percentage of reports of negative or/and positive DCs by industry. The first three columns are for the full sample and the last three columns are for the restricted sample. For example, Industrial Chemical sector in the full sample has 522 observations of which 0.32% report income-decreasing DCs (NGDC) and 0.3% report income-increasing DCs (PODC). There are clear

[9] See Welsch (1980) for more details on the outlier analysis.

variations across industries. The pharmaceutical, transportation equipment, communication and engineer/consulting sectors all have almost twice as many income-increasing as income-decreasing reports of DCs. The electric utility sector has a high proportion of negative (0.16% in the full sample) relative to positive (0.09% in the full sample) reports. These patterns are generally similar for both the full and restricted samples.

Panel A of Table 2 provides additional information about data. The first four columns of Panel A of Table 2 show that, year-by-year, the values of both income-increasing and -decreasing DCs increase for the restricted sample. The next three columns of Panel A of Table 2 show the data-span for a firm that reports DCs at least once during 1993-2003 (the restricted sample). The total number of firms is 581; 51 of which (8.78%) have 11 years of observations. Most firms have more than 4 years of data. The last three columns in the upper panel is this restricted sample and show that 87 firms changed their CEO twice and 25 firms changed their CEO three times. The similar descriptive statistics for the full sample are given in the lower panel. In this sample, there are 1,821 firms, and three firms changed their CEO 5 times during this 11-year period, though about 86% of the total changed their CEO once, at most.

A long tenured CEO in this analysis is defined as an executive who remains at the same firm for more than 4 years in the restricted sample between 1992 and 2003. The average firms have a 7.5 year life in the sample (data-span), and there are 101 firms/CEOs. [10] To provide full perspective on these long-tenured CEOs, I hand-collect information about their tenure after 2003 up to 2013 and report statistics in Panel B of Table 2.[11] I calculate the duration of a CEO serving in the same firm (years in firm) as the difference between their starting and ending (last) year in EXECUCOMP, the last year being 2013. For the duration of CEO tenure (CEO tenure), I calculate the difference between the year that the CEO is appointed and the last year that they are designated as CEOANN in the sample. I also calculate the age of a CEO when he or she leaves the firm. The average CEO tenure is 10.7 years, the duration of working at

[10] When the EXECUCOMP database does not report this information, I collect as much supplement information as possible through the internet.

[11] My additional restricted sample has 133 firms. 101 out of 133 firms have long-tenured CEOs. Two out of 101 firms, I could not find information about the CEO.

the company (years in firm) is 16.7 years, and the average age at time of resignation is 63 years old. The youngest age of a CEO in the sample who left a firm is 39 and the oldest is 90. The average retirement age is similar to that found by Shivdasani and Yermack (1999), who report it as between 62 and 66. There were no female long-tenured CEOs in this sample.

Murphy (1986) analyzed the effect of CEO tenure on their cash compensation. He uses three specifications (years as CEO, years in firm, and age) to assess measure of CEO experiences. When he uses years as CEO, he divides his sample into three groups: years as CEO of less than 4.6, 4.6-9.9 and more than 10 years, and when he uses years in firm, he divides the sample into less than 21 years, 21-30 years and more than 31 years.[12]

In Panel C, I also provide the distribution by industry for these 101 firms/CEOs. I could not find the industry classification for one firm. Unfortunately, however, when I merge these data with the data for the later years (2004-2008), I lose about 60% of long-tenured firms. Only 37 out of 101 firms continue to exist in the later sample.

4 Empirical Models

4.1 Preliminarily Analysis

In a preliminary analysis, I investigate whether disposal decisions can send signals to markets because these is conflicting evidence on whether investors react to reports of DCs. [13] Therefore, I

[12] Dikolli, Mayew and Nanda (2014) examine the differences in performances of CEOs who depart and survive, using tenures of at least 4 years. The mean CEO tenure in Shivdasani and Yermacks' study (1999) is 8.22 years, while that of Hill and Phan (1991) is 8 years.

[13] Bartov, Lindahl and Ricks (1998) show that market participants react to announcements of write-offs. When write-downs are on balance sheet items, market reactions are negative. But when they are related to operating activities, reactions are positive. They find that markets can distinguish between major changes in operations and simple write-offs, but they fail to fully incorporate all the value-relevant information into prices. Black, Carnes and Richardson (2000) show that markets respond "negatively" to income-increasing DCs and "positively" to income-decreasing DCs, suggesting that capital markets understand the implications of these announcements. Their interpretation for the negative reactions to positive DCs is that market participants penalize managers for exiting profitable operations. These studies indicate that market participants respond, at least partially, to reports of DCs. However, Elliot and Hanna (1996) and Bradshaw and Sloan (2002) indicate that analysts exclude DCs from their earnings forecasts, implying that they ignore these items. Collins, Maydew and Weiss (1997) feel that the reason why analysts exclude these reports from their forecasts is because transitory items poorly explain the persistence of earnings. Fairfield, Sweeney and Yohn (1996) find evidence that discontinued operations are not informative about future profitability and Ali and Zawowin (1992 a, b) suggest that reports of transitory earnings weaken the

examine the capital market reactions to DCs during period between 1993 and 2003 and show that investors perceive that DCs provide useful information about managerial decisions that improve future performance, especially when disposals have negative value. I present this result in Appendix I.

4.*2 The Empirical Model for Hypotheses H1a, and H1b*

In the main analysis, I test whether CEO cash compensation is positively associated with both income-increasing and -decreasing DCs for long-tenured CEOs. To do this, I first restrict my sample to firms that report DCs at least once. I also require that firms have cash compensation and do not change CEOs. Some firms exist only for short-time period as shown in the middle of the column in Panel A of Table 2. The characteristics of these firms are probably very different from firms that have long tenured CEOs. For example, growth and high tech firms might have frequent CEOs turn-over. In Panel C of Table 2, I show that the Computer equipment, Computer and communication sectors have the smallest numbers of observations. Skinner (2008) argues that the intangible-intensive firms are fundamentally different. Therefore, as noted before I also requires at least four years of firm data.

Following Comprix and Muller (2006) and Leone, Wu and Zimmerman (2006), I transform cash compensation into a logarithm form to reduce the skewness in the distribution while maintaining the interpretability of the estimated coefficient. I modify Gaver and Gaver's (1998) model to test hypotheses H1a and b including security returns to control for its significant association with cash compensation as reported in earlier studies (Leone, Wu and Zimmerman 2006; Comprix and Muller 2006; Duru, Iyenhar and Thevaranjan 2002). Since market-based compensation is the other type of incentive-based compensation, the inclusion of security returns should help to control for the effect of market performance on cash compensation. I also include a capital structure variable to control for these agency conflicts. The empirical model is as follows,

$$CCOM = \sum_{t=1}^{10} a_t Y_t + \sum_{J=1}^{18} b_j IND_j + \alpha_0 NNI_{it} + \beta_1 NI_{it} + \beta_2 NGNI_{it} + \beta_3 INDC_{it} + \beta_4 DEDC_{it} + \beta_5 RET_{it} + \beta_6 CAP_{it} + \varepsilon_{it} \qquad (1)$$

and an expanded model to test hypotheses H1a and H1 b is as follows,

---

informativeness of earnings for predicting the future. Consistent with these findings, Barua, Lin and Sbaraglia (2010) suggest that CEOs can fool board members by shifting operating expenses to DCs.

$$CCOM = \sum_{t=1}^{10} a_t Y_t + \sum_{J=1}^{18} b_j IND_j + \alpha_0 NNI_{it} + \alpha_1 PODC_{it} + \alpha_2 NGDC_{it} + \beta_1 NI_{it} + \beta_2 NGNI_{it} + \beta_3 INDC_{it} + \beta_4 IDCLT_{it} \quad (2)$$
$$+ \beta_5 DEDC_{it} + \beta_6 DDCLT_{it} + \beta_7 RET_{it} + \beta_8 CAP_{it} + \varepsilon_{it}$$

where CCOM is the logarithm of CEO cash compensation, NNI is a dummy variable set to one if earnings before extraordinary items and discontinued operations is negative and is zero otherwise. NI is earnings before extraordinary items and discontinued operations, NGNI is a product of NNI and NI, INDC is the value of income-increasing DCs and if DCs is not positive, it is set to zero. DEDC is the value of income-decreasing DC and if DCs is not negative, it is set to zero. RET is annual average of security returns, and CAP is capital structure, the ratio of long-term debt to the sum of long-term debt and the market value of equity. PODC (NEDC) is a dummy variable set to one if discontinued operations are positive (negative) and is zero otherwise. IDCLT (DDCLT) is the product of INDC (DEDC) and a dummy variable that takes the value of one when the current CEO is long-tenured and is zero otherwise. I explain this variable in more detail below. All variables are adjusted for inflation using the consumer price index for the base year of 1993. I employ a fixed-effect model controlling for both industries based on four digits SIC codes and years to mitigate the impact of potential correlated omitted variables.[14]

I test whether the association between CEO cash compensation and DCs for long-tenured CEOs is different from that for CEOs who have not reached or survived for long years. I create a dummy variable set to one if a CEO has served for more than 4 years and zero otherwise. Under this definition and previously explained restrictions (e.g., at least four years data and no change in CEO), executives who have served at least five years are defined long-tenured CEO. For these managers, the dummy variable is set to one (42.3% of the sample). Those in the dummy variable zero are CEOs who have not served for five-years but who later become long-tenured CEOs or CEOs whose firm was listed on Compustat for only four years. I vary CEOs' long-tenure span from 5 and 6 years to check the robustness of the estimated coefficient.

[14] Murphy (1999) shows that executive compensation is similar across sectors.

Under the efficient contracting hypothesis (H1a), income-decreasing DC should be positively associated with executive cash compensation ($\beta_5 + \beta_6 > 0$ in model 2) and income-increasing DC should have no association ($\beta_3 + \beta_4 = 0$ in model 2). Under the rent-seeking hypothesis, cash compensation's association with income-increasing DCs should be positive ($\beta_3 + \beta_4 > 0$ in model 2) but there should be no association ($\beta_5 + \beta_6 = 0$ in model 2) with income-decreasing DCs (H1b).

4.3 An Empirical Model for Testing Ex Post Hypotheses H2a, H2b, H3a and H3b

The *ex post* hypothesis assesses the completeness of the evaluation system. In this analysis, I use three classes of performance variables (PERM), earnings before extraordinary items per share (IBS), gross margin per share (GMS) and operating cash flow per share (OCFS) to assess the effect of managerial disposal decisions through DCs on future firm performance. IBS is a commonly used above-the-line performance indicator. If managers pick one accounting measure to reflect their efforts, this is the most likely choice. GMS is revenue less COGS. Managers who efficiently utilize resources to manufacture better products should improve their gross margin, although fixed costs can potentially reduce the benefits. If discontinuing a line of business increases overhead allocation to the remaining segments, this may reduce the positive effect of disposing of a poorly operating line of business on future gross margins. I expect that the effect of DCs on improving future GMS is less than that on earnings. Finally, it is possible that the CEO and board members may agree to undertake a discontinuation or divesture to create extra cash inflows or conserve cash outflows from operations. Cash flow constraints can occur in either a poorly performing operation or in a successful operation that requires continual investments. Therefore, the effect of DCs on operating cash flows is also analyzed.

Reports of DCs are sporadic events. These infrequent occurrences might not provide enough variation to determine whether these managerial decisions affect future firm performance. In addition, DCs are often reported in blocks over several years and this creates a concern that a single report of DCs in a particular year may not be adequate to assess the effect of CEO disposal decisions. Denis, Denis and

Sarin (1997) and Dittmar and Shivdasani (2003) show that divestures often occur as part of restructuring activities such as takeover attempts and management changes, which might explain this reporting pattern.

To accommodate these report characteristics, I choose 6-year periods to calculate rolling averages of DCs. This method provides several additional advantages over a single report of DCs. First, the 6-year rolling average should eliminate any manipulations for optimistic estimation through DCs. For example, if the exit process is not completed within a year, a manager must estimate the values of the disposed assets, that is, the gain or loss from the operations of the component being discontinued. Due to the absence of quoted prices for many of firm-specific assets, managers might optimistically over-estimate values. If the estimates are optimistic, they must be adjusted in the following years. Second, this method also incorporates any true subsequent adjustments to the initial estimated value of disposing an operation and, hence, creates a more reliable value of DCs. Lastly, this method allows for the assessment of the duration of DCs' effect on firm performance. Figure 2 shows how I use the 6-year rolling averages to evaluate DCs' effect on future firm performance (PERM) for the five years between 2004 and 2008. For example, MDC38 is the rolling average between 1993 and 1998. If MDC38 has a significant effect on earnings (IBS) between 2004 and 2008, it indicates that managerial decisions regarding DCs during 1993-1998 had an impact on IBS even after 10 years. This is the longest time-horizon of the effect of DCs on firm performance in my research design.[15] If the significant effect ends at MDC49, the effect lasts the second longest.

After eliminating firms that do not have adequate data and firms newly listed between 2004 and 2008, the final sample has 2,898 firm-year observations for 672 firms, and 230 of these firms report DCs at least once during the period of 1993-2003.[16] I use these two samples (672 firms and 230 firms) to test whether the six-year rolling averages of DCs are associated with subsequent firm performance.

[15] Suppose, an operation is discontinued in 1993. During the period between 1993 and 1998, there is downsizing operations in a firm. A significant impact indicates that its effect of this operation lasts more than 10 years.
[16] Since the 2,898 firm-year observations include firms that do and do not discontinue lines of business, the result from this analysis can be generalized. Moreover, some firms may not have data available in all years through 2008. But if a firm exists between 1992 and 2003 and survives into 2004, it is included in the sample.

First, to establish a benchmark, I calculated the 11-year average of DCs from 1993 to 2003 (MDC) and create two cross-product terms: MDC is multiplied by (1) a dummy variable set to one when the average DCs is negative and to zero otherwise (NMDC), and (2) by a dummy variable set to one when the average discontinued operations is positive and to zero otherwise (PMDC). Second, I calculate the 6-year rolling averages variables (NMDC38, NMDC49, NMDC50, NMDC61, NMDC72, and NMDC83 for net negative average-valued DCs and PMDC38, PMDC49, PMDC50, PMDC61, PMDC72, and PMDC83for net positive average-valued DCs). [17] The model to test hypotheses H2 and H3 is estimated by employing these 6-year rolling averages in-turn. For example, the first estimate includes both NMDC38 and PMDC38, and the second estimate includes NMDC49 and PMDC49. The model is,

$$PERM_{iT>03} = \alpha_1 NGEN_{it} + \alpha_2 NMDC_{it,\ldots T} + \alpha_3 PMDC_{it,\ldots T} + \alpha_4 CGDP_{it} + \alpha_5 GR\_RD_{it} + \alpha_6 GR\_SALE_{it-1} + \alpha_7 GR\_AST_{it} + \alpha_8 ASTUN_{it} + \alpha_3 LGPERM_{it,-1} + \varepsilon_{it} \quad (3)$$

The performance measure PERM is for firm i in a year from 2004 to 2008. The subscripts, T and t, are the time indicators. T>03 in PERM indicates that the year of the variable starts from 2004. The rolling average variable is indicated with t,… T, When t,… T is 1993 through 1998, this is the six-year average period indicating NMDC38 and PMDC38. N indicates negative and P indicates positive averaged valued DCs.

The definition of the control variables are as follows. I include a dummy variable, NGEN, set to one when earnings before extraordinary item are negative in the period between 2004 and 2008 and to zero otherwise. I include CGDP, change in per capita GDP, for the period from 2004 to 2008 to control for exogenous general economic factors on firm performance.[18] I also employ three different kind of growth rates for the period from 2004 to 2008: the percentage growth in R&D expenditures (GR_RD), in sales (GR_SALE) and in book value of assets (GR_AST). I include the asset turnover (ASTUN) for the

[17] NMDC38 is the 6-year rolling average for firm from 1993 to 1998, NMDC49 is for 1994 to 1999, and so on.
[18] I calculate CGDP, as the opposite of the change in real GDP per capita by subtracting the value in $year_{t-1}$ from that in $year_t$. So a positive value indicates a decrease in GDP from the prior year, a sign of a weak economy.

period from 2004 to 2008. Finally, I add a lagged performance measure (*LGPERM*) to control for time series correlation between performance measures.[19]

I also estimate the model using the restricted sample of only firms that report discontinued operations at least once during 1992-2003. In this sample, the comparison is among firms that report DCs and the sample size is much smaller, reducing the observations from 2,898 to 987. The model is as follows:

$$PERM_{iT>03} = \alpha_0 + \alpha_1 NGEN_{iT} + \alpha_2 MDC_{it,...T} + \alpha_3 PMDC_{it,...T} + \alpha_4 CGDP_{it} + \alpha_5 GR\_RD_{it} + \alpha_6 GR\_SALE_{it} + \alpha_7 GR\_AST_{it} + \alpha_8 ASTUN_{it} + \alpha_9 LGPERM_{it-1} + \varepsilon_{it} \quad (4)$$

I test whether α_2 is significantly negative and $\alpha_2 + \alpha_3$ is positive.

5 Results

5.1 The Results for Testing for H1a, and H1b

Panel A of Table 3 provides descriptive statistics for variables used in the analyses. The number of observations is different from that of the regression analysis due to elimination of outliers. The proportion of CEO cash compensation to total compensation, of bonuses, and of market-based compensation (stock option plus restricted stock grants) are about 53%, 19% and 40%, respectively. The average annual cash compensations is about $1.190 million, while the median is $915,000. The average income is $129 million, while the median is $28 million. For a reference, although it is not tabulated, the 3,993 observations of the restricted sample have the average income of $209 million and the medians of $50 million. About 16% of observations has negative earnings, and income, operating cash flow divided by assets, ROA and growth in R&D expenditures show no sign of financial distress for this group of firms. About 14% of total observations report both income-decreasing and income-increasing DCs.

Panel B of Table 3 reports the results for tests of the hypotheses H1a and H1b concerning the association between CEO cash compensation and reports of DCs for the long-tenured CEOs. A long tenured is variously defined as more than 4, 5 or 6 years as denoted it on the top row of Table 3. The first two columns are results without including two dummy variables for income-increasing and -decreasing

[19] This is the period from 2003 to 2007.

DCs, and the next two columns include them. The model also includes security returns and a measure of capital structure, which are known to be correlated with cash pay (e.g., Duru, Iyenhar and Thevaranjan 2002; Comprix and Muller 2006; Leone, Wu and Zimmerman 2006; Jensen and Meckling 1976), with controls for industry and year effects.

The variable INDC presents income-increasing and DEDC income-decreasing DCs. I test the sensitivity of cash compensation to income-increasing DCs for long-tenured CEOs with the sum of the coefficients on INDC and INCLT ($\beta_3 + \beta_4$).Panel B of Table 3 shows that the coefficient ($\beta_3 + \beta_4$) is 0.0893, significantly positive for long-tenured CEOs, which is defined as CEO more than 4 years (the first column). The null hypothesis $\beta_3 + \beta_4 = 0$ is rejected with p-values of <0.0001 as shown in the next column. The result is similar when I include the two dummy variables, PODC and NEDC (the next two columns). However, when CEO tenure is defined as more than 5 or 6 years, these two results show the difference, indicating importance of inclusion of these two dummy variables. When a long tenure is defined as more than 5 years, the significant level weakens, and when I include two dummy variables, I cannot reject the null hypothesis anymore. This is also true for the result for a long tenure that is defined as more than 6 years. When the model includes two dummy variables I cannot reject the null hypothesis $\beta_3 + \beta_4 = 0$ at a 5% level of the confidence. The p-value is 0.0695.

The sensitivity of cash compensation to income-decreasing DCs for long-tenured CEOs is tested with the sum of the coefficients DEDC and DDCLT ($\beta_5 + \beta_6$). The results on Panel B show that the coefficient $\beta_5 + \beta_6$ is 0.0505, significantly positive, and the null hypothesis $\beta_5 + \beta_6 = 0$ is rejected with p-values of 0.0343 for long-tenured CEOs, which is defined as more than 4 years. However, when I include the two dummy variables, PODC and NEDC (the next two columns), although the coefficient is positive it becomes insignificant. In this model, the result is also positive but insignificant for the specifications of

CEO tenure of more than 5 years.[20] But for the specifications of CEO tenure of more than 6 years, the coefficient is significantly positive.[21] These findings show that the associations between cash compensation and income-decreasing DCs moves toward significantly positive as CEOs tenure becomes longer, but for income-increasing DCs, the coefficient tends to be insignificant.

The results for income-decreasing DCs for long-tenured CEOs (the coefficient on the dummy variable), PODC, is significantly positive, indicating that CEO cash compensation for the firms that report income-increasing DCs are higher than the rest. However, the coefficient on NEDC is insignificant, suggesting that there is no difference in cash compensation for firms reporting income-decreasing DCs.

In sum, the influence of the intercept terms (PODC and NEDC) on the hypothesized results is obvious, suggesting that controlling for these variables is important to assure too much weight is not assigned to the interaction terms. Focusing on the second column of Panel B of Table 3, the results present an interesting contrast. When the long-tenure is defined as more than 4 years, the rent seeking hypothesis is supported. But, when it moves to more than 5 or 6 years, my revised efficient contracting hypothesis H1a is supported, suggesting that long-tenured CEOs have to overcome market perceptions that they have overreaching executive power to obtain their desired compensation. They are willingly to swallow the effect of income-decreasing DCs flowing through to cash compensation. Black, Carnes and Richardson (2000) find that market participants worry that disposal of a profitable line of operation might harm future operating performance. My findings also show that they are willing to realize "*no*" current benefits from the disposal of profitable operations.

5.2 The Results of The Tests for H2 and H3, Ex Post Performance Hypotheses

To complete the analysis of the effectiveness of management control systems, I regress the rolling average DCs on per share earnings (IBS), gross margins (GMS), and operating cash flows (OCFS) for the period 2004-2008 to evaluate the effect of CEOs' disposal decision based on subsequent firm

[20] Since β_5 and β_6 are separately insignificant, I also test whether income-decreasing and -increasing DCs are positively associated with cash compensation using only the long-tenured CEOs sample. I confirm the above findings and present the result in the sensitivity analysis section.

[21]The positive coefficient and the rejection of the null hypothesis are consistent throughout for all specifications of CEO tenure without these two dummy variables.

performance. The results for the tests of the *ex post* performance hypotheses are presented in Table 4. The left-hand panel shows the results for earnings as the performance measure, the middle is for gross margins and the right-hand panel is for operating cash flows. The lower six panels of each column report the results for the 6-year rolling average analyses. The analysis of the 11-year rolling average shown in the upper panel sets a benchmark against which to judge whether the estimated coefficients on the control variables are similar across all 6-year rolling models. Since they are, I present only the coefficients on the cross-product terms in the lower panels.

The Results for the 11 Year-Average Models

As noted above, the results for the 11-year average model are presented mainly to demonstrate the magnitude of the estimated coefficients for the control variables. The coefficient on NGEN is significantly negative for all models, indicating that when earnings are negative, these three performance measures are lower. For the earnings model, the coefficients on the control variables are all statistically significant. However, the RD growth rate is insignificant in the other two models, and the change in per capita GDP, the sale growth rate and the asset growth rate are insignificant in the model of operating cash flow. All performance measures have a positive time-series correlation. All specifications indicate that higher asset turnover is associated with better future performance.

The Results on the 6-Year Rolling Average Models

The effects of 6-year rolling averages of DCs on future firm performance between 2004 and 2008 are shown in the lower panels of Table 4. The results show that reports of past income-decreasing DCs generally have a positive impact on future earnings. The coefficients on NMDC83, 72 and 61 (averages calculated between 1998 and 2003, 1997 and 2002, and 1996 and 2001, respectively) are statistically significantly negative with p-values of 0.0009, 0.0001 and 0.0157, respectively. For income-increasing past DCs, the coefficient on PMDC83 is significantly negative (with a p-value of less than 0.0001), and all other coefficients on reports of income-increasing DCs are insignificant. The results in the model of gross margin are less robust than those for earnings. The coefficients for firms reporting income-decreasing DCs are statistically significantly negative only up to NMDC72. The coefficients on all of the

more distance periods are insignificant. On the other hand, for firms reporting income-increasing DCs, the coefficient for PMDC83 is negative with a p-value of 0.0012, but that for PMDC61 is positive with a p-value of 0.0958. In the model of operating cash flows, the coefficient on income-decreasing DCs is statistically significantly negative up to NMDC72 with a p-value of less than 0.0001. This significance level is stronger than that for gross margin. For firms reporting income-increasing DCs, the coefficient on PMDC83 is insignificant. However, that on PMDC49 is significantly positive with a p-value of 0.0674.

The results for the restricted sample are shown in Table 5. Similar to Table 4, the left-hand panel in Table 5 shows the results for the model of earnings, the middle for gross margins and the right-hand panel for operating cash flows. Since the comparison is among firms that have reported discontinued operations, it is more difficult to generalize these findings.

The sample size for these estimates is less than one-third of the full sample. The estimated coefficients on the control variables for 11-year rolling average models are similar to those reported in Table 4. The results for the 6-year rolling average regressions show that income-decreasing DCs have a positive effect on future performance (the lower panel in Table 5). The coefficients on income-decreasing DCs are statistically significantly negative up to MDC61 for the earnings model and up to MDC72 for the operating cash flows model—however, they are insignificant in the model of gross margins. For firms disposing of profitable lines, PMDC83 has a negative coefficient. These findings are generally consistent with the results reported for the full sample model in Table 4.

In sum, I conduct post-performance analyses using both the full and restricted samples and find compelling evidence that the income-decreasing DCs improve future operating performance, supporting hypothesis H2a, meaning that DCs are value-enhancing activities. In particular, income-decreasing DCs improve future earnings, gross margins and operating cash flows. I also find that, in general, the disposition of profitable operations (income-increasing DCs) do not create a long-term decline in future earnings, supporting H2b. However, they "temporarily" reduce earnings and gross margins. There is no temporary reduction in future operating cash flows. The results from the restricted sample are weaker than those of the full sample. Since the benchmark in the restricted sample is other firms that have engaged in

disposal of operations, the results from this comparison cannot be generalized. However, it is useful as robustness check. There is no evidence to support the rent-seeking hypothesis (H3a or H3b) where executives temporarily increase earnings and create distractions concerning future firm performance.

The duration of the effect of income-decreasing DCs on earnings is longer than that of on the other two performance measures. The result for earnings indicates that the positive effect of managerial disposal decisions on firm performance lasts 6 to 8 years. The magnitude of the economic impact of income-decreasing DCs on the improvement of gross margins is much smaller than that for earnings. For example, based on the full sample, the average of negative DCs per share between 1997 and 2002 improves the gross margin per share by 0.18 % in the subsequent period while it improves earnings by 3.56%.[22]

Although the analyses in this section show improved *ex post* performance, a caveat to this analysis is whether environmental factors that affect all firms were adequately controlled for. I did not employ a matching-sample research design to compare the performance of two similar groups. If all firms improve their performance between 2004-2008, my findings may be contaminated by a favorable economic environment. However, as this period was heading toward a recession, I do not believe this is the case. My concern with regard to a matching-sample research design is that the small portion of firms that report DCs might face unique financial and business conditions. These characteristics of DCs may make it difficult to find a good matching sample.

5.3. Sensitivity Analyses

I create a sample only with long-tenured CEOs that is defined as CEO more than 4 years, and estimate model 1 to test hypotheses H1a and H1b. This sample has only 371 firm-year observations. Panel A of Table 6 provides descriptive statistics and Panel B presents the results of hypotheses. Panel B clearly shows that the coefficients for both income-increasing (INDC) and -decreasing DCs (DEDC) are

[22] The average gross margin per share between 1997 and 2002 is $8.6337 and earnings per share are $1.1062. The rolling average of negative discontinued operations per share is $0.0245. Thus, the effect on gross margin is 0.18%= (-0.647*-0.0245)/8.4644, and that on earnings is 3.56%= (-1.6092*-0.0245)/1.1062.

statistically significantly positive. The result for income-decreasing DCs supports the efficient contracting hypothesis. However, for income-increasing DCs, the result supports the rent seeking hypothesis.

I also changed data restrictions from firms with at least 4 years of observations to 3 years of observations in order to increase the number of observations and estimate modified models 1 and 2 by including variables, cash holding (cash divided by assets), an annual growth rate for R&D expenditures and annualized value of security return volatility. Now I have 964 firm-year observations. The results are similar to those reported in Table 3. When CEO tenure is defined as more than 4 years, the coefficients on both income-increasing and –decreasing DCs reject the null hypothesis. But when CEO tenure is defined more than 5 years, the coefficient on income-increasing DC cannot reject but the coefficient on income-decreasing DCs rejects the hypothesis. Therefore, cash compensation is shielded from the effect of income-increasing DCs but the effect of income decreasing DCs flow through to cash compensation.

Some may argue that the implementation of SFAS No. 131 and No. 144 increased the opportunity for executives to manage earnings. I test whether there is a difference in the association between CEO cash compensation and reports of DCs before and after the implementation of SFAS No. 131 in 1998. I found some differences in the associations between the period before and after, but the basic results are similar.

In the tests of hypotheses H2 and H3, I use earnings before extraordinary items to calculate earnings performance (IBS). To test the robustness, I also employ an earnings measure closer to core earnings by excluding special items and repeat the analyses. The results are very similar to those reported in Tables 4 and 5, further supporting the notion that DCs, on average, improve *ex post* earnings.

There is often time-series correlation in accounting-based performance measures. Therefore, if I drop the prior period performance measure (LGPERM) from equations 3 and 4, the results should be stronger. I confirm this prediction, suggesting that it is important to control for the time-series correlation to mitigate the influence of the autoregressive nature of performance measures.

6. Conclusions

I analyze whether CEO cash compensation is structured to provide appropriate incentives for long-tenured CEOs to combat market perceptions about their influence over board decisions. I test three hypotheses to contrast two competing theories—efficient contracting and rent-seeking—by focusing on managerial disposal decisions.

Because disposal actions require board approval, the recent public outcry over high CEO pay should make compensation committee members very sensitive about these decisions. Therefore, I expect that board members will closely scrutinize decisions on DCs to assure their monitoring system limits managerial ability to extract rents. I find that the sensitivity of CEO cash compensation to income-increasing and -decreasing DCs differs depending upon CEO tenure. I also found that the effects of income-decreasing DCs generally flow through to cash compensation for long-tenured executives who serve as a CEO for more than 5 years. On the contrary, cash compensation is shielded from the effect of income-increasing DCs for these CEOs.

According to the rent-seeking hypothesis, long-tenured CEOs can exert influence over the board's decisions. When a contract is efficient, compensation committees should design CEO pay to mitigate such incentives. My findings of the positive association between CEO cash compensation and income-decreasing DCs and no association with income-increasing DCs for long-tenured CEOs are consistent with the efficient contracting hypothesis that compensation committees provide incentives to CEOs to demonstrate their ability to make effective decisions. DCs are reported as aggregated values and when the value is negative, they are probably dispositions of poorly performing components. The contemporaneous effect of income-decreasing DCs is to reduce current earnings. But, disposition of poor operations should improve future operating performance. The positive association suggests that long-tenured CEOs are willing to swallow the one-time negative effect in order to improve future operating performance. Similarly, lack of association with income-increasing DCs indicates that long-tenured CEOs do not receive any contemporaneous benefits by making this decision. If CEOs make the wrong decision to dispose of a profitable operation, the choice can lead to long-term stagnation. Such a failure is

undesirable for building their reputation. However, when I isolate firms that have long-tenured CEOs more than four years and conduct the same analysis, both income-decreasing and –increasing DCs are positively associated with cash compensation. Therefore, there is possibility that these CEOs are still rewarded for engaging in income-increasing DCs in the disposal year.

I also show that market participants react to disposal decisions and perceive both income-increasing and -decreasing DCs to be value-enhancing activities. Market scrutiny makes it difficult for CEOs to engage in rent-seeking activities. Furthermore, the analysis of the subsequent period provides compelling evidence that income-decreasing DCs improve future earnings, gross margins and operating cash flows. I find the effect of these improvements lasts between 4 and 8 years. I also find no evidence that income-increasing DCs have long-term detrimental effects for firms.

These findings together suggest that compensation committees carefully consider how to reward long-tenured CEOs. As board members and shareholders learn about executives' skills, CEOs can acquire bargaining power in negotiations. The results suggest that compensation committees use cash compensation to encourage executives to continue to demonstrate their ability to make value-enhancing decisions. Disposal decisions are useful for compensation committees to provide incentives for long-tenured CEOs. The *ex post* analysis shows that disposal decisions meet market expectations. Thus, these results suggest that shareholder scrutiny and the sensitivity structure of cash compensation together create a dynamic monitoring system that encourages long-tenured executives to continue to engage in value-enhancing activities.

Appendix 1

In a preliminary analysis, I examine the capital market reactions to DCs during period between 1993 and 2003. I include a set of performance variables to reduce omitted variable problems and estimate the models below.

$$RET_{it} = \sum_{t=1}^{10} a_t Y_t + \sum_{j=1}^{18} b_j IND_J + \alpha_1 PODC_{it} + \alpha_2 NGDC_{it} + \alpha_3 DC_{it} + \alpha_4 NDC_{it} + \alpha_5 ENS_{it} + \alpha_6 LG\_BV_{it-1} + \alpha_7 SDS_{it} + \alpha_8 GR\_AST_{it} + \alpha_9 GR\_SALE_{it} + \alpha_{10} OPCF_{it} + \varepsilon_{it} \quad \text{(A1)}$$

RET is security returns. DC is discontinued operations per share. PODC is a dummy variable set to one if DC is income-increasing and otherwise is zero. The same holds for NGDC if DC is income-decreasing. NDC is a product of DC and NGDC. ENS is earnings before extraordinary items per share, and LG_BV is the one-year lagged book value of equity per share. DC, ENS and LG_BV are all weighted by the one-year lagged security price. SDS is annualized standard deviation of security returns. The performance variables are GR_AST (the annual growth rate in assets), GR_SALE (the annual growth rate in sales) and OPCF (operating cash flow per share divided by one-year lagged of security price). I use an Ordinary Least Square (OLS) fixed-effects model, controlling for both years (Y) and industries (IND). I estimate the model twice using two samples. The full sample, and a restricted sample, which includes only firms that report DCs at least once during the period between 1993 and 2003.

Panel A of Table A1 presents descriptive statistics for the restricted sample. Security returns (RET) are skewed to the left, where the mean is 4.63 % and the median is 8.19%. I also examine two measures of abnormal returns, one adjusted for industry and year average returns (ABRETIND) and the other adjusted for firm average returns (ABRETF). These are also skewed to the left.

The empirical results are presented in Panel B of Table A1.[23] The coefficient on income-decreasing DCs (NDC) is significantly negative with a p-value of 0.0005 for the full sample and less than 0.0001 for the restricted sample. The magnitude of the coefficient α_4 on NDC is larger than that on DC,

[23] I first conduct outlier analyses and eliminate observations if regression residuals have a Cook's D greater than one, and R-student residual greater than the absolute value of three. I report results after adjusting for heteroscedasticity.

α_3, for both samples. The tests for $\alpha_3 + \alpha_4 = 0$ are rejected in both samples with p-values of 0.0002 and 0.0001. The coefficient on positive DCs (α_3) is significantly positive with a p-value of 0.0203 for the restricted sample, but is insignificant for the full sample with a p-value of 0.1264. It is worth noting that the coefficient α_3 for the full sample is influenced by firms that do not report discontinued operations, which might create downward bias in the estimated coefficient. The coefficients on the dummy variables for negative DCs, NGDC, are statistically significantly negative with p-values of 0.0015 and 0.0463, respectively, while those for positive DCs, PODC, are insignificant.

These results are also economically significant. Given that average income-decreasing DCs per share weighted by lagged share price for the restricted sample is -0.0076 (Panel A of Table A1) and the estimated coefficient on NDC for the restricted sample is -0.9845 (Panel B), the decisions to dispose of poorly performing operations, on average, produces 0.75 % higher stock returns. While the average income-increasing DCs per share weighted by lagged price is 0.0060 and the estimated coefficient is 0.4313, meaning that decisions to discontinue profitable operations, on average, create 0.26% higher returns.[24]

The estimated coefficients for the control variables all make good sense. The coefficients on earnings and book value are significantly positive. The coefficients for all performance variables are significant and have the expected signs. When the performance measures are high, security returns increase; while these measures are low, security returns also are low. As expected, security volatility is negatively associated with security returns. In sum, these results present compelling evidence that investors perceive that DCs provide useful information about managerial decisions that improve future performance, especially when disposals have negative value.

[24] If year, industry, and firm-specific factors are not well controlled for, this can create an omitted variable problem. To further mitigate this problem, I also estimate two additional models using abnormal returns as the dependent variables: one adjusted for industry and year average returns (ABRETIND) and the other adjusted for firm average returns (ABRETF). Although the results are untabulated, there are significant negative coefficients on income-decreasing DCs, while income-increasing DCs have significant positive coefficients for both specifications (full and restricted samples). The null hypothesis that the coefficients for income-decreasing DCs are equal to zero is rejected in both models of abnormal returns, providing assurance that the coefficient is negative.

Table A1 The Results for Testing the Capital-Market Reactions

Panel A Descriptive Statistics for the Restricted Sample

Variable	N	Mean	Median	Q1	Q3	STD
RET	3,867	0.0463	0.0819	-0.1627	0.3014	0.4643
ABRETIND	3,867	-0.0011	0.0166	-0.1917	0.2171	0.4149
ABRETF	3,867	0.0000	0.0121	-0.2060	0.2262	0.4376
DC	3,867	0.0215	0.0000	0.0000	0.0000	1.1132
NGDC	3,867	0.1513	0.0000	0.0000	0.0000	0.3584
PODC	3,867	0.1541	0.0000	0.0000	0.0000	0.3611
NDC	3,865	-0.0076	0.0000	0.0000	0.0000	0.0551
PDC	3,865	0.0060	0.0000	0.0000	0.0000	0.0446
ENS	3,865	0.0273	0.0456	0.0169	0.0706	0.1194
LG_BV	3,865	0.5306	0.4268	0.2674	0.6531	0.4576
OPCF	3,864	0.1139	0.0895	0.0441	0.1485	0.1857
GR_AST	3,867	0.1201	0.0531	-0.0290	0.1664	0.4710
GR_SALE	3,865	0.0837	0.0577	-0.0285	0.1555	0.3021

Panel B: Regression Results

$$RET_{it} = \sum_{t=1}^{10} a_t Y_t + \sum_{j=1}^{18} b_j IND_J + \alpha_1 PODC_{it} + \alpha_2 NGDC_{it} + \alpha_3 DC_{it} + \alpha_4 NDC_{it} + \alpha_5 ENS_{it} + \alpha_6 LG\_BV_{it-1} + \alpha_7 SDS_{it} + \alpha_8 GR\_AST_{it} + \alpha_9 GR\_SALE_{it} + \alpha_{10} OPCF_{it} + \varepsilon_{it}$$

	Returns			
	Full		Restrict	
	Est	P Value[a]	Est	P Value[a]
PODC	0.0196	0.2657	0.0245	0.1802
NGDC	-0.0547	0.0015	-0.0361	0.0463
DC	0.2799	0.1264	0.4313	0.0203
NDC	-0.8275	0.0005	-0.9845	<.0001
ENS	0.3978	<.0001	0.7895	<.0001
LG_BV	0.2132	<.0001	0.2385	<.0001
SDS	-0.7347	<.0001	-0.6903	<.0001
GR_AST	0.1511	<.0001	0.1386	<.0001
GR_SALE	0.1616	<.0001	0.1394	0.0008
OPCF	0.3373	<.0001	0.1758	0.0018
$\alpha_3 + \alpha_4 = 0$	-0.5476	0.0002	-0.5532	0.0001
Fixed effect	Yes		Yes	
OBS	10,117		3,798	
Adjusted R^2	30.29%		32.87%	

Table A1 Continued

RET	Annual average security returns
ABRETIND	Annual average security returns minus annual industry average returns
ABRETF	Annual average security returns minus firm average returns
PODC	A dummy variable sets to one if DC is positive otherwise it is set to zero.
NGDC	A dummy variable sets to one if DC is negative otherwise it is set to zero.
DC	Ratio discontinued operations per share to one-year lagged security prices
NDC	Ratio of the product of DC and a dummy variable set to one if DC is negative zero otherwise to one-year lagged security prices.
ENS	Ratio of earnings before extraordinary items per share to one-year lagged security prices
LG_BV	Ratio of one-year lagged of book value of equity per share to one-year lagged security prices
SDS	Annualized standard deviations of security returns.
GR_AST	The annual assets growth rate.
GR_SALE	Annual sales growth rate.
OPCF	Ratio of operating cash flows per share to one-year lagged security prices.
[a]	Heteroscedasticity adjusted P-value.
[b]	Test that the coefficient is significantly different from 0.

References

Abdel-Khalik, A. R. 1985. The effect of LIFO-switching and firm ownership on executives' pay. *Journal of Accounting Research* (Autumn): 427-447.

Abdel-Khalik, A. R. 2003. Self-sorting, incentive compensation and human –capital assets. *European Accounting Review*. 12:4.661-697.

Aboody, D. and R. Kasznik. 2000. CEO stock option awards and the timing of corporate voluntary disclosures. *Journal of Accounting and Economics*. 29. (February). 73-100.

Ali, A. and P. Zarowin. 1992a. The role of Earnings levels on annual earnings-return studies. *Journal of Accounting Research*. 30 (2) (Autumn): 286-296.

Ali, A. and P. Zarowin. 1992b. Permanent versus transitory components f annual earnings and estimation error in earnings response coefficients. *Journal of Accounting and Economics* 15. 249-264. 249-264.

Ali, A. and, W. Zhang 2015. CEO tenure and earnings management. *Journal of Accounting and Economics*. 59. 60-79

Barua A. S. Lin, and A. Sbaraglia 2010. Earnings management using discontinued operations. *The Accounting Review*. 85. 5:1485-1509.

Bartov, E.F. Lindahl, and W. Ricks. 1998. Stock price behavior around announcements of write-offs. *Review of Accounting Studies*. 3. 4. (December): 327-346.

Black, E. L., T. A. Carnes, and V. J. Richardson. 2000. The value relevance of multiple occurrences of nonrecurring items. *Review of Quantitative Finance and Accounting*. 15(4) (December): 391-411.

Bradshaw, M. and R. G. Sloan. 2002. GAAP versus The Street: An Empirical Assessment of Two Alternative Definitions of Earnings. *Journal of Accounting Research*. Vol. 40. No.1. 41-66.

Collins, W. D., E. L. Maydew, I. S. Weiss. 1997. Changes in the value-relevance of earnings and book values over the past forty years. *Journal of Accounting and Economics*. 24. 39-67

Comprix, J. and K. A. Muller III. 2006. Asymmetric treatment of reported pension expense and income amounts in CEO cash compensation causations. *Journal of Accounting and Economics*. 42. 385-416.

Darrough, M. and N. Melumad. 1995. Divisional versus company-wide focus: The tradeoff between allocation of managerial attention and screening of talent. *Journal of Accounting Research.* 33 (Supplement):65-94.

Dechow, P. M., 2006. Asymmetric sensitivity of CEO cash compensation to stock returns: A discussion, *Journal of Accounting and Economics*, 42, 193-202.

Dechow, P. M., M. R. Huson and R. G. Sloan. 1994. The effect of restructuring changes on executives' cash compensation. *The Accounting Review* 69(1) (January): 138-156.

Dechow, P. M., R. Sloan, and A. Sweeney, 1996. Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC. *Contemporary Accounting Research* (Spring): 1-36

Defeo, J. V., R. A Lambert and D. F. Larcker. 1989. The executive compensation effects of equity-for-debt swaps. *The Accounting Review*. 64. 2 (April):201-227

Demski, J. J. Patell, and M. Wolfson. 1984. Decentralized choice of monitoring system. *The Accounting Review*. (January): 16-34

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

Dikolli, S. S., W. J. Mayew, and .D. Nanda. 2014 CEO tenure and the performance –turnover relation. *Review of Accounting Studies*. 19. 281-327.

Dittmar, Any and Anil Shivdasani 2003. Divestitures and Divisional investment policies. *Journal of Finance*. 58. 6. 2711-2743.

Duru, A., R. Lyenhar and A. Thevanjan.2002.The shielding of CEO compensation from the effects of strategic expenditures. *Contemporary Accounting Research*. 19.2 (Summer): 175-193

Edlin S. Arron and Joseph E. Stiglits. 1995. Discouraging rivals: management rent-seeking and economic inefficiencies. *The American Economic Review*. Vol. 85. 5. December:1301-1312l

Elliot, J. and J.D. Hanna. 1996. Repeated accounting write-offs and the information content of earnings. *Journal of Accounting Research*. 34: 135 – 155.

Elliott J. and W. Shaw. 1988. Write-offs as accounting procedures to manage perceptions. *Journal of Accounting Research* (Supplement): 91-119.

Fairfield, P. M, R. J, Sweeney, and T. L. Yohn. 1996. Accounting classification and the predictive content of earnings. *The Accounting Review*. Vol. 71. No. 3 (July): 337-355.

Financial Accounting Standards Board (FASB) 2013. Proposed Accounting Standards Update: Reporting Discontinued Operations.

Financial Accounting Standards Board (FASB) 2014.*Presentation of Financial Statements* (Topic 205) *and Property, Plant, and Equipment* (Topic 360). No2014-08

Friedman, A. and Lev, B. 1974. A surrogate measure for the firm's investment in human capital. *Journal of Accounting Research*. 12 (2): 235-250

Fredrickson, J. W., Hambrick, D. C., & Baumrin, S. 1988. A model of CEO dismissal. *Academy of Management Review*, 13: 255 - 270.

Gaver, J.J. and K.M. Gaver. 1998. The relation between nonrecurring accounting transactions and CEO cash compensation. *The Accounting Review*. 73. 2. (April): 235-253

Graham, J. Li, S. and J. Qiu,, 2012. Managerial attributes and executive compensation. *Review of Financial Studies*. 25. 144-186.

Grossman, S., and Hart, O. 1983. Analysis of the principal-agency problem. *Econometrica* 51.7-45.

Guidry, F., A. J. Leone, and S. Rock. 1999. Earnings-based bonus plans and earnings management by business-unit managers**,** *Journal of Accounting and Economics* 26 (): 113-42.

Healy, M. P., 1985. The effect of bonus schemes on accounting Decisions, *Journal of Accounting and Economics* 7:85-107

Hermalin, B. E., and Weisbach, M. S. (1998). Endogenously chosen boards of directors and their monitoring of the CEO. *American Economic Review*, 88(1), 96–118

Hill, L.W. C. and P. Phan 1991. CEO Tenure as a Determinant of CEO Pay *The Academy of Management Journal*, Vol. 34, No. 3 (September): 707-717

Jensen, .C. M., and W. H. Meckling, 1976.Theory of the Firm: Managerial Behavior, Agency costs and Ownership structure, *Journal of Financial Economics*. 3 305-360

Ke, B., S. Huddart, and K. Petroni 2003.What insiders know about future earnings and how they use it: Evidence from insider trades. *Journal of Accounting and Economics*. 35. 315-346.

Leone, J.A., J. S. Wu, and J. Zimmerman. 2006. Asymmetric sensitivity of CEO cash compensation to stock returns. *Journal of Accounting and Economics* 42. 167-192

Milgrom, P and I Roberts. 1992.Economics, Organization and Management. Prentice Hall. New Jersey .

Murphy, J. K. 1986. Incentives, Learning, and Compensation: A Theoretical ad Empirical Investigation of Managerial Lobar Contracts. *Rand Journal of Economics. 17. 59-76.*

Murphy , J. K., 1999, Executive Compensation, Handbook of Labor Economics, Vol 3B, Edited Ashenfelter, Orely and David Card, Chapter 38, p.2486-2563, Elsevier.

Murphy, J. K.., and J. Zanojnik. 2007. Managerial capital and the market for CEOs. April 2007. Available at SSRN: http://ssrn.com/abstract=984376

Natarajan, R. 1996. Stewardship Value of earnings components: additional evidence on the determinations of executive compensation. *The Accounting Review*. 71. 1-22.

Newman, A. H. and H. A. Mozes. 1999. Does the composition of the compensation committee influence CEO compensation practices? *Financial Management*. 28. 3 (Autumn): 41-53.

Shleifer A.. and R.. W. Vishny. 1989. Management entrenchment: the case of management-specific investments. 25.1. 123-139.

Skinner, D.J. 2008. Accounting for intangibles – a critical review of policy recommendations. *Accounting and Business Research*: 38, 3, 191-204.

Sloan G. R.. 1993. Accounting earnings and top executive compensation. *Journal of Accounting and Economics*. 16. 55-100

Srivastava, A. and D. Yermack. 1999. CEO involvement in the selection of new board members: An empirical analysis, *Journal of Finance.* 54. 1829-1853.

Welsch, R.E. 1980. Regression Sensitivity Analysis and Bounded-Influence Estimation. *Evaluation of Econometric Models.* Edited by Kementa, J., and J.B. Ramsey. Academic Press. New York: 153-167.

Yermack D. 1997. Good timing: CEO Stock Option Awards and Company News Announcements, *Journal of Finance.* 52. 2 (June): 449-476.

Table 1 Samples and the proportion of the reports of negative or positive discontinued operations by industries

		Full Sample			Restricted Sample		
SIC Code	Industry	#of obs	%NGDC	%PODC	# of obs	%NGDC	%PODC
2800=< siccd < 2830 2840=< siccd < 2900	Industrial Chemical	522	0.32	0.3	238	0.85	0.8
2830=< siccd < 2840	Pharmaceuticals	388	0.16	0.33	170	0.43	0.88
3570=< siccd < 3580	Computer Equip	334	0.13	0.07	68	0.35	0.18
3600=< siccd < 3700	Electric Equip	990	0.5	0.47	315	1.33	1.23
3700=< siccd < 3800	Transport Equip	376	0.18	0.4	190	0.48	1.05
3800=< siccd < 3899	Measurement Equip	592	0.47	0.42	218	1.23	1.1
4800=< siccd < 4900	Communication	209	0.11	0.23	82	0.3	0.6
7400=< siccd < 7380	Computer	738	0.29	0.28	176	0.78	0.75
8700=< siccd < 8800	Engineer and Consulting	127	0.06	0.15	46	0.15	0.4
3300=< siccd < 3400	Primary	345	0.22	0.23	177	0.58	0.6
4900=< siccd < 5000	Electric Utilities	123	0.16	0.09	71	0.43	0.23
1000=< siccd < 1300 1400=< siccd < 2000	Mining and Construction	241	0.14	0.13	101	0.38	0.35
1300=< siccd < 1400 2900=< siccd < 3000	Extraction	479	0.22	0.26	187	0.58	0.68
2000=< siccd < 2111	Food	383	0.19	0.18	157	0.5	0.48
2200=< siccd < 2780	Textiles and Printing	944	0.47	0.46	367	1.25	1.2
4000=< siccd < 4800	Transportation and Air	160	0.07	0.1	66	0.18	0.28
5000=< siccd < 6000	Retail	1,693	0.87	0.59	602	2.3	1.55
7000=< siccd < 7370, 7380=< siccd < 8700, 8800=< siccd < 9000	Service	600	0.37	0.36	220	0.98	0.95
Others		1,285	0.78	0.81	542	2.05	2.13
Total		10,529			3,993		

%NGDC The percentage of total observations in the industry that report income-decreasing discontinued operations.

%PODC The percentage of total observations in the industry that report income-increasing discontinued operations.

Table 2 Additional Information about Data

Panel A: Year, Firm Data-Span, CEO changes

Firm-year level (N=3,993)				Firm level			Firm level		
year	DC	PDC (%)	NDC (%)	The data-span by firm	N	Frequency	CEO change	N	Frequency
1993	-15.5129	0.0826	0.1074	1	33	5.68	0	232	39.93
1994	4.1774	0.0993	0.0856	2	38	6.54	1	237	40.79
1995	1.4322	0.1339	0.1260	3	39	6.71	2	87	14.97
1996	4.1047	0.1411	0.1083	4	47	8.09	3	25	4.30
1997	11.8080	0.1625	0.0825	5	43	7.40	Total[a]	581	100
1998	21.3030	0.1317	0.1146	6	50	8.61	0	969	53.21
1999	33.1942	0.1836	0.0894	7	32	5.51	1	597	32.78
2000	-10.1840	0.1429	0.1621	8	53	9.12	2	190	10.43
2001	31.7494	0.1389	0.1338	9	95	16.35	3	56	3.08
2002	-67.0381	0.1671	0.2818	10	100	17.21	4	6	0.33
2003	19.0063	0.2422	0.3166	11	51	8.78	5	3	0.16
				Total	581	100	Total[b]	1821	100

Panel B: Long Tenured CEOs (CEO-tenure > 4)

Variable	Mean	Median	Q1	Q3	STD	N
Data-Span	7.4356	7	6	9	1.9048	101
Years in firm	16.7273	14	11	21	9.3643	99
CEO tenure	10.6931	10	7	13	4.7394	101
CEO AGE	62.9798	63	58	67	8.2845	99

DC	The average annual reports of discontinued operations
PDC	The percentage of reports of positive discontinued operations
NDC	The percentage of reports of negative discontinued operations
The data span by firm	The number of years data are available for a firm
N	The number of firms
CEO change	The number of CEO changes for a firm
Data-Span	The average firm/life in the sample from 1992-2003
Years in firm	The average duration of working in the company from the start to the end year(up to 2013)
CEO tenure	The average length of being CEO from the start to the end of CEO (up to 2013)
CEO age	The average age of the CEO when they step out of the current position.
[a]	The restricted sample of firms that report discontinued operations at least once.
[b]	The full sample of firms regardless of reports of discontinued operations

Table 2 continued

Panel C: The Distribution of Industry

SIC Code	Industry	Total	Companies disappear before 2004	Companies exist after 2004
2800=< siccd < 2830 2840=< siccd < 2900	Industrial Chemical	5	2	3
2830=< siccd < 2840	Pharmaceuticals	2	1	1
3570=< siccd < 3580	Computer Equip	0	0	0
3600=< siccd < 3700	Electric Equip	10	1	9
3700=< siccd < 3800	Transport Equip	4	1	3
3800=< siccd < 3899	Measurement Equip	8	6	2
4800=< siccd < 4900	Communication	0	0	0
7400=< siccd < 7380	Computer	2	1	1
8700=< siccd < 8800	Engineer and Consulting	2	1	1
3300=< siccd < 3400	Primary	6	3	3
4900=< siccd < 5000	Electric Utilities	2	1	1
1000=< siccd < 1300 1400=< siccd < 2000	Mining and Construction	3	2	1
1300=< siccd < 1400 2900=< siccd < 3000	Extraction	9	8	1
2000=< siccd < 2111	Food	5	5	0
2200=< siccd < 2780	Textiles and Printing	7	6	1
4000=< siccd < 4800	Transportation and Air	3	3	0
5000=< siccd < 6000	Retail	12	11	1
7000=< siccd < 7370, 7380=< siccd < 8700, 8800=< siccd < 9000	Service	6	4	2
Others		14	8	6
Total		100[a]	64	36[a]

[a] There is missing information for one firm.

Table 3 Results for Testing Hypotheses H1a and H1b.
Panel A: Descriptive Statistics

VAR	N[a]	Mean	STD	Median	Q1	Q3
CASHCOM	877	1191.96	1126.66	915.693	562.50	1433.68
RET	877	0.0469	0.5203	0.0875	-0.1726	0.3261
NI	877	128.7483	870.9939	28.9150	8.0376	79.4934
NGNI	877	-23.0253	154.4448	0	0	0
INDC	877	5.5170	48.7814	0	0	0
DEDC	877	-5.5009	48.5056	0	0	0
PODC	877	0.1391	0.34626	0	0	0
NEDC	877	0.1414	0.34862	0	0	0
CAP	877	0.2107	0.1965	0.1743	0.0400	0.3153
NNI	877	0.1608	0.3675	0	0	0
ROA	877	0.0475	0.0968	0.0537	0.0189	0.0876
GR_RD	877	0.1187	0.8840	0	0	0.0528
OCFAT	877	0.0939	0.0839	0.0920	0.0509	0.1350
CHCPC	877	0.5391	0.2869	0.5121	0.3083	0.7643
BONPC	877	0.1902	0.1647	0.1668	0.0483	0.2899
MKPC	877	0.3991	0.2923	0.4038	0.1461	0.6384

Panel B: Results for H1a and H1b

$$CCOM = \sum_{t=1}^{10} a_t Y_t + \sum_{J=1}^{18} b_j IND_j + \alpha_0 NNI_{it} + \alpha_1 PODC_{it} + \alpha_2 NGDC_{it} + \beta_1 NI_{it} + \beta_2 NGNI_{it} + \beta_3 INDC_{it} + \beta_4 IDCLT_{it}$$
$$+ \beta_5 DEDC_{it} + \beta_6 DDCLT_{it} + \beta_7 RET_{it} + \beta_8 CAP_{it} + \varepsilon_{it}$$

	No change in CEO (CEO-tenure>4)				No Change in CEO (CEO-tenure>5)			
	EST	P value[b]	EST	P value	EST	P value	EST	P value
NNI	-41.9110	<.0001	-42.3682	<.0001	-42.6922	<.0001	-42.8343	<.0001
PODC			14.9333	0.02			17.6370	0.0034
NEDC			-11.2046	0.1124			-11.5029	0.1046
NI	0.0212	0.0003	0.0212	0.0003	0.0211	0.0003	0.0212	0.0003
NGNI	-0.0423	0.0066	-0.0428	0.0048	-0.0497	0.0002	-0.0468	0.0009
INDC	0.5251	<.0001	0.3235	0.0208	0.1038	0.003	0.0745	0.0006
IDCLT	-0.4358	0.001	-0.2583	0.0615	0.0142	0.8348	-0.0116	0.8178
DEDC	0.0014	0.9848	-0.0304	0.6908	-0.0021	0.9773	-0.0395	0.6041
DDCLT	0.0491	0.5326	0.0621	0.4399	0.0611	0.4271	0.0815	0.2946
RET	27.2306	<.0001	26.7534	<.0001	27.5804	<.0001	26.7433	<.0001
CAP	71.1833	<.0001	72.5426	<.0001	71.9344	<.0001	72.7864	<.0001
test								
$\beta_1 + \beta_2 = 0$	-0.0211	0.1589	-0.0216	0.138	-0.0286	0.0256	-0.0256	0.056
$\beta_3 + \beta_4 = 0$	0.0893	<.0001	0.0651	<.0001	0.1180	<.0429	0.0629	0.1725
$\beta_5 + \beta_6 = 0$	0.0505	0.0343	0.0316	0.2665	0.0589	0.0037	0.0420	0.0594
Fixed effect	yes		yes		yes		yes	
OBS	871		871		871		871	
Adj R-Sq	30.47%		30.47%		29.63%		30.47%	

Table 3 continued

	No change in CEO (CEO-tenure>6)			
	EST	P value	EST	P value
NNI	-43.9947	<.0001	-43.7554	<.0001
PODC			16.3148	0.0057
NEDC			-11.5171	0.1055
NI	0.0211	0.0003	0.0212	0.0003
NFNI	-0.0505	0.0002	-0.0476	0.0007
INDC	0.0960	0.0001	0.0654	0.0002
IDCLT	0.4209	0.0582	0.2873	0.1418
DEDC	-0.0042	0.9546	-0.0416	0.5833
DDCLT	0.0633	0.4015	0.0853	0.2672
RET	27.1781	<.0001	26.5416	<.0001
CAP	71.1871	<.0001	72.4515	<.0001
test				
$\beta_1 + \beta_2 = 0$	-0.0294	0.0207	-0.0264	0.0462
$\beta_3 + \beta_4 = 0$	0.5169	0.0191	0.3527	0.0695
$\beta_5 + \beta_6 = 0$	0.0591	0.0028	0.0437	0.0372
Fixed effect	yes		yes	
OBS	871		871	
Adj R-Sq	29.83%		30.46%	

CCOM	Logarithm of cash compensation adjusted for inflation.
NNI	A dummy variable set to one if earnings are negative and is zero otherwise
PODC	A dummy variable set to one if discontinued operations are positive and is zero otherwise
NEDC	A dummy variable set to one if discontinued operations are negative and is zero otherwise
NI	Earnings before extraordinary items and discontinued operations, adjusted for inflation.
NGNI	The product of NI and a dummy variable set to one if earnings before extraordinary items adjusted for inflations is negative, zero otherwise.
INDC	Income-increasing discontinued operations adjusted for inflation. The product of discontinued operations adjusted for inflation and PODC.
DEDC	Income-decreasing discontinued operations adjusted for inflation. The product of discontinued operations adjusted for inflation and NEDC.
IDCLT	The product of INDC and a dummy variable set to one when CEO serve for more than 4,5 or 6 years, and is zero otherwise.
DDCLT	The product of DEDC and a dummy variable set to one when CEO serve for more than 4,5 or 6years, and is zero otherwise.
RET	Annual average security returns
CAP	The ratio of long-term debt to total capital
CASHCOM	CEO cash compensation sum of CEO salary and bonus before adjusted for inflations.
ROA	Ratio of earnings before extraordinary items to the beginning period of assets.
GR_RD	Annual growth in R&D expenditures.
OCFAT	Ratio of operating cash flow to the beginning period of assets.
CHCPC	The ratio of CEO cash compensation (salary plus bonus) to total CEO compensation.
BONPC	The ratio of CEO bonus to total CEO compensation.
MKPC	The ratio of CEO market-based compensation to total CEO compensation.
a	This sample has further restriction that firms must have at least four years observations and no change in CEOs during this period.
b	Heteroscedasticity adjusted P-value.

Table 4 Results for the hypotheses H2 and H3 (The Full Sample)

$$PERM_{it} = \alpha_0 + \alpha_1 NGEN_{iT} + \alpha_2 NMDC_{it,...T} + \alpha_3 PMDC_{it,...T} + \alpha_4 CGDP_{it} + \alpha_5 GR\_RD_{it}$$
$$+ \alpha_6 GR\_SALE_{it} + \alpha_7 GR\_AST_{it} + \alpha_8 ASTUN_{it} + \alpha_9 LGPERM_{it-1} + \varepsilon_{it}$$

DEPVAL	IBS (1)			GMS (2)			OCFS (3)		
	Est	SE	P-val	Est	SE	P-val	Est	SE	P-val
Intercept	0.8799	0.1330	<.0001	0.6752	0.1273	<.0001	1.0920	0.1164	<.0001
NGEN	-2.8460	0.1273	<.0001	-0.9639	0.1149	<.0001	-1.1741	0.1077	<.0001
NMDC	-0.7856	0.3811	0.0394	-0.6063	0.3495	0.0829	-0.5292	0.3231	0.1016
PMDC	-0.3509	0.1385	0.0113	-0.2829	0.1274	0.0264	0.2357	0.1178	0.0455
CGDP	-2.6455	0.9937	0.0078	1.7210	0.9109	0.059	1.3432	0.8442	0.1117
GR_RD	-0.3211	0.0860	0.0002	0.0129	0.0788	0.8695	0.0384	0.0729	0.5982
GR_SALE	0.4917	0.2427	0.0428	2.6450	0.2235	<.0001	0.3568	0.2062	0.0837
GR_AST	-0.4893	0.1926	0.0111	-0.5522	0.1768	0.0018	0.0280	0.1635	0.8642
ASTUN	0.1889	0.0953	0.0477	0.2250	0.0901	0.0126	0.3207	0.0818	<.0001
LGPERM	0.3820	0.0185	<.0001	0.9408	0.0066	<.0001	0.5159	0.0166	<.0001
AdjustedR^2	34.33%			89.48%			35.40%		
OBS	2,898			2,898			2,896		
6-year average									
NMDC38	0.0947	0.2333	0.6848	-0.1434	0.2503	0.5667	0.1053	0.2008	0.6003
PMDC38	0.1436	0.1213	0.2366	-0.0298	0.1300	0.8188	0.1436	0.1046	0.1702
NMDC49	0.2041	0.2966	0.4914	-0.1263	0.3131	0.6867	0.1594	0.2510	0.5255
PMDC49	0.1811	0.1105	0.1013	0.0588	0.1164	0.6133	0.1716	0.0938	0.0674
NMDC50	-0.1890	0.2538	0.4565	-0.1542	0.2646	0.5602	-0.0739	0.2106	0.7256
PMDC50	0.1922	0.1982	0.3324	0.3188	0.2070	0.1236	0.2377	0.1649	0.1497
NMDC61	-1.2237	0.5061	<.0157	0.0502	0.5286	0.9244	-0.6388	0.4189	0.1274
PMDC61	0.2560	0.2009	<.2016	0.3500	0.2101	0.0958	0.2129	0.1664	0.2009
NMDC72	-1.6092	0.3309	<.0001	-0.6470	0.3453	0.0611	-1.0492	0.2748	0.0001
PMDC72	0.2092	0.2012	0.2985	0.3154	0.2124	0.1376	0.1389	0.1687	0.4105
NMDC83	-1.1388	0.3425	0.0009	-0.7048	0.3147	0.0252	-1.3063	0.2917	<.0001
PMDC83	-1.5748	0.2573	<.0001	-0.7734	0.2385	0.0012	0.2578	0.2189	0.2390

Table 4 continued

NMDC	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1993-2003) is negative, otherwise zero.
PMDC	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1993-2003) is positive, otherwise zero.
NMDC38	The average discontinued operations between 1993- 1998.
NMDC49	The average discontinued operations between 1994- 1999.
NMDC50	The average discontinued operations between 1995- 2000.
NMDC61	The average discontinued operations between 1996- 2001.
NMDC72	The average discontinued operations between 1997- 2002.
NMDC83	The average discontinued operations between 1998- 2003.
PMDC38	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1993-1998) is positive, otherwise zero.
PMDC49	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1994-1999) is positive, otherwise zero.
PMDC50	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1995-2000) is positive, otherwise zero.
PMDC61	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1996-2001) is positive, otherwise zero.
PMDC72	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1997-2002) is positive, otherwise zero.
PMDC83	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1998-2003) is positive, otherwise zero.
IBS	Earnings before extraordinary items divided by outstanding share
OCFS	Operating cash flow divided by outstanding share
GMS	Gross margin (sales- COGS) divided by outstanding share
NGEN	A dummy variable set to one if earnings before extraordinary item are negative in the period between 2004 and 2008, otherwise is set to zero.
CGDP	The change in real GDP per capital from $year_{t-1}$ to $year_{t.}$
GR_RD	Annual growth in R&D expenditures.
GR_SALE	Annual growth in sales.
GR_AST	Annual growth in assets.
ASTUN	Asset turnover.
LGPERM	One year lags of the performance measure.

Table 5 Result for hypothesis H2 and H3 (The Restricted Sample)

$$PERM_{it} = \alpha_0 + \alpha_1 NGEN_{iT} + \alpha_2 MDC_{it,...T} + \alpha_3 PMDC_{it,...T} + \alpha_4 CGDP_{it} + \alpha_5 GR\_RD_{it}$$
$$+ \alpha_6 GR\_SALE_{it} + \alpha_7 GR\_AST_{it} + \alpha_8 ASTUN_{it} + \alpha_9 LGPERM_{it-1} + \varepsilon_{it}$$

DEPVAL	IBS (1)			GMS (2)			OCFS (3)		
	Est	SE	P-val	Est	SE	P-val	Est	SE	P-val
Intercept	0.8751	0.2731	0.0014	1.3470	0.2591	<.0001	1.3420	0.2226	<.0001
NGEN	-3.1866	0.2747	<.0001	-1.3188	0.2394	<.0001	-1.3312	0.2151	<.0001
MDC	-0.6647	0.4882	0.1737	-0.4055	0.4302	0.3461	-0.3447	0.3800	0.3646
PMDC	0.2724	0.5299	0.6073	0.1057	0.4677	0.8213	0.5463	0.4133	0.1866
CGDP	-4.0953	2.0726	0.0484	3.1895	1.8330	0.0822	1.3609	1.6272	0.4032
GR_RD	-0.7667	0.2809	0.0064	0.0747	0.2470	0.7624	0.3667	0.2182	0.0931
GR_SALE	1.0770	0.6311	0.0882	3.7662	0.5586	<.0001	-0.0795	0.4931	0.872
GR_AST	1.0961	0.4564	0.0165	-0.8624	0.4028	0.0325	0.3415	0.3560	0.3376
ASTUN	0.1011	0.1855	0.586	0.1257	0.1660	0.4489	0.2955	0.1463	0.0436
LGPERM	0.4672	0.0288	<.0001	0.9006	0.0119	<.0001	0.4888	0.0288	<.0001
AdjustedR^2	38.55%			86.96%			32.96%		
OBS	987			987			985		
6-year average									
MDC38	0.1351	0.2153	0.5306	-0.0632	0.2675	0.8133	0.1837	0.2441	0.4518
PMDC38	-0.0719	0.2466	0.7707	-0.0085	0.3067	0.9778	-0.0421	0.2800	0.8805
MDC49	0.2382	0.2966	0.4016	-0.0631	0.3421	0.8536	0.2522	0.3106	0.4171
PMDC49	-0.1459	0.1105	0.6358	0.0871	0.3714	0.8147	-0.0854	0.3372	0.8000
MDC50	-0.0494	0.2560	0.8470	-0.0995	0.2994	0.7396	0.0002	0.2674	0.9993
PMDC50	0.0470	0.3422	0.8908	0.3480	0.4008	0.3855	0.1619	0.3579	0.6511
MDC61	-0.9746	0.5183	0.0604	0.1256	0.6070	0.8361	-0.5340	0.5420	0.3248
PMDC61	1.0671	0.5820	0.0671	0.1699	0.6816	0.8032	0.6754	0.6090	0.2677
MDC72	-1.6086	0.3465	<.0001	-0.5728	0.4038	0.1564	-1.1181	0.3587	0.0019
PMDC72	1.7116	0.4255	<.0001	0.8366	0.4984	0.0936	1.2047	0.4428	0.0066
MDC83	-0.8447	0.4436	0.0572	-0.6244	0.3924	0.1119	-1.2788	0.3470	0.0002
PMDC83	-0.8107	0.5783	0.1613	-0.1672	0.5229	0.7492	1.4585	0.4564	0.0014

Table 5 continued

MDC	The average discontinued operations between 1993 and 2003.
PMDC	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1993-2003) is positive, otherwise zero.
MDC38	The average discontinued operations between 1993- 1998.
MDC49	The average discontinued operations between 1994- 1999.
MDC50	The average discontinued operations between 1995- 2000.
MDC61	The average discontinued operations between 1996- 2001.
MDC72	The average discontinued operations between 1997- 2002.
MDC83	The average discontinued operations between 1998- 2003.
PMDC38	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1993-1998) is positive, otherwise zero.
PMDC49	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1994-1999) is positive, otherwise zero.
PMDC50	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1995-2000) is positive, otherwise zero.
PMDC61	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1996-2001) is positive, otherwise zero.
PMDC72	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1997-2002) is positive, otherwise zero.
PMDC83	The cross product between MDC and a dummy variable set to one when the average discontinued operations (1998-2003) is positive, otherwise zero.
NGEN	A dummy variable set to one if earnings before extraordinary item are negative in the period between 2004 and 2008, otherwise is set to zero.
IBS	Earnings before extraordinary items divided by outstanding share
OCFS	Operating cash flow divided by outstanding share
GMS	Gross margin (sales- COGS) divided by outstanding share
CGDP	The change in real GDP per capital from $year_{t-1}$ to $year_{t.}$
GR_RD	Annual growth in R&D expenditures.
GR_AST	Annual growth in assets.
GR_SALE	Annual growth in sales.
ASTUN	Asset turnover.
LGPERM	One year lags of the performance measure.

Table 6 Sensitivity Analysis Using A Long-tenured CEO Sample

$$CCOM = \sum_{t=1}^{10} a_t Y_t + \sum_{J=1}^{18} b_j IND_j + \alpha_0 NNI_{it} + \beta_1 NI_{it} + \beta_2 NGNI_{it} + \beta_3 INDC_{it} + \beta_4 DEDC_{it} + \beta_5 RET_{it} + \beta_6 CAP_{it} + \varepsilon_{it}$$

Panel A: Descriptive Statistics

	N	Mean	STD	Median	Q1	Q3
CASHCOM	371	1514.4	1492.96	1090	705.041	1836.91
NNI	371	0.1617	0.3687	0	0	0
NI	371	228.0475	1293.44	37.8710	9.0926	109.9032
NGNI	371	-23.5232	96.4791	0	0	0
INDC	371	9.2484	73.0665	0	0	0
DEDC	371	-4.7082	51.1921	0	0	0
RET	371	0.0368	0.5479	0.0843	-0.2006	0.3103
CAP	371	0.2385	0.2188	0.1896	0.0515	0.3735

Panel B: Test for Hypothesis H1 a and b Using A Long-tenured CEO Sample

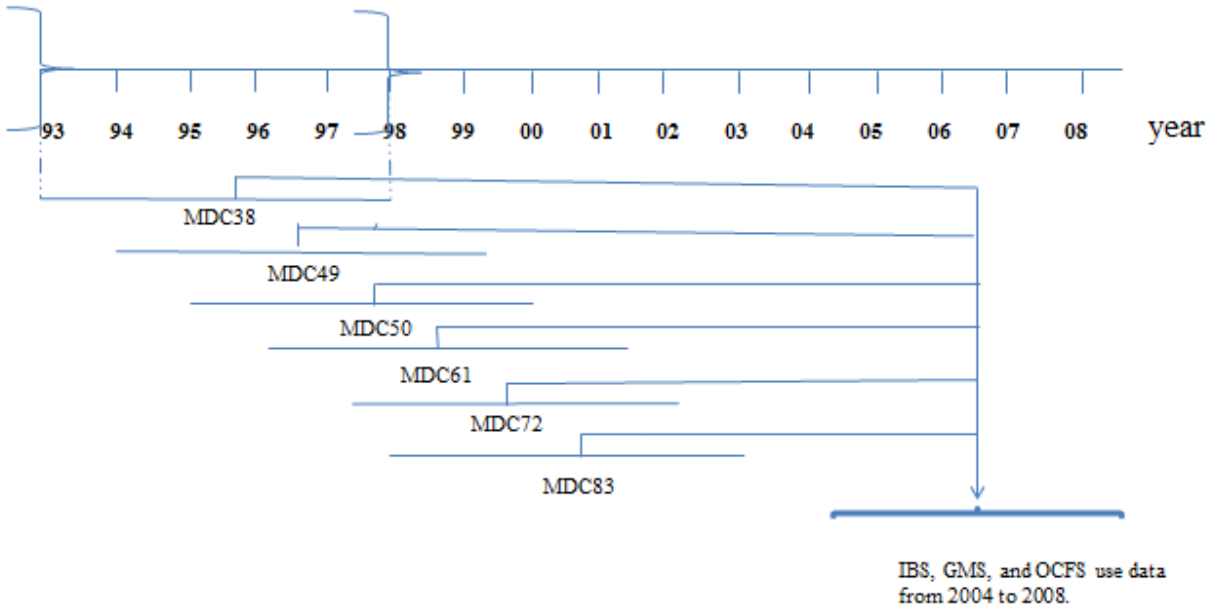
	No change in CEO (CEO-tenure>4)			
	EST	P value[a]	EST	P value
NNI			-62.4493	<.0001
NI	0.0190	0.0002	0.0182	0.0001
NGNI	-0.0386	0.239	-0.1403	0.0035
INDC	0.0521	0.0168	0.0546	0.0318
DEDC	0.0863	0.0017	0.0681	0.0318
RET	22.6306	0.0045	20.0111	0.0091
CAP	2.6280	0.9073	19.0425	0.3801
$\beta_1 + \beta_2 = 0$	-0.0200	0.5456	-0.1221	0.0106
Fixed effect	yes		yes	
OBS	369		370	
Adj R-Sq	25.26%		28.75%	

CASHCOM	Cash compensation adjusted for inflation.
CCOM	Logarithm of cash compensation adjusted for inflation.
NNI	A dummy variable set to one if earnings are negative and is zero otherwise
NI	Earnings before extraordinary items and discontinued operations, adjusted for inflation.
NGNI	The product of NI and a dummy variable set to one if earnings before extraordinary items adjusted for inflations are negative, zero otherwise.
INDC	Income-increasing discontinued operations adjusted for inflation. The product of discontinued operations adjusted for inflation and PODC.
DEDC	Income-decreasing discontinued operations adjusted for inflation. The product of discontinued operations adjusted for inflation and NEDC.
RET	Annual average security returns
CAP	The ratio of long-term debt to total capital
[a]	Heteroscedasticity adjusted P-value.

Figure 1: The Expected Impact of Disposal Decisions on CEOs Cash Compensation.

		DC EFFECT ON CASH COMPENSAION	
		CURRENT CASH COMP	FUTURE CASH COMP
DC	Income-increasing DCs	Increase	Decrease
	Income-decreasing DCs	Decrease	Increase

Figure 2 Six-Year Rolling Average Evaluation



The effect of six-year rolling averages on *ex post* performance measures is evaluated as shown above. The first line indicates the time line, 1993 to 2008. In the second line the six-year rolling average of DCs is calculated between 1993 and 1998 (MDC38) . It indicates that the effect of this six-year rolling average (MDC38) on firm performance between 2004 and 2008. The third line shows the effect of the six-year average between 1994 and 1999 (MDC49) on firm performance between 2004 and 2008 and then so on. The duration of the effect of DCs on firm performance is assessed in the following way. When MDC38 is significantly associated with ex post performance measure IBS, it indicates that DCs occurred between 1993 and 1998 have an impact on IBS during 2004-2008. In my analysis, this is the longest impact of DCs on future firm performance about 10 years.