

CEO Payout and Earnings Management: The role of Non-Financial Performance Measures

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Abstract:

Compensation contracts are generically used to reward good-performing CEOs. At times, firms may also cut poor performing CEOs’ pay with the aim of improving performance. To improve performance and restore pay to the pre-cut level, CEOs may engage in earnings management. Firms may include a mix of financial performance measures (FPMs) and non-financial performance measures (NFPMs) in CEOs’ compensation contracts. This study examines whether the relative weight placed on NFPMs impacts the post-payout level of earnings management. I expect that a higher weight on NFPMs will (1) reduce the post-payout level of accrual earnings management (AEM), but (2) increase the post-payout level of real earnings management (REM). Using a sample of 2,183 firm-year observations from S&P 500 firms in the 2010 to 2018 period, I find that the weight on NFPMs in CEOs’ compensation contracts is likely to moderate the post-payout level of earnings management. Overall, this study documents that the inclusion of NFPMs in CEOs’ compensation contracts may be effective in curbing opportunistic financial reporting.

Keywords —Non-financial performance measures, CEOs’ compensation contracts, CEO payout, accrual earnings management, real earnings management.

I. INTRODUCTION

CEOs’ compensation contracts are important organizational mechanisms which align the interests of CEOs and shareholders. In general, organizations use compensation contracts to reward the good performance of CEOs. Concurrently, compensation contracts may also help organizations to punish poor performing CEOs, sending a signal to CEOs that their performance is not acceptable. Facing paycuts due to poor performance, CEOs are likely to respond to this signal by improving firm performance (e.g. [1]). Reference [2] argue that pay-cuts may create pressure to improve performance and restore pay to a pre-cut level in the short-term. Consequently, CEOs may undergo earnings management activities to reverse poor performance and to restore their compensation in the short-term (e.g. [2], [3]). Nonetheless, CEOs’

incentives to engage in such activities is likely to be conditional on the performance measures in their compensation contracts.

Compensation contracts include a mix of financial performance measure (FPM) and non-financial performance measures (NFPMs)(e.g. [4], [5]). Prior research has shown that the inclusion of NFPMs in CEOs’ compensation contracts may help firms to induce CEOs’ to invest efforts into productive activities and it may also reduce their incentives for accrual earnings management (AEM) and real earnings management (REM) (e.g. [6], [7]). Specifically, this research indicates that if the weight on NFPMs relative to FPMs is high, the incentives of CEOs to engage in earnings management might decrease. However, little attention has been paid to the effect of the weight on NFPMs in CEOs’ compensation contracts on the relationship between CEOs’ paycuts and earnings

management. Therefore, this study aims to close this important gap in the literature.

Literature documents that CEOs' compensation contracts may trigger earnings management (e.g. [3], [8] - [10]). For example, the incentive to increase compensation (e.g. [8]), and/or pressure to restore pay to a pre-cut level (e.g. [2]) in the short-term may incentivize CEOs to engage in earnings management. This is because, in order to restore their pay to a pre-cut level, CEOs' may shift their focus to short-term performance at the expense of long-term performance. Furthermore, literature also documents that the choice of performance measures, more specifically, the inclusion of NFPMs in these contracts (e.g. [4]) may hinder earnings management (e.g. [6], [7]).

In this study, I examine the role of the weights on NFPMs in compensation contracts on the relationship between CEOs' payout and earnings management. In general, CEOs can influence their compensation through accrual and real earnings manipulations. The choice of the type of earnings manipulation CEOs will engage in depends on which type may have more benefits for CEOs. In this vein, the choice of performance measures in general or the choice to put a high weight on NFPMs in CEOs' compensation contracts, in particular, can play a vital role. The inclusion of NFPMs in CEOs' compensation contracts can shift their focus to long-term goals and increase the informativeness of these contracts. Thus, CEOs whose compensation is linked to the achievement of NFPMs are more likely to induce efforts to improve firm performance in the long-term. Furthermore, CEOs may find it more costly to use AEM to increase compensation. This is because a major portion of their compensation is linked to NFPMs, and not achieving good performance on these measures may affect the earnings in current and future periods (e.g. [11]). Moreover, the motivation for AEM is likely to increase when compensation contracts are based mostly on FPMs (e.g. [8]). Thus, I predict that higher weights on NFPMs in CEOs' compensation contracts are likely to reduce the positive effect of CEOs' payout on AEM. However, given the link between NFPMs and business

operations, CEOs whose compensation is more strongly linked to NFPMs are more likely to engage in REM. This may also be in line with the notion that AEM and REM can be used as a substitute by CEOs. I thus predict that higher weights on NFPMs in CEOs' compensation contracts are likely to increase the positive effect of CEOs' payout on REM.

To answer my research question, I use a sample of S&P 500 non-financial listed firms from 2010 to 2018 period. My sample consists of 2,183 firm-year observations that result from merging data from COMPUSTAT, ExecuComp, CRSP, BOARDEX, and hand-collected information from firms' proxy statements. Following [2], I estimate cross-sectional regressions for at least 5 firms per industry-year to identify 393 instances of paycuts. I define a payout as the reduction in the CEO pay as a result of board decisions after a poor firm performance. Since earnings management includes both accrual earnings management (AEM) and real earnings management (REM), which have several distinguishing features, I examine whether the use of NFPMs in compensation contracts moderates the relationship between paycuts and AEM and the relationship between paycuts and REM. I use DAC to measure AEM. Following [12], REM is measured as APROD, ACFO, and ADISX. I hand-collect information on the weights placed on NFPMs in CEOs' compensation contracts from proxy statements of each firm.

My contribution to the literature is twofold. First, I expand the literature on the effect of paycuts on earnings management (e.g. [2], [3]) by examining the moderating effect of the weight on NFPMs in CEOs' compensation contracts on the relationship between paycuts and earnings management. After a payout, CEOs are likely to focus on improving firm performance (e.g. [1]). However, the performance improvement achieved may be the result of earnings management (e.g. [2], [3]), given that CEOs may have pressure to improve performance and restore pay to pre-cut level in the short-term (e.g. [2]). I extend the findings (e.g. [2]) and show that after a payout, (a greater proportion of) NFPMs in CEOs' compensation contracts may increase the

engagement in REM while post-payout AEM is not affected. My findings imply that, around a CEO payout, the weight on NFPMs in CEOs' compensation contracts may encourage managerial opportunistic behavior.

Second, I contribute to the literature on compensation contracts and earnings management (e.g. [8], [9]). More specifically, I contribute to the literature on the choice of performance measures in CEOs' compensation contracts and earnings management (e.g. [6], [7]). Reference [6] shows that the inclusion of NFPMs in CEOs' compensation contracts can hinder EM. I extend the literature by looking into the interplay between NFPMs and two types of earnings management (AEM and REM) after a payout. I add to this literature by showing that, when faced with a payout situation, high weights on NFPMs in CEOs' compensation contracts can increase the level of REM. This suggests that in certain situations, NFPMs may not be an efficient tool to hinder earnings management. In addition, my findings suggest that the effect depends on the earnings management type.

II. THEORETICAL BACKGROUND

Earnings Management and Compensation Contracts

A core tenet of agency theory is that compensation contracts can align the interests of managers with the shareholders' interests (e.g. [13]). In theory, these contracts link CEOs' compensation to firm performance in order to create incentives for CEOs to act in the best interests of the shareholders. This suggests that firms can use compensation contracts to encourage CEOs to improve firm performance. However, a stream of literature documents that CEOs' pay cuts (e.g. [2]) or reductions in their compensation (e.g. [3]), incentives for high compensation (or high equity offerings) (e.g. [9]), and sensitivity of compensation to stock price (e.g. [8]) can create pressure to improve performance in the short-term at the expense of the long-term. Such pressure and managerial short-termism can eventually trigger earnings management. Nonetheless, the choice to include NFPMs in CEOs' compensation contracts can hinder earnings management (e.g. [6], [7]). This is because adding these measures in CEOs'

compensation contracts can increase the informativeness of contracts.

In general, two types of earnings management (1) accrual earnings management (AEM) and (2) real earnings management (REM) are distinguished in the earnings management literature. AEM represents the use of discretion through the recognition of accruals to alter the reported earnings (e.g. [8]). CEOs can influence discretionary accruals through their discretion over financial reporting that can affect their compensation (e.g. [7], [8]). REM occurs when CEOs' efforts diverge from the normal business operation and alter the timing, investment, financing transaction, or structure of business operations (e.g. [14]). Thus, if CEOs engage in REM, they can influence the corporate decision regarding R&D, production, and activities that are likely to affect cash flows (e.g. [12]) that are likely to affect their compensation (e.g. [2]). Broadly speaking, engaging in earnings management is a trade-off between the cost and benefit of engaging in such activity. CEOs use REM to boost earnings in the short-term if engaging in AEM is more costly relative to REM (e.g. [14]).

CEO Payout and Earnings Management

Generally, for good performance, firms are likely to reward CEOs with targeted or above-targeted compensation, but, at times, firms can also punish CEOs for poor performance. The firm can cut CEOs' pay for performing poorly (e.g. [1], [2]) or CEOs may lose part of their compensation for not meeting the benchmark (e.g. [3]). A payout is defined as a reduction in CEOs' compensation after an undesirably low level of performance (e.g. [1]), and it may signal to CEOs that the board is monitoring their performance. Furthermore, a payout may convey to stakeholders that CEOs are held accountable for poor performance. Moreover, a payout may indicate that the board is more powerful than CEOs, which may also choose to dismiss CEOs if they do not improve performance. This can negatively affect the CEOs' reputation. Therefore, following paycuts, CEOs may have incentives to induce efforts into activities that can improve firm performance (e.g. [1]). However, to

restore pay to the pre-cut level and retain their jobs, CEOs may feel pressure to improve performance in the short-term. Due to this pressure, CEOs may engage in earnings manipulations (e.g. [12], [3]). Thus, subsequent to a paycut, the short-term focus to improve performance can trigger earnings management (e.g. [14]). As a consequence, CEOs' paycuts may not be as effective as they were supposed to be, since rather than inducing efforts into productive activities, they may induce efforts into AEM and REM.

Non-financial performance measures can affect Earnings Management

If AEM or REM occur, this implies that paycuts may not work as expected, as they shift the CEOs' focus to short-term goals at the expense of long-term goals. To make paycuts effective, firms need to design CEOs' compensation contracts in a manner that makes earnings manipulation more costly and incentivizes CEOs to exert more efforts into productive activities. In circumstances which induce CEOs to engage in earnings manipulation, they are likely to increase their wealth at expense of firms' long-term performance (e.g. [14]). It is therefore particularly relevant that, to reduce earnings management, firms can include NFPMs in CEOs' compensation contracts (e.g. [6], [7]). This may help in reducing AEM and REM because NFPMs are leading indicators of financial performance (e.g. [5]), and inclusion of NFPMs in CEOs' compensation contracts can shift CEOs' focus to long-term goals (e.g. [15], [16]). At the same time, NFPMs provide information on the unobservable actions of the CEOs and improve the informativeness of compensation contracts.

In this essay, I am interested in studying the moderating effect of the inclusion of NFPMs in executive compensation contracts on the relationship between CEOs' pay cuts and earnings management. Since earnings management includes both accrual earnings management (AEM) and real earnings management (REM), which have several distinguishing features, I develop separate hypotheses on the effects of inclusion of NFPMs in CEOs' compensation contracts on the relationships between paycuts and AEM and REM.

Hypothesis Development

CEOs' compensation contracts in general, and CEOs' paycuts in particular, can create incentives to engage in earnings management (e.g. [2]). Following a paycut, CEOs may have incentives to quickly restore their pay to the pre-cut level. In this vein, they may take decisions that are beneficial in the short term at the expense of long-term performance. However, after a paycut, the high weight on NFPMs in CEOs' compensation contracts may hinder earnings management (e.g. [6], [7]). If more weight is placed on NFPMs in CEOs' compensation contracts, a higher portion of compensation is linked to the achievement of non-financial goals. This implies that inducing efforts into long-term goals is likely to be more beneficial for CEOs. Moreover, NFPMs are likely to translate into financial performance in the coming periods (e.g. [11]), and may improve the financial performance of the firm (e.g. [5], [16]). This may not only affect compensation linked to NFPMs but also it may affect the coming period's financial performance. Therefore, after a paycut, the incentive to engage in AEM is likely to reduce, if firms place a high weight on NFPMs in CEOs' compensation contracts. According to the literature, AEM is likely to be more evident when compensation contracts are solely based on FPMs (e.g. [6], [8]). This is because FPMs are likely to be governed by accounting procedures, and CEOs can use their discretionary power over the choice of accounting procedures to increase earnings through engagement in REM. Furthermore, such discretion, may help CEOs to quickly improve performance and restore pay, which may make engagement in AEM more beneficial than inducing efforts into productive activities. This may shift CEOs' focus to short-term goals at the expense of long-term goals. Given that inclusion of NFPMs can shift CEOs' focus on long-term firm performance and divert effort more into productive activities, I hypothesize that the weight on NFPMs in CEOs' compensation contracts can moderate the relationship between CEOs' paycut and AEM in such a way that the

relationship will be less strongly positive with higher weights on NFPMs.

Hypothesis 1: The increase in accrual earnings management in the year following a CEO payout is incrementally lower for firms with a higher weight on NFPMs in the CEOs' compensation contracts.

Following a payout, a high weight on NFPMs in CEOs' compensation contracts may lead CEOs to focus on improving performance on NFPMs. Therefore, a weight placed on NFPMs in CEOs' compensation contracts may have a contrasting effect on the relationship between a CEO payout and REM as compared to the relationship between a CEO payout and AEM. Given that NFPMs are associated with business activities and CEOs are likely to have control over these activities (e.g. [12]), they may engage in REM to restore pay to pre-cut level if high weights are placed on NFPMs. For example, CEOs can introduce price discounts that may help to increase customer loyalty and also boost earnings in the short-term through a temporary increase in sales. Furthermore, unlike FPMs, NFPMs are not governed by regulations and are less subject to public verification, which may make NFPMs difficult to measure, verify, and detect (e.g. [11]). Moreover, REM refers to the manipulation of real activities (such as research and development expenditure and production expenditure)(e.g. [12]) that are also less subject to scrutiny by auditors compared to accruals. Therefore, one may argue that, if the weight on NFPMs in CEOs' compensation contracts is high, to restore pay to a pre-cut level or to increase compensation, CEOs are likely to increase their engagement in REM.

In general, one may expect that, following a payout, if the benefit for CEOs to engage in REM is lower than the cost of REM, they may not engage in REM. Reference [2] also suggest that in the absence of benefits, CEOs may not manage earnings. As such, the incentives for CEOs to engage in REM are contingent upon the proportion of NFPMs in the compensation contracts. A higher weight on NFPMs implies that CEOs are likely to focus more on NFPMs targets. In a post-payout setting, a higher weight on NFPMs in CEOs' compensation

contracts may create a stronger incentive for CEOs to manipulate real activities in order to boost earnings and to restore their pay to the pre-cut level. Given that a higher weight on NFPMs can increase the benefits of REM compared to the costs, I hypothesize that the weight on the NFPMs in CEOs' compensation contracts is likely to increase the positive relationship between CEOs' pay cut and REM.

Hypothesis 2: The increase in real earnings management in the year following a CEO payout is incrementally higher for firms with a higher weight on NFPMs in the CEOs' compensation contracts.

III. DATA DESCRIPTION AND METHODOLOGY

Sample and Variable Construction

To examine my hypotheses, I obtain information on NFPMs, CEO compensation, financial data, stock returns, and board data from proxy statements, ExecComp, COMPUSTAT, CRSP, and BOARDDEX, respectively. my initial sample comprises 3681 firm-year observations of non-financial firms listed on the S&P 500 from 2010-2018. From this sample, I drop observations for CEOs whose tenure is less than four years. This is because to compute pay cut I need information on CEO compensation from year-2 to year+1. This means that an executive has to be a CEO two years before the pay cut year and one year after the pay cut year. Using data from ExecComp, CRSP, and COMPUSTAT, I estimate cross-sectional payout regressions that leave us with 2,227 firm-year observations, and it has 215 instances of payouts. I hand-collection information on the use of NFPMs in CEOs' compensation contracts from the proxy statement of the firm. Compensation Discussion and Analysis (CDA) in the proxy statements report detailed information on the use of NFPMs in CEOs' compensation contracts. Given the availability of proxy statements, I was able to collect information on the use of NFPMs for 3492 firm-year observations. Using data from COMPUSTAT, I compute proxy of accrual earnings management through modified and real earnings management using (e.g. [12]) models. Finally, after merging all data, I am left with 2,183 firm-year observations.

Dependent Variables

In the context of this study, Earnings management (EM) is the dependent variable. Proxies for EM are accrual earnings management and real earnings management.

Accrual Earnings Management

Following the literature, I use discretionary accruals (DAC) as a proxy for AEM (e.g. [6]). To compute the DAC, I employ:

$$\frac{TA_t}{A_{t-1}} = \alpha + \beta_1 \frac{(\Delta Sales_t - \Delta REC_t)}{A_{t-1}} + \beta_2 \frac{PPE_t}{A_{t-1}} + \beta_3 BM_t + \beta_4 \frac{CFO_t}{A_{t-1}} + \varepsilon \quad (1)$$

Where TA is the total accruals, calculated as net income minus cash flow from operating activities in year, scaled by the total asset (At-1).

$\Delta Salest =$ Sales in year minus sales in year-1

$\Delta RECt =$ Receivables year minus receivables in year-1t, scaled the total asset (At-1).

PPE = Gross, property, plant, and Equipment in year, scaled by the total asset (At-1).

BM = Book to market ratio, calculated as total common equity divided by the total equity.

CFO = Cash Flow from operations in year, scaled by the total asset (At-1).

$\varepsilon =$ The residual term is discretionary accrual (DAC), which is a measure of AEM.

Consistent with the literature on AEM, I estimate the absolute residual from equation (2) that captures the absolute DAC. I estimate the above-mentioned equation (1) to capture AEM with at least 9 industry-year observations.

Real Earnings Management

Following the literature, I estimate three proxies of REM. It is measured by abnormal production cost (APROD), abnormal cash from operations (ACFO), and abnormal discretionary expense (ADISX) (e.g. [12]).

Abnormal Production Cost

First, the proxy for REM is abnormal production cost (APROD). Firms can temporarily increase the production so that the production cost is spread over a large volume that is likely to reduce the cost

of goods sold and increase earnings in the short-term. Following [12], I estimate APROD using the following regression model:

$$\frac{PROD_t}{A_{t-1}} = \beta_0 + \beta_1 \frac{1}{A_{t-1}} + \beta_2 \frac{Sales_t}{A_{t-1}} + \beta_3 \frac{\Delta Sales_t}{A_{t-1}} + \beta_4 \frac{\Delta Sales_{t-1}}{A_{t-1}} + \varepsilon \quad (2)$$

Where PROD is the Production cost, calculated as the cost of goods sold plus the change in inventory in year, scaled by the total asset (At-1).

Sales = Sales in year, scaled by the total asset (At-1).

$\Delta Salest =$ Sales in year minus Sales in year-1, scaled by the total asset (At-1).

$\Delta Salest-1 =$ Sales in year-1 minus Sales in year-2, scaled by the total asset (At-1).

$\varepsilon =$ The residual term is abnormal production cost (APROD), which is the measure of REM.

Consistent with the literature on REM, I estimate residual from equation (2) that captures the level of APROD. I estimate the above-mentioned equation (2) to capture the level of REM with at least 9 industry-year observations.

Abnormal Cash Flow from Operations

Second, proxy of REM is abnormal cash flows from operations. Firms can temporarily boost sales by offering short-term based discounts that can boost earnings in short-term. Following [12], I estimate ACFO using following regression model:

$$\frac{CFO_t}{A_{t-1}} = \beta_0 + \beta_1 \frac{1}{A_{t-1}} + \beta_2 \frac{Sales_t}{A_{t-1}} + \beta_3 \frac{\Delta Sales_t}{A_{t-1}} + \varepsilon \quad (3)$$

Where CFO is cash flow from operations, calculated in year, scaled by the total asset (At-1).

Sales = Sales in year, scaled by the total asset (At-1).

$\Delta Salest =$ Sales in year minus Sales in year-1, scaled by the total asset (At-1).

$\varepsilon =$ The residual term is abnormal cash flow from operations (ACFO), which is the measure of REM.

Consistent with the literature on REM, I estimate residual from equation (3) that captures the level of ACFO. I estimate the above-mentioned equation (3) to capture REM with at least 9 industry-year observations. Following [2], I multiply ACFO with a negative one (-1). This, then, implies that higher value means more increase in income through a temporary increase in sales.

Abnormal Discretionary Expense

The third proxy of REM is the abnormal discretionary expense (ADISX). Firms can cut temporarily cut down discretionary expenditures such as research and development (R&D), selling general and administrative (SGA), and advertising expenditures. These cuts can help firms to boost earnings in the short-term. Following [12], I estimate ADISX using the following regression model:

$$\frac{DISX_t}{A_{t-1}} = \beta_0 + \beta_1 \frac{1}{A_{t-1}} + \beta_2 \frac{Sales_t}{A_{t-1}} + \beta_3 \frac{\Delta Sales_t}{A_{t-1}} + \varepsilon \quad (4)$$

Where DISX is discretionary expense, calculated as sum of research and development expense, selling and general administrative expense and advertising expense in yeart, scaled by total asset (At-1).

Sales = Sales in yeart, scaled by the total asset (At-1).

$\Delta Sales_t$ = Sales in yeart minus Sales in yeart-1, scaled by total asset (At-1).

ε = The residual term is abnormal discretionary expense (ADISX), which is the measure of REM.

Consistent with the literature on REM, I estimate residual from equation (4) that capture the level of ADISX. I estimate the above-mentioned equation (4) to capture REM with at least 9 industry-year observations. Following [2], I multiply ADISX with a negative one (-1). This, then, implies that higher value means more increase in income through greater cuts discretionary expenditures.

In the context of this study independent variable is Payout Firms. To identify CEO payout firms, first, I identify the instance of CEO payouts. Either it is the poor accounting or stock performance that can

cause a decrease in the CEO compensation or it may be the board that decides to payout as a result of poor performance (e.g. [2]). Thus, to disentangle these two causes of the payout, I control for the financial and stock performance, unobserved error-term is likely to provide us board decision to cut pay. Following [2], I estimate the following regression model:

$$\begin{aligned} \Delta Incentive_t = & \beta_1 \Delta ROA_t + \beta_2 HI \Delta ROA_t \\ & + \beta_3 LO \Delta ROA_t + \beta_4 \Delta ROA_t \\ & * HI \Delta ROA_t + \beta_5 \Delta ROA_t \\ & * LO \Delta ROA_t + \beta_6 \Delta XRET_t \\ & + \beta_7 HI \Delta XRET_t \\ & + \beta_8 LO \Delta XRET_t \\ & + \beta_9 \Delta XRET_t * HI \Delta XRET_t \\ & + \beta_{10} \Delta XRET_t * LO \Delta XRET_t \\ & + \varepsilon \end{aligned} \quad (5)$$

Where $\Delta Incentive_t$ is the percentage change in CEO compensation (Total compensation minus salary)

ROAt = Net income divided by the total asset in yeart .

HIROA = An indicator variable equal to 1 if firm ROA is in the top decile otherwise 0.

LOROA = An indicator variable equal to 1 if firm ROA is in the bottom decile otherwise 0.

XRETt = Buy and hold stock return for the firm in yeart .

HIXRET = An indicator variable equal to 1 if firm XRET is in the top decile otherwise 0.

LOXRET = An indicator variable equal to 1 if firm XRET is in the bottom decile otherwise 0.

ε = The residual term is the non-performance based pay change, which helps to identify payout instances and creation of a dummy variable payout.

I estimate residual from equation (5) that captures the non-performance-based pay change with at least 9 industry-year observations. I estimate equation (5) to capture the reduction in compensation that is likely to be caused by board intervention and not caused by the application of the bonus/compensation formula.

Furthermore, To identify CEO payout I use the following four criteria: (1) CEO does not change from year-2 to year+1, which means that same executive is CEO for four consecutive years, (2) there must be a reduction in CEO's total compensation and $\epsilon_t < -0.25$, which means total compensation in year should not be greater than 75 percent of total compensation in year-1, (3) lag of residual should be less than 0.25 ($\epsilon_{t-1} < 0.25$), which means that CEO total compensation in year-1 should not be greater than 125 percent of CEO's total compensation in year-2, (4) payout should not be a voluntary payout by a CEO. Based on these four criteria, I create an indicator variable Payout that takes value 1 if the residual term (non-performance based pay change) meets the four criteria otherwise 0.

Finally, using the Payout indicator variable I create Payout Firms. Payout Firms represent the group of the firm that has at least one payout instance in the sample period. It is an indicator variable that takes value 1 if there is a payout instance for the CEO in a firm, otherwise 0.

In the context of this study, the Weight on NFPMs is the moderating variable because I examine the moderating role of weight on NFPMs in CEOs' compensation contracts on the relationship between CEOs' payout and earnings management. I hand-collect information on the use of NFPMs from proxy statements on firms. Generally, firms provide information on the weight on NFPMs in CEOs' compensation contracts, but at times firms do not provide the explicit weight on performance measures rather firms list all performance measures they use to assess CEOs' performance. In such scenarios, I calculate the weight on NFPMs in CEOs' compensation contracts. I assume that the weight on all the measures is likely to be equal. Next, to compute the Weight on NFPMs, I count the number of NFPMs and divide it by the total number of performance measures mentioned in the CDA section of the proxy statement. The Weight on NFPMs, which is measured as the percentage of NFPMs relative to FPMs in CEOs' compensation contracts used to assess CEOs' performance.

I control for certain factors that are likely to affect the incentives to engage in earnings management. First, I control for CEO characteristics; (1) Male, (2) CEO Tenure, (3) CEO duality, (4) CEO Ownership, and (5) Long-term Incentives.

The gender of CEOs can affect the incentives to engage in earnings management. Male CEOs are more likely to manipulate earnings compared to female CEOs. Since CEOs with a longer horizon are likely to identify themselves more with the firm, they are less likely to engage in earnings management (e.g. [17], [18]). Furthermore, CEO duality can also affect the level of earnings management (e.g. [2], [19]). Furthermore, the ownership position of the CEO may also substitute for the incentives to engage in earnings management. Moreover, long-term incentive plans are associated with equity, which may increase incentives to increase earnings to maximize wealth in the short-term (e.g. [8], [9]). Male is an indicator variable that takes the value 1 if CEO is male and otherwise 0. Following [20], is the number of years an executive served as CEO. CEO Duality is an indicator variable that takes the value 1 if an individual serves as both CEO and chairperson contracts and 0 if an individual serves a CEO. Furthermore, following [18], CEO Ownership is measured as the percentage of shares held by the CEO. Moreover, Long-Term Incentives are the natural logarithm of the CEO equity holding (stocks and options) divided by CEO total current compensation (annual salary and bonus).

Second, I control for board characteristics; (1) Gender Ratio, (2) Board Independence, and (3) Board Size.

The gender ratio of male to female is likely to play an important role in earnings management. A board with a higher number of female directors is likely to have better earnings quality. Furthermore, if a firm has a better governance mechanism, it is likely to have better financial quality. In this vein, the number of independent directors on the board and the total number of directors on board are likely to affect the level of earnings management (e.g. [2]). Gender ratio is

measured as the proportion of male directors on board. Board Independence is the ratio of independent directors divided by the total directors. Board Size is measured as the natural logarithm of total number of directors.

Third, I control for firm characteristics; (1) ROA, (2) XRET, (3) Firm Size, (4) Leverage, (5) NOA, and (6) MTB.

I control for firms performance using the return on asset (ROA) and buy-and-hold stock return (XRET) because firm performance can substitute for the incentive to engage in earnings management (e.g. [3], [12]). Furthermore, the size of the firm can affect the incentives for earnings management, on one hand, large firms are likely to have better governance mechanisms and better financial reporting quality (e.g.[21]) that may reduce the earnings management. On the other hand, large firms are likely to have large accruals and more discretion over operating activities (e.g.[6]). A firm with high leverage is likely to avoid debt covenants that may affect the incentive to engage in earnings management (e.g. [2], [6]). Furthermore, Net operating asset (NOA) is likely to affect the level of earnings management. Abnormal accruals from prior years are likely to reflect in the current period balance sheet as net operating assets (NOA) (e.g. [2], [14]). This can inflate the current NOA and are likely to hinder accrual flexibility. The firm with firms higher growth opportunities or prospects (market to book ratio: MTB) are more likely to engage in earnings management. ROA is measured as the ratio of net income divided by total assets of the firm. XRET is measured as the market-adjust buy and hold stock return in year for the firm. Firm Size is measured as the natural logarithm of total assets. I measure Leverage as the ratio of the total debt of the firm divided by the total assets of the firm. NOA is measured as the ratio of total common equity minus cash and short-term investment plus total debt in current liability plus total debt divided by the total asset. TB is measured as the market value of equity over the book value of equity calculated at fiscal year-end.

Finally, I control for litigation because it can affect the level of earnings management. Firms with

high litigation are likely to engage in income-increasing management. Litigation is an indicator variable that takes the value 1 the firm belongs to industries such as (1) pharmaceutical and biotechnology (SIC codes 2833–2836 and 8731–8734), (2) computers (3570–3577 and 7370–7374), (3) electronics (3600–3674), (4) retails (5200–5961) otherwise 0.

To minimize the outlier effects with winsorize all variables. Moreover, I use the standardized form of each variable to estimate my regressions.

Model Specification

To address the main question that is to examine the moderating role of the weight on NFPMs in CEOs’ compensation contracts on the relationship between CEOs’ pay cut and earnings management, I estimate the following panel regression model:

$$EM = \beta_0 + \beta_1 \Delta Payout Firms + \beta_2 Weight\ on\ NFPMs + \beta_3 Payout\ Firms * Weight\ on\ NFPMs + \beta_4 ROA + \beta_5 XRET + \beta_6 Male + \beta_7 Gender\ Ratio + \beta_8 Firm\ Size + \beta_9 Leverage + \beta_{10} Long\ Term\ Incentives + \beta_{11} CEO\ Tenure + \beta_{12} CEO\ Duality + \beta_{13} CEO\ Ownerhsip + \beta_{14} Board\ Independence + \beta_{15} Board\ Size + \beta_{16} Litigation + \beta_{17} NOA_{t-1} + \beta_{18} MTB_{t-1} + \varepsilon \tag{6}$$

Where dependent variable EM (Earnings management) is DACt ,APRODt , ACFOt , and ADISXt. I estimate difference version of this model, where DAC proxy for AEM and PRODt ,ACFOt, and ADISXt proxy for REM.

All relevant information about variables' description and data collection is presented in table I.

TABLE I
DESCRIPTIVE STATISTICS

Variable	Description	Source
Non-Financial performance Measures (NFPMs) and Weight on NFPMs		
NFPMs	An indicator variable that takes the value 1 if a firm integrate NFPMs in the CEOs’ compensation contracts, otherwise 0.	Hand-collected from proxy statements
Weight -	Percentage of NFPMs in CEOs’	Hand-

NFPMs	compensation contracts	collected from proxy statements and Author's calculation	(APROD) is the first proxy for real earnings management. APROD is estimated by [12]	calculation: ExecuComp	
Compensation and Payout			ACFO	The abnormal cash from operation (ACFO) is the second proxy for real earnings management. ACFO is estimated by [12]	Author's calculation: ExecuComp
Payout	An indicator variable that takes the value 1 if there is a CEO payout instance in a year t and 0 if there was no payout instance. CEO payout instances are identified by estimating [2] regression: $\Delta Incentive_t = \beta_1 \Delta ROA_t + \beta_2 HI \Delta ROA_t + \beta_3 LO \Delta ROA_t + \beta_4 \Delta ROA_t * HI \Delta ROA_t + \beta_5 \Delta ROA_t * LO \Delta ROA_t + \beta_6 \Delta XRET_t + \beta_7 HI \Delta XRET_t + \beta_8 LO \Delta XRET_t + \beta_9 \Delta XRET_t * HI \Delta XRET_t + \beta_{10} \Delta XRET_t * LO \Delta XRET_t + \varepsilon$ Residual (ε) is the non-performance based pay change. I identify CEO payout based on of four criteria: (1) CEO does not change from year-2 to year+1, which means that CEO is same for four consecutive years, (2) there must be a reduction in CEO's total compensation and $\varepsilon < -0.25$, which means total compensation in year should not be greater than 75 percent of total compensation in year-1, (3) lag of residual should less than $0.25(\varepsilon_{t-1} < 0.25)$, which means that CEO's total compensation in year-1 should not be greater than 125 percent of CEO's total compensation in year-2, (4) payout should not be a voluntary payout by CEO.	Author's calculation: ExecuComp	ADISX	The abnormal discretionary expense (ADISX) is the third proxy for real earnings management. ADISX is estimated by [12]	Author's calculation: ExecuComp
			Control variables		
			ROA	The ratio of net income divided by total assets of the firm	Author's calculation: ExecuComp
			XRET	The market-adjust buy and hold stock return in year for the firm	Author's calculation: CRSP
			Male	An indicator variable that takes the value 1 if CEO is male and otherwise 0	Author's calculation: ExecuComp
			Gender Ratio	The proportion of male directors.	Boardex
			Board Independence	The ratio of intendent directors divided by the total directors	Author's calculation: Boardex
			Board Size	The natural logarithm of total number of directors.	Author's calculation: Boardex
			Firm Size	The natural logarithm of total assets.	Author's calculation: ExecuComp
			Leverage	The ratio of total debt of firm divided by the total assets of the firm.	Author's calculation: ExecuComp
			Long-Term Incentives	The natural logarithm of the CEO equity holding (stocks and options) divided by CEO total current compensation (annual salary and bonus).	Author's calculation: ExecuComp
			CEO Tenure	The number of years an executive served as CEOs	ExecuComp
			CEO Duality	An indicator variable that takes the value 1 if an individual serves as both CEO and chairperson contracts and 0 if an individual serves a CEO.	Author's calculation: ExecuComp
			CEO Ownership	The percentage of shares held by the CEO.	Author's calculation: ExecuComp
			Litigation	An indicator variable that takes the value 1 the firm belongs to industries such as: (1) pharmaceutical and biotechnology (SIC codes 2833-2836 and 8731-8734), (2) computers (3570-3577 and 7370-7374), (3) electronics (3600-3674), (4) retails (5200-5961) otherwise 0.	Author's calculation: ExecuComp
			NOA	Net operating assets is ratio of total common equity minus cash and short term investment plus total debt in current liability plus total debt divided	Author's calculation: ExecuComp
Earnings Management proxies					
DAC	The discretionary accrual (DAC) is the proxy for accrual earning management. DAC is estimated by using modified earnings management.	Author's calculation: ExecuComp			
APROD	The abnormal production cost	Author's			

	by total asset	
MTB	The market value of equity over book value of equity calculated at fiscal year-end	Author's calculation: ExecuComp

IV. RESULTS

Table II depicts descriptive statistics of all the variables used to estimate regressions. Table II shows that the mean values of all four measures of earnings management (DAC, APROD, ACFO, and ADISX) are close to zero. In my sample, almost 74.5 percent of the firms have pay cut instances. The average weight firms place on NFPMs in CEOs' compensation contracts is almost 19 percent. In my sample, the average tenure of a CEO is almost seven years. Whereas almost 60 percent of CEOs have a dual role of a Chairman and a CEO. Furthermore, most of the CEOs (almost 94 percent) are male, and almost 81.5 percent of board members are male. Results of board independence show that almost 80 percent of the directors on the board are independent directors.

TABLE II
DESCRIPTIVE STATISTICS

Variables	N	Mean	SD	Min	Max
DAC*	2,001	0.027	0.028	0.000	0.160
APROD*	2,137	0.000	0.091	-0.268	0.270
ACFO	2,183	-0.002	0.047	-0.151	0.117
ADISX*	1,811	0.000	0.125	-0.410	0.300
Payout Firms	2,183	0.746	0.436	0.000	1.000
Weight -NFPMs	2,183	18.843	18.807	0.000	70.000
ROA	2,183	0.063	0.069	-0.705	0.384
XRET	2,183	0.151	0.273	-0.467	1.034
Male	2,183	0.949	0.221	0.000	1.000
Gender Ratio	2,183	0.816	0.094	0.556	1.000
Firm Size	2,183	9.686	1.108	7.407	12.487
Leverage	2,183	0.306	0.172	0.000	1.378
Longterm Incentives	2,183	1.916	0.945	0.000	9.380
CEO Tenure	2,183	7.055	5.768	0.534	31.016
CEO Duality	2,183	0.607	0.488	0.000	1.000
CEO Ownership	2,152	0.781	3.606	0.000	28.000
Board Independence	2,183	0.803	0.144	0.000	0.933
Board Size	2,183	2.361	0.185	1.792	2.773
Litigation	2,183	0.273	0.445	0.000	1.000
NOA	2,183	0.591	0.201	0.040	0.978
MTB	2,183	3.987	8.590	-43.80	53.818

This table provides the descriptive statistics for the variables under consideration. N is number of observations, SD is standard deviation, Min is minimum value and Max is maximum value.

Table III shows the distribution of CEO payout over the period of 2010 to 2018. Table III is the result of estimating cross-sectional payout regression (Equation 5). There are total of 393 CEOs' payout instance that makes it about 18 percent of total payout firm-year observations. Whereas there are 1,834 instances of no-payout. In general, payout instances are stable over the sample period except for the years 2013 and 2017. In the year 2013, there are 82 instances of payouts, and in the year 2017, there are 72 instances of payouts. These two years constitute almost 39 percent of total payout instances.

TABLE III
INSTANCES OF PAYOUTS YEAR-WISE

Year	No-Payout	Payout	Total
2010	199	36	235
2011	244	20	264
2012	197	43	240
2013	194	82	276
2014	231	34	265
2015	245	27	272
2016	188	56	244
2017	161	72	233
2018	175	23	198
Total	1,834	393	2,227

From equation 5, I computed an indicator variable Payout that is further used to compute and an indicator variable Payout Firms, which is my main variable of interest. Table IV shows the distribution of Payout Firms over the sample period. Table IV shows that almost 74 percent of firms have payout instances, whereas the remaining firms do not use payout. Furthermore, Tables IV shows that Payout Firms are evenly distributed throughout the sample period.

TABLE IV
INSTANCES OF PAYOUTS YEAR-WISE

Year	No-Payout Firms	Payout Firms	Total
2010	60	183	243
2011	60	184	244
2012	63	185	248
2013	64	185	249
2014	66	181	247
2015	62	184	246
2016	61	179	240
2017	60	177	237
2018	59	170	229
Total	555	1,628	2,183

Multivariate Analysis-Accrual Earnings Management

Table V shows the regression results of Equation 6 using DAC as the dependent variable. I test the moderating role of the weight on NFPMs on the relationship between payout firms and AEM. I find that the coefficient of Payout Firms is insignificant (Column 1, Table V). Also, I find that the coefficient of Weight on NFPMs is insignificant (Column 2, Table V). Furthermore, the coefficient of the interaction term (Payout Firms * Weight on NFPMs) is insignificant (Column 3, Table V). Moreover, the results of Column 3 show that the coefficient of ROA is significant and negative ($p < 0.01$), which indicates that if firm accounting performance is high and, it is less likely to engage in AEM. This result is consistent with (Ibrahim & Lloyd, 2011). The coefficient of Firm Size is significant and negative ($p < 0.01$), indicating that CEOs of big firms are less likely to engage in AEM. Furthermore, consistent with my expectation, the coefficients of CEO Duality, Board Size, and NOA are significant and negative ($p < 0.01$). Moreover, the coefficient of Gender Ratio is significant and positive ($p < 0.01$), indicating that if a board has more male members, CEOs in such firms are more likely to engage in earnings management.

TABLE V
AEM USING DAC

VARIABLES	DAC	DAC	DAC
Payout Firms	0.052 (0.052)	0.051 (0.052)	0.062 (0.051)
Weight - NFPMs		0.005 (0.021)	0.059 (0.049)
Payout Firms * Weight - NFPMs			-0.069 (0.053)
ROA	-0.211*** (0.047)	-0.211*** (0.047)	-0.208*** (0.047)
XRET	0.004 (0.026)	0.004 (0.026)	0.004 (0.026)
Male	-0.117 (0.084)	-0.116 (0.084)	-0.118 (0.085)
Gender Ratio	0.067*** (0.024)	0.067*** (0.024)	0.066*** (0.024)
Firm Size	-0.094*** (0.024)	-0.094*** (0.024)	-0.097*** (0.025)
Leverage	0.040 (0.032)	0.039 (0.032)	0.041 (0.032)
Long-Term	0.010	0.010	0.011

Incentives	(0.022)	(0.022)	(0.022)
CEO Tenure	0.023 (0.031)	0.023 (0.031)	0.024 (0.031)
CEO Duality	-0.071 (0.048)	-0.071 (0.048)	-0.080* (0.049)
CEO Ownership	0.014 (0.039)	0.015 (0.039)	0.012 (0.039)
Board Independence	-0.019 (0.022)	-0.018 (0.022)	-0.014 (0.023)
Board Size	-0.054** (0.025)	-0.054** (0.025)	-0.056** (0.025)
Litigation	0.005 (0.079)	0.004 (0.079)	0.006 (0.079)
NOAt-1	-0.103*** (0.026)	-0.102*** (0.026)	-0.098*** (0.027)
MTBt-1	0.009 (0.021)	0.009 (0.021)	0.008 (0.021)
Constant	0.185 (0.147)	0.186 (0.147)	0.348*** (0.128)
Observations	2,001	2,001	2,001
R-squared	0.165	0.165	0.166
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$			

Multivariate Analysis-Real Earnings Management

Table VI, VII, and VIII show the regression results of Equation 6 using *APROD*, *ACFO*, and *ADISX* as dependent variables, respectively. I test the moderating role of the weight on NFPMs on the relationship between payout firms and REM.

Results of Column 1, Table VI shows that that the coefficient of *Payout Firms* is significant and positive ($p < 0.01$, which indicates that CEOs in *Payout Firms* may engage more in income-increasing REM. CEOs in such firms are more likely to increase production and inventory to increase their earnings in the short-term. I find that the coefficient of the *Weight on NFPMs* is significant and negative (Column 2, Table VI), indicating that if the weight on NFPMs in CEOs' compensation contracts increases, then CEOs are less likely to change production activities to increase earnings. Furthermore, I find that the coefficient of the interaction term is insignificant (Column 3, Table VI). Moreover, the coefficient of *ROA* is significant and negative ($p < 0.01$), which indicates that the good accounting performance of a

firm can hinder REM. This result is consistent with the ROA result in Table 5. Whereas the coefficient of XRET is significant and positive (p<0.05). Moreover, the coefficient of Gender Ratio is significant and positive (p<0.01), indicating that if a board has more male members, CEOs in such firms are more likely to increase income in the short-term via changes in production activities. Also, the coefficient of CEO Duality and CEO Tenure is significant and positive (p<0.05), indicating that CEOs with a dual role (both Chairman and CEO) and longer tenure are more likely to change production activities to increase earnings in the short-term. The effect of CEO duality is not the same on both AEM and REM. In general, CEOs are likely to have more influence on the business operations, and a dual role is likely to increase CEOs' power and influence on such activities that may increase the benefit to engage in REM relative to AEM. Whereas the coefficient of the Long-Term Incentives is significant and negative (p<0.1), indicating the high equity incentive creates fewer incentives for REM. Moreover, the coefficient of NOA is significant and positive (p<0.01), which indicated that firms with high NOA in prior periods are likely to have less accounting flexibility to engage in AEM, which may create incentives to increase income through production activities. Nevertheless, the coefficients of Board Independence, Litigation, and Leverage are significant and negative, indicating that an increase in the number of independent directors on the board and firms in a highly regulated industry can reduce the incentive to engage in REM.

TABLE VI
REM USING APROD

VARIABLES	APROD	APROD	APROD
Paycut Firms	0.115**	0.119**	0.113**
	(0.053)	(0.053)	(0.054)
Weight - NFPMS		-0.043**	-0.082*
		(0.022)	(0.044)
Paycut Firms * Weight - NFPMS			0.050
			(0.050)
ROA	-0.334***	-0.334***	-0.336***
	(0.034)	(0.034)	(0.034)
XRET	0.049*	0.050**	0.050**
	(0.025)	(0.025)	(0.025)

Male	0.039	0.025	0.026
	(0.091)	(0.091)	(0.090)
Gender Ratio	0.116***	0.114***	0.115***
	(0.028)	(0.028)	(0.028)
Firm Size	-0.027	-0.022	-0.020
	(0.028)	(0.027)	(0.028)
Leverage	-0.131***	-0.127***	-0.127***
	(0.029)	(0.029)	(0.029)
Long-Term Incentives	-0.042*	-0.043**	-0.044**
	(0.022)	(0.022)	(0.022)
CEO Tenure	0.072**	0.071**	0.071**
	(0.028)	(0.028)	(0.028)
CEO Duality	0.109**	0.105**	0.111**
	(0.048)	(0.048)	(0.049)
CEO Ownership	-0.024	-0.030	-0.028
	(0.036)	(0.036)	(0.036)
Board Independence	-0.042*	-0.043**	-0.045**
	(0.022)	(0.022)	(0.022)
Board Size	0.015	0.017	0.018
	(0.026)	(0.026)	(0.026)
Litigation	-0.961***	-0.949***	-0.951***
	(0.086)	(0.087)	(0.087)
NOAt-1	0.137***	0.128***	0.125***
	(0.028)	(0.028)	(0.029)
MTBt-1	0.006	0.008	0.008
	(0.038)	(0.038)	(0.038)
Constant	0.148	0.145	0.869***
	(0.115)	(0.115)	(0.153)
Observations	2,137	2,137	2,137
R-squared	0.205	0.207	0.207
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1			

Results of Column 1, Table VII shows that the coefficient of Paycut Firms is insignificant. Whereas the coefficient of Weight on NFPMS is significant and negative (P<0.1) (Column 2, Table VII), which indicates that the firms that put more weight on NFPMS are less likely to engage income-increasing manipulation through abnormal cash flow. Furthermore, the coefficient of the interaction term (Paycut Firms * Weight on NFPMS) is insignificant (Column 3, Table VII). Moreover, the coefficient of Firm Size is significant and negative (p<0.01), indicating that big firms are less likely to engage in income-increasing REM. The coefficient of Board Size is significant and positive (p<0.05). Surprisingly, the coefficient to Male, significant and negative (p<0.05), indicating that male CEOs are less likely to engage in REM. Moreover, the

results of control variables *ROA*, *Leverage*, *CEO Duality*, *Litigation*, and *NOA* are similar to the results of Table VI.

TABLE VII
REM USING ACFO

VARIABLES	ACFO	ACFO	ACFO
Payout Firms	-0.066	-0.059	-0.070
	(0.046)	(0.046)	(0.045)
Weight - NFPMS		-0.078***	-0.142***
		(0.022)	(0.051)
Payout Firms * Weight - NFPMS			0.081
			(0.055)
ROA	-0.470***	-0.470***	-0.473***
	(0.047)	(0.046)	(0.046)
XRET	0.025	0.026	0.025
	(0.025)	(0.025)	(0.025)
Male	-0.111*	-0.135**	-0.132**
	(0.067)	(0.066)	(0.066)
Gender Ratio	0.017	0.014	0.015
	(0.023)	(0.023)	(0.023)
Firm Size	-0.100***	-0.092***	-0.088***
	(0.030)	(0.031)	(0.031)
Leverage	-0.134***	-0.128***	-0.129***
	(0.026)	(0.026)	(0.026)
Long-Term Incentives	-0.009	-0.011	-0.012
	(0.021)	(0.021)	(0.021)
CEO Tenure	0.019	0.018	0.018
	(0.025)	(0.025)	(0.025)
CEO Duality	0.077*	0.068	0.078*
	(0.045)	(0.045)	(0.045)
CEO Ownership	0.034	0.023	0.026
	(0.030)	(0.030)	(0.031)
Board Independence	0.034*	0.034*	0.030
	(0.020)	(0.020)	(0.020)
Board Size	0.068***	0.071***	0.072***
	(0.025)	(0.025)	(0.025)
Litigation	-0.862***	-0.841***	-0.845***
	(0.078)	(0.077)	(0.077)
NOAt-1	0.102***	0.086***	0.081***
	(0.024)	(0.024)	(0.025)
MTBt-1	-0.015	-0.012	-0.012
	(0.015)	(0.015)	(0.015)
Constant	1.063***	1.059***	1.023***
	(0.151)	(0.151)	(0.128)
Observations	2,183	2,183	2,183
R-squared	0.260	0.266	0.267
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1			

Results of Column 1, Table VIII shows that the coefficient of *Payout Firms* is significant and

positive ($p < 0.01$), indicating that CEOs *Payout* creates incentives to engage in REM to increase earnings in the short-term. CEOs in such firms are more likely to cut discretionary expenditures (for example, cut R&D, SGA, and advertising expenditures) to increase earnings. The coefficient of *Weight on NFPMS* is significant and negative ($P < 0.1$) (Column 2, Table VIII), which indicates that the firms that put more weight on NFPMS are less likely to cut R&D, SGA, and advertising expenditures to increase earnings in short-term. Furthermore, the interaction term *Payout Firms * Weight on NPMs* is the main variable of interest. I find that the coefficient of the interaction term is significant and positive ($P < 0.01$) (Column 3, Table VIII), which indicates that CEOs in *Payout Firms* are more likely to cut the discretionary expenditures to increase the earnings in the short-term. This result is consistent with hypothesis 2. Moreover, the coefficient of *Gender Ratio* is significant and positive ($p < 0.01$), indicating that if male directors are in high proportion on a board, then CEOs in such firms are more likely to exercise their influence to cut discretionary expenditures and increase earnings. Whereas the coefficient of *Male* is significant and negative ($p < 0.01$). Like Table VI and Table VII, the coefficient of *Board Independence* is significant and negative ($P < 0.01$), indicating an increase in the number of independent directors on board can hinder CEOs discretionary to REM. The coefficient of *Firm Size* is significant and positive ($P < 0.1$), indicating that CEOs in big firms are more likely to cut the R&D expenditures to increase earnings in the short-term. Furthermore, the results of Column 3 Table VIII show that the coefficient of *CEO Duality* is significant and positive ($p < 0.01$). Whereas the coefficient of *CEO Tenure* is significant and negative ($p < 0.01$). This may imply that CEOs with dual roles are likely to cut discretionary expenditure to increase earnings. However, CEOs with longer tenure are less likely to engage in REM. Consistent with the results of Table VI, CEOs with high equity compensation are less likely to engage in REM. Similarly, the coefficient of *Litigation* is significant and negative

*** p<0.01, ** p<0.05, * p<0.1

(P<0.01). Finally, the coefficient of *NOA* is significant and positive (p<0.01), indicating that firms with high *NOA* are likely to cut discretionary expenditures. These firms are likely to have less accounting flexibility to engage in AEM that may create incentives to increase income through cutting expenditures.

TABLE VIII
REM USING ADISX

VARIABLES	ADISX	ADISX	ADISX
Payout Firms	0.180*** (0.064)	0.187*** (0.064)	0.175*** (0.064)
Weight - NFPMs		-0.059** (0.025)	-0.218*** (0.061)
Payout Firms * Weight - NFPMs			0.194*** (0.065)
ROA	-0.044 (0.030)	-0.042 (0.030)	-0.047 (0.029)
XRET	-0.016 (0.026)	-0.014 (0.026)	-0.013 (0.026)
Male	-0.229** (0.094)	-0.250*** (0.092)	-0.235*** (0.089)
Gender Ratio	0.218*** (0.030)	0.216*** (0.031)	0.215*** (0.030)
Firm Size	0.015 (0.025)	0.021 (0.024)	0.032 (0.025)
Leverage	0.075** (0.030)	0.080*** (0.031)	0.080*** (0.031)
Long-Term Incentives	-0.057** (0.024)	-0.057** (0.024)	-0.058** (0.024)
CEO Tenure	-0.066*** (0.025)	-0.064** (0.025)	-0.065** (0.026)
CEO Duality	0.265*** (0.051)	0.248*** (0.053)	0.271*** (0.053)
CEO Ownership	-0.027 (0.042)	-0.034 (0.042)	-0.030 (0.042)
Board Independence	-0.077*** (0.026)	-0.076*** (0.026)	-0.080*** (0.026)
Board Size	-0.028 (0.024)	-0.026 (0.025)	-0.025 (0.025)
Litigation	-1.096*** (0.076)	-1.077*** (0.076)	-1.085*** (0.075)
NOAt-1	0.200*** (0.029)	0.189*** (0.029)	0.176*** (0.029)
MTBt-1	-0.017 (0.041)	-0.015 (0.042)	-0.016 (0.042)
Constant	-0.175 (0.143)	-0.151 (0.142)	1.118*** (0.156)
Observations	1,811	1,811	1,811
R-squared	0.255	0.258	0.263
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes

Robust standard errors in parentheses

V. CONCLUSION

In this paper, I examine to what extent the increase in the weight on NFPMs in CEOs' compensation contracts relative to FPMs can be an effective strategy to hinder earnings management in firms that exercise CEO paycuts. Firms may cut CEOs' pay after poor performance, which can create an incentive to engage in earnings management given that it may help CEOs to improve performance and restore their pay to the pre-cut level in the short-term. In this study, I argue that an increase in the weight on NFPMs in CEOs' compensation contract may moderate the relationship between CEOs' payout and earnings management. In particular, I hypothesize that an increase in the weight on NFPMs in CEOs' compensation contract negatively affects the relationship between CEOs' payout and AEM, while it positively affects the relationship between CEOs' payout and REM.

I estimate a panel regression on a sample of 2,183 firm-year observations to estimate my regression model and while I do not find empirical evidence in support of my first hypothesis, my results do provide support of my second hypothesis. An explanation for the lack of support for hypothesis one may be that the benefits compared to the cost may still be high enough to make AEM attractive after a payout. Even if a high weight is placed on NFPMs in CEOs' compensation contracts, it may still be beneficial for CEOs to engage in a level of AEM after a payout that is similar to the level of AEM that firms with a lower weight on MFPMs engage in.

I theoretically argue and empirically find that an increase in the weight on NFPMs in CEOs' compensation contracts increases the positive effect of CEOs' payout on REM. An important explanation for this result is that if the weight on NFPMs in CEOs' compensation contracts increases, it may shift the focus of CEOs to the achievement of NFPMs linked to compensation.

Thus, when CEOs are faced with a situation to restore their compensation to pre-cut level, a high weight on NFPMs in their compensation contract may increase their incentives to engage in REM. Apparently, the benefit of REM is likely to be greater than the cost of REM, given the influence of CEOs on decisions related to business activities. For example, CEOs can cut R&D expenditures or introduce sales discounts that may increase earnings in the short-term. Sale discounts may boost customer loyalty in the short-term, but it may not be sustainable in the long-term. Furthermore, manipulation of accounting performance can be costly because it may help to increase FPMs linked pay but at the cost of neglecting NFPMs linked pay. Overall, in firms that cut CEO pay, a weight on NFPMs in CEOs' compensation contracts can incentivize CEOs to engage more in REM.

Firms are likely to use AEM and REM as substitutes depending on the benefit and cost of engaging in either (e.g. [14]). As can be inferred from my findings on *CEO Duality*, to increase earnings in the short-term, CEOs with dual roles are more likely to engage in REM compared to AEM. Such CEOs are likely to have more influence on the business operations, and are thus better able to change production activities, increase operating cash flows, and cut discretionary expenditures to increase earnings in the short-term. Moreover, my finding shows that higher levels of Net Operating Assets trigger REM but hinder AEM. This may well be because a high NOA in the prior period leaves the firm with less accounting flexibility. This may increase the cost of engaging in AEM, and as a consequence such firms may prefer REM over AEM.

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