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Extreme CEO pay cuts and audit fees

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ABSTRACT

This study investigates whether sudden and severe reductions in total CEO compensation affect auditor perceptions of risk. We argue that extreme CEO pay cuts can incentivize the CEO to manipulate the financial reports or make risky operational decisions in a desperate attempt to improve firm performance. This incentive, in turn, is likely to impact auditor assessments of audit risk and auditor business risk, leading to higher audit fees. Consistent with our hypothesis, we find evidence of a positive and highly significant association between extreme CEO pay cuts and audit fees. The results suggest that audit fees are 4.6% higher when there is an extreme CEO pay cut, which corresponds to an audit fee that is $111,458 higher for the average firm-year observation in our sample.

1. Introduction

This study examines the impact of extreme reductions in total CEO compensation on auditor assessments of risk, as reflected in audit fees. Extreme CEO pay cuts, defined as reductions in total CEO compensation of at least 25%, are used to motivate the CEO to improve firm performance when the firm is struggling (Gao, Harford, & Li, 2012). However, we argue that severe reductions in CEO compensation provide an incentive for the CEO to manipulate the financial reports or to make risky operational decisions in an attempt to turn firm performance around. This incentive, in turn, can increase the auditor's assessment of risk and lead to higher audit fees.

Our study is related to the prior literature that examines whether executive compensation incentives affect (1) management's propensity to manipulate the financial statements and (2) auditor risk assessments. Prior research largely suggests that executive compensation incentives are associated with managerial manipulation of the financial reports (e.g., Bergstresser & Philippon, 2006; Efendi, Srivastava, & Swanson, 2007; Larcker, Richardson, & Tuna, 2007; Jayaraman & Milbourn, 2015); however, other research suggests that this association does not exist (e.g., Armstrong, Jagolinzer, & Larcker, 2010; Baber, Kang, & Liang, 2007). A related stream of literature examines whether executive compensation incentives affect auditor perceptions of risk, as revealed through audit fees. The results from this line of literature indicate that executive compensation incentives impact audit fees (e.g., Billings, Gao, & Jia, 2014; Chen, Gul, Veeraraghavan, & Zolotoy, 2015; Kannan, Skantz, & Higgs, 2014; Kim, Li, & Li, 2015).

Recent research has also started to examine sudden and severe decreases in total CEO compensation. Gao et al. (2012) suggest that extreme CEO pay cuts are used as a tool to motivate managers to exert effort to improve poor firm performance. However, Lobo, Manchiraju, and Sridharan (2013) find that although firm performance improves following an extreme CEO pay cut, much of the improvement is achieved via accruals and real activities manipulation, suggesting that extreme CEO pay cuts may not work as intended. Our study extends the line of literature that investigates whether executive compensation incentives affect auditor assessments of risk by examining whether extreme CEO pay cuts affect audit fees.

We argue that extreme CEO pay cuts are likely to influence auditor perceptions of risk. For example, when the CEO's compensation is severely reduced, or when the CEO anticipates that a severe compensation reduction is looming, the CEO has a strong incentive to report better firm performance as quickly as possible, which may increase the likelihood that the CEO will resort to manipulating the financial reports and, in turn, increase audit risk. In addition, the pressure to quickly improve firm performance may encourage the CEO to accept excessively risky projects with the hope that they yield abnormally high returns, which can increase the auditor's perception of auditor business risk. For these reasons, and based on the prior literature that documents a positive association between auditor perceptions of risk and audit fees (e.g., Bedard & Johnstone, 2004; Bell, Landsman, & Shackelford, 2001; Lyon & Maher, 2005; Schelleman & Knechel, 2010), we hypothesize a positive association between extreme CEO pay cuts and audit fees.

We test our hypothesis by utilizing a sample of 8352 firm-year observations from the period 2000–2011. Our results reveal a positive and highly significant association between extreme CEO pay cuts and audit fees, supporting our hypothesis. The results suggest that audit fees are 4.6% higher when there is an extreme CEO pay cut, which

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corresponds to an audit fee that is $111,458 higher for the average firm-year observation in our sample. Our results are also robust to a variety of sensitivity tests.

Our study contributes to the growing stream of research that examines how executive compensation incentives affect auditor perceptions of risk. While prior findings suggest a positive association between audit fees and CEO compensation (e.g., Wysocki, 2010; Zhang & Xian, 2014), we find that abrupt decreases in CEO compensation are associated with higher audit fees for a subset of firms with extreme CEO pay cuts. We also add to the growing stream of research that examines extreme CEO pay cuts. In finding that auditors view extreme CEO pay cuts as increasing risk, our paper complements Lobo et al. (2013) by providing further evidence that extreme CEO pay cuts may have unintended consequences. Our paper should also be of interest to regulators because Auditing Standard No. 12, as amended in 2014, requires auditors to assess risks associated with the characteristics of executive compensation (PCAOB, 2010b). Our results add to the findings from prior research that suggest auditors do consider characteristics of executive compensation when making risk assessments.

The remainder of this paper is organized as follows. Section 2 reviews the relevant background literature and develops our hypothesis, Section 3 describes our methodology, Section 4 presents the results of the study, and Section 5 concludes.

2. Background literature and hypothesis development

2.1. Background literature

Prior research has posited that executive compensation incentives can encourage executives to manipulate the financial statements. For example, many papers find at least some evidence that executive compensation incentives are associated with managerial manipulation of the financial reports (e.g., Bergstresser & Philippon, 2006; Burns & Kedia, 2006; Cheng & Warfield, 2005; Denis, Hanouna, & Sarin, 2006; Efendi et al., 2007; Harris & Bromiley, 2007; Jayaraman & Milbourn, 2015; Johnson, Ryan, & Tian, 2009; Larcker et al., 2007; O'Connor, Priem, Coombs, & Gilley, 2006). However, a few studies fail to find evidence of an association (e.g., Armstrong et al., 2010; Baber et al., 2007; Erickson, Hanlon, & Maydew, 2006). Overall, this line of literature, though somewhat mixed, generally suggests that executive compensation incentives can encourage managers to manipulate the financial reports.

Another line of literature examines whether executive compensation incentives affect auditor perceptions of risk. Wysocki (2010) identifies five factors that would suggest a positive association between audit fees and executive compensation.[1] Subsequently, several studies have followed Wysocki (2010) by examining the association between audit fees and executive compensation and have found mixed results. Billings et al. (2014) find results consistent with CFO equity incentives being positively associated with audit fees; however, they do not find a consistent association between CEO equity compensation and audit fees. Billings et al. (2014) also find that CFO equity incentives have an even greater impact on audit fees for firms with ineffective internal control over financial reporting. On the other hand, Kim et al. (2015) suggest that CEO equity incentives are associated with audit fees, but CFO equity incentives are not. Specifically, the authors find that CEO vega is positively associated with audit fees, but find that CEO delta, CFO vega, and CFO delta are not associated with audit fees (Kim et al., 2015).

Kannan et al. (2014) find that both CEO and CFO vega incentives are positively associated with audit fees, but the authors find that CEO and CFO delta incentives are not associated with audit fees. Chen et al. (2015) document a positive association between CEO vega incentives and audit fees, but they find this relation is attenuated after the Sarbanes-Oxley Act of 2002. The authors also find that the positive association between CEO vega and audit fees is amplified for firms that face higher litigation risk (Chen et al., 2015). Although prior research finds that characteristics of a CEO's compensation structure affect audit fees, we are not aware of any paper that examines the influence of sudden and severe decreases in CEO compensation on audit fees.

A recent study by Gao et al. (2012) investigates extreme CEO pay cuts. Gao et al. (2012) argue that severe decreases in CEO compensation are used to motivate the CEO to improve firm performance during times when the firm is performing poorly.[2] The authors provide evidence suggesting that extreme CEO pay cuts and forced CEO turnover are substitutes and they argue that both of these alternatives provide the CEO with ex-ante incentives to exert effort to produce strong firm performance (Gao et al., 2012). Lobo et al. (2013) find results consistent with CEOs improving performance subsequent to extreme pay cuts; however, they find that much of the improvement is achieved via income-increasing discretionary accruals. Extreme CEO pay cuts represent sudden and substantial decreases in CEO compensation. For example, in our sample, the mean (median) reduction in total CEO compensation from the prior year when there is an extreme CEO pay cut amounts to approximately $2,831,000 ($1,469,000).

2.2. Hypothesis development

Extreme CEO pay cuts are likely to influence auditor perceptions of risk. Audit risk and auditor business risk are two types of risk that auditors consider. Auditing Standard No. 8 defines audit risk as “the risk that the auditor expresses an inappropriate audit opinion when the financial statements are materially misstated” (PCAOB, 2010a). Audit risk represents the risk that the auditor will fail to detect a material misstatement in the financial reports. Auditor business risk has been defined as the auditor's exposure “to loss of or injury to his or her professional practice from litigation, adverse publicity, or other events arising in connection with financial statements audited and reported on” (AICPA, 2006). For example, a primary source of auditor business risk comes from the risk that the auditor could be subjected to litigation by being associated with a client that is financially distressed or otherwise risky. When faced with a higher degree of audit risk or auditor business risk, auditors are likely to respond by either putting forth additional audit effort or charging a fee premium to compensate them for the increased risk, either of which would lead to higher audit fees. Supporting this idea, prior research provides evidence that audit fees are higher when audit risk or auditor business risk is greater (e.g., Bedard & Johnstone, 2004; Bell et al., 2001; Gul, Chen, & Tsui, 2003; Greiner, Kohlbeck, & Smith, 2013; Lyon & Maher, 2005; Pratt & Stice, 1994; Schelleman & Knechel, 2010; Seetharaman, Gul, & Lynn, 2002; Simunic, 1980; Stanley, 2011).

Both prior research (e.g., Chen et al., 2015; Fargher, Jiang, & Yu, 2014; Kannan et al., 2014; Kim et al., 2015) and auditing standards suggest that auditors incorporate incentives related to CEO compensation into their assessments of risk. In fact, Auditing Standard No. 12, as amended in 2014, requires the auditor to obtain an understanding of executive compensation plans for purposes of “identifying and assessing risks of material misstatement of the financial statements” (PCAOB, 2010b). We expect that when an auditor observes that there has been an extreme CEO pay cut during the year, the auditor is likely to view audit risk and auditor business risk as being greater.

When the CEO's compensation is severely reduced, or when the CEO expects that a large compensation reduction is imminent, the CEO has a strong incentive to report improved firm performance as quickly as possible. This incentive may increase the likelihood that the CEO will manipulate the financial reports in order to meet performance expectations, which can increase the auditor's perception of audit risk.

[1] These factors are complexity, risk, strict governance, managerial entrenchment, and empire building (Wysocki, 2010).

[2] These decreases in CEO compensation are primarily accomplished by the firm reducing the quantity of stock and option grants it awards to the CEO (Gao et al., 2012).

Supporting this idea, SAS 99 identifies situations where a manager's "personal financial situation is threatened by the entity's financial performance" and instances where there is "excessive pressure on management or operating personnel to meet financial targets" as fraud risk factors (AICPA, 2002). This notion is also consistent with the finding in Lobo et al. (2013) that much of the improvement in firm performance following an extreme CEO pay cut can be attributed to income-increasing earnings management.

In addition, the incentive to quickly report better performance may encourage the CEO to make excessively risky operational decisions in a desperate attempt to improve firm performance. For example, the CEO may choose to pursue risky projects that would otherwise not be considered acceptable with the hope that the risky projects yield abnormally high returns. If a CEO makes risky operational decisions in an effort to turn firm performance around, an auditor is likely to perceive a higher level of auditor business risk. This leads to the following hypothesis, stated in alternative form:

H1. Extreme CEO pay cuts are positively associated with audit fees.

3. Methodology

3.1. Identification of extreme CEO pay cuts

We follow Gao et al. (2012) in identifying extreme CEO pay cuts. Gao et al. (2012) classify a CEO pay cut as extreme if the CEO's total compensation (Execucomp item TDC1) decreased by at least 25% in the current year. However, some firms may choose to award certain forms of compensation every two years instead of annually. To guard against classifying these normal pay fluctuations as pay cuts, Gao et al. (2012) also impose the requirement that the CEO's increase in total compensation in the prior year not be in excess of 25%. Because this method of identifying extreme CEO pay cuts requires CEO compensation information for the years t, t-1, and t-2, the sample only includes firm-year observations where the CEO has a tenure of at least three years. Using this methodology, we identify 784 extreme CEO pay cuts, which represents 9.3% of the firm-year observations in our sample.

3.2. Audit fee model

We test our hypothesis by using an OLS regression where the dependent variable is the natural logarithm of total audit fees. The independent variables include our test variable, PAYCUT, as well as control variables that have been commonly utilized in prior audit fee research (e.g., Ball, Jayaraman, & Shivakumar, 2012; Francis, Reichelt, & Wang, 2005; Hay, Knechel, & Wong, 2006; Simunic, 1980). We test our hypothesis using the following model.[3]

$$\begin{aligned} FEES = {} & \alpha + \beta_1 PAYCUT + \beta_2 TDC1 + \beta_3 SIZE + \beta_4 ROA + \beta_5 ACCRUALS \\ & + \beta_6 CA + \beta_7 DISCACC + \beta_8 FOREIGN + \beta_9 BSEGS + \beta_{10} LEV \\ & + \beta_{11} LOSS + \beta_{12} DECFYE + \beta_{13} ARLAG + \beta_{14} TENURE + \beta_{15} ACQ \\ & + \beta_{16} HIGHLIT + \beta_{17} GCO + \beta_{18} AGE + \beta_{19} SPEC + \beta_{20} BIG \\ & + \beta_{21} SECTIER + \beta_i INDUSTRY + \beta_j YEAR + \varepsilon \end{aligned} \quad (1)$$

FEES is the natural logarithm of total audit fees.[4] PAYCUT is an indicator variable that takes the value of 1 if there is an extreme CEO pay cut, as defined previously, and 0 otherwise. TDC1 is total CEO compensation (in thousands) from Execucomp. SIZE is the natural logarithm of total assets (in millions). ROA is net income divided by average total assets. ACCRUALS is the absolute value of total accruals scaled by total assets. CA is current assets divided by total assets. DISCACC is performance-adjusted discretionary accruals calculated following the approach used by Reichelt and Wang (2010), this variable controls for earnings management. FOREIGN is foreign sales divided by total sales. BSEGS is the number of business segments. LEV is total liabilities divided by total assets. LOSS is an indicator variable that takes the value of 1 if income before extraordinary items is negative and 0 otherwise. DECFYE is an indicator variable that takes the value of 1 if a firm's fiscal year ends in December and 0 otherwise. ARLAG is the number of days in between the end of a firm's fiscal year and the date the audit report is filed. TENURE is the number of years the auditor has audited a firm. ACQ is an indicator variable that takes the value of 1 if a firm engages in an acquisition and 0 otherwise.

HIGHLIT is an indicator variable that takes the value of 1 if a firm is in a high litigation risk industry (SIC codes 2833–2836, 3570–3577, 3600–3674, 5200–5961, 7370–7374, 8731–8734) and 0 otherwise. GCO is an indicator variable that takes the value of 1 if a firm received a going-concern audit opinion and 0 otherwise. AGE is the number of years a firm has been on Compustat. SPEC is an indicator variable that takes the value of 1 if a firm is audited by an industry specialist auditor, with specialist auditors identified using the approach used by Fung, Gul, and Krishnan (2012), and 0 otherwise. BIG is an indicator variable that takes the value of 1 if a firm is audited by a Big 4/5 auditor and 0 otherwise. Following Reichelt and Wang (2010), we define second-tier auditor, SECTIER, as an indicator variable that takes the value of 1 if a firm is audited by Grant Thornton or BDO Seidman and 0 otherwise. INDUSTRY is industry fixed effects, with industry defined by 3-digit SIC codes. YEAR is year fixed effects.

The variable of interest in Eq. (1) is PAYCUT. In accordance with our hypothesis, we expect to observe a positive coefficient on PAYCUT.

4. Sample and results

4.1. Sample

We constructed our sample from the Execucomp, Compustat, and Audit Analytics databases during the period 2000–2011. We exclude firms in the financial and utility industries, foreign firms, firms that have total assets of less than one million dollars, and firm-year observations that are missing required data. We also exclude firm-year observations where the CEO does not have a tenure of at least three years because three years of CEO compensation data is required to identify extreme CEO pay cuts (Gao et al., 2012). Our sample selection procedure results in a sample that contains 8352 firm-year observations from 1552 unique firms. A breakdown of the sample selection procedure is provided in Panel A of Table 1.

4.2. Descriptive statistics

We provide two sets of sample descriptive statistics in Panel B of Table 1. The first set of descriptive statistics is for observations with an extreme CEO pay cut, while the second is for observations without an extreme CEO pay cut. The two sets of descriptive statistics are very similar. However, some variables indicate lower performance for firm-years with an extreme CEO pay cut. For instance, firm-years with an extreme CEO pay cut experience losses 35% of the time, whereas firm-years without an extreme CEO pay cut experience losses only 18% of the time. Sample firm-years with an extreme CEO pay cut also have higher litigation risk and lower ROA. Given that extreme CEO pay cuts are used to motivate the CEO to improve firm performance when the firm is struggling (Gao et al., 2012), these differences in firm performance are expected. In Panel C of Table 1, we also provide a correlation matrix

[3] The continuous variables are winsorized at the 1st and 99th percentiles in order to limit the impact of extreme observations. Standard errors are clustered by firm.

[4] FEES reflects the audit fees charged for the audit of the financial statements for the fiscal year during which PAYCUT is measured. For example, suppose a firm with a December fiscal year-end imposed an extreme CEO pay cut during the year 2009. FEES would reflect the audit fees charged by the auditor for the fiscal year 2009 audit, even though the audit would have been conducted during early 2010. In addition, since the audit is conducted shortly after the end of the fiscal year, the auditor would be able to observe an extreme CEO pay cut and respond to the risk posed by the extreme CEO pay cut appropriately.

Table 1
Descriptive statistics.

Panel A: Sample attrition

Firm-years at the intersection of Compustat, Execucomp, and Audit Analytics for the period 2000–2011	20,286
Less: Financial firms, utilities, foreign firms, and firms with total assets of under $1 million	(4692)
Less: Firm-years where the CEO's tenure is under 3 years	(4619)
Less: Firm-years missing required data	(2623)
Final sample	**8352**

Panel B: Summary statistics

	PAYCUT = 1			***PAYCUT = 0***		
	N = 784			***N = 7568***		
	Mean	Median	*S.D.*	**Mean**	Median	*S.D.*
FEES	**13.98**	13.98	*1.08*	**14.06**	14.04	*1.12*
PAYCUT	**1.00**	1.00	*0.00*	**0.00**	0.00	*0.00*
TDC1	**2,711.63**	1,529.75	*3,442.90*	**5,182.47**	3,241.26	*5,709.50*
SIZE	**7.11**	6.98	*1.45*	**7.25**	7.09	*1.48*
ROA	**0.00**	0.03	*0.15*	**0.04**	0.06	*0.12*
ACCRUALS	**0.10**	0.07	*0.12*	**0.08**	0.06	*0.09*
CA	**0.49**	0.49	*0.21*	**0.46**	0.46	*0.21*
DISCACC	**−0.03**	−0.02	*0.10*	**−0.02**	−0.01	*0.09*
FOREIGN	**0.27**	0.20	*0.27*	**0.25**	0.18	*0.26*
BSEGS	**2.51**	2.00	*1.65*	**2.70**	3.00	*1.72*
LEV	**0.49**	0.48	*0.26*	**0.50**	0.49	*0.24*
LOSS	**0.35**	0.00	*0.48*	**0.18**	0.00	*0.38*
DECFYE	**0.60**	1.00	*0.49*	**0.65**	1.00	*0.48*
ARLAG	**96.10**	93.00	*26.50*	**94.04**	91.00	*24.68*
TENURE	**13.25**	11.00	*9.58*	**13.73**	11.00	*10.08*
ACQ	**0.11**	0.00	*0.32*	**0.13**	0.00	*0.34*
HIGHLIT	**0.45**	0.00	*0.50*	**0.36**	0.00	*0.48*
GCO	**0.02**	0.00	*0.15*	**0.01**	0.00	*0.09*
AGE	**24.47**	18.00	*15.33*	**26.30**	21.00	*16.03*
SPEC	**0.30**	0.00	*0.46*	**0.33**	0.00	*0.47*
BIG	**0.96**	1.00	*0.20*	**0.95**	1.00	*0.22*
SECTIER	**0.04**	0.00	*0.20*	**0.04**	0.00	*0.20*

Panel C: Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(1) FEES																						
(2) PAYCUT	**−0.02**																					
(3) TDC1	**0.46**	**−0.13**																				
(4) SIZE	**0.74**	**−0.03**	**0.60**																			
(5) ROA	**0.08**	**−0.11**	**0.12**	**0.17**																		
(6) ACCRUALS	**−0.12**	**0.07**	**−0.06**	**−0.17**	**−0.61**																	
(7) CA	**−0.17**	**0.03**	**−0.17**	**−0.39**	*0.00*	*−0.01*																
(8) DISCACC	**−0.00**	**−0.04**	**−0.04**	**0.01**	**0.37**	**−0.51**	**−0.04**															
(9) FOREIGN	**0.32**	**0.02**	**0.09**	**0.12**	*0.01*	**−0.04**	**0.24**	*−0.02*														
(10) BSEGS	**0.39**	**−0.03**	**0.17**	**0.33**	0.03	**−0.11**	**−0.15**	**0.05**	**0.07**													
(11) LEV	**0.28**	*−0.02*	**0.11**	**0.30**	**−0.21**	**0.10**	**−0.28**	**0.06**	**−0.07**	**0.17**												
(12) LOSS	**−0.10**	**0.13**	**−0.12**	**−0.18**	**−0.65**	**0.42**	**0.04**	**−0.24**	**0.02**	**−0.07**	**0.13**											
(13) DECFYE	**0.10**	**−0.04**	**0.07**	**0.09**	**−0.03**	**0.02**	**−0.20**	*0.01*	*−0.01*	**0.06**	**0.12**	**0.03**										
(14) ARLAG	**−0.10**	**0.02**	**−0.11**	**−0.23**	**−0.16**	**0.14**	**0.07**	**−0.07**	**−0.05**	**−0.13**	**−0.06**	**0.14**	*0.01*									
(15) TENURE	**0.25**	*−0.01*	**0.12**	**0.25**	**0.08**	**−0.10**	**−0.04**	**0.05**	**0.12**	**0.20**	**0.07**	**−0.07**	*−0.00*	**−0.17**								
(16) ACQ	**0.05**	**−0.02**	**0.04**	**0.04**	*−0.02*	**−0.03**	**−0.11**	**−0.09**	*−0.01*	**0.03**	**0.02**	*−0.01*	**0.03**	**0.03**	**−0.03**							
(17) HIGHLIT	**−0.09**	**0.05**	**0.04**	**−0.08**	**−0.04**	**0.08**	**0.20**	**−0.10**	**0.06**	**−0.25**	**−0.19**	**0.06**	**−0.19**	**0.09**	**−0.07**	*0.01*						
(18) GCO	**−0.00**	**0.05**	**−0.04**	**−0.04**	**−0.18**	**0.11**	**−0.02**	*0.00*	*−0.01*	*−0.01*	**0.21**	**0.16**	**0.02**	**0.09**	**−0.02**	**−0.02**	**−0.03**					
(19) AGE	**0.40**	**−0.03**	**0.20**	**0.39**	**0.08**	**−0.15**	**−0.11**	**0.12**	**0.11**	**0.37**	**0.21**	**−0.11**	*−0.01*	**−0.24**	**0.50**	**−0.06**	**−0.21**	*0.02*				
(20) SPEC	**0.20**	*−0.02*	**0.16**	**0.19**	*−0.00*	**−0.04**	**−0.07**	*0.00*	**0.09**	**0.12**	**0.08**	*−0.02*	**0.15**	**−0.03**	**0.05**	**0.04**	**−0.05**	*0.00*	**0.04**			
(21) BIG	**0.13**	*0.01*	**0.11**	**0.22**	*0.01*	**−0.02**	**−0.12**	*−0.02*	**0.06**	**0.08**	**0.12**	*−0.02*	*0.01*	**−0.09**	**0.19**	**0.03**	*−0.00*	*−0.01*	*0.02*	**0.16**		
(22) SECTIER	**−0.11**	*−0.00*	**−0.10**	**−0.19**	*−0.02*	**0.03**	**0.10**	**0.02**	**−0.06**	**−0.07**	**−0.09**	**0.02**	*−0.01*	**0.09**	**−0.17**	*−0.02*	*−0.00*	*0.01*	*−0.02*	**−0.15**	**−0.93**	

Table 1 presents a sample attrition table, summary statistics, and a correlation matrix for our sample of 8352 firm-year observations for the period 2000–2011. The continuous variables are winsorized at the 1st and 99th percentiles. Panel C of Table 1 presents a Pearson correlation matrix. Values that are in bold are statistically significant at the 0.05 level using a 2-tailed test. Values that are in italics are not statistically significant. FEES is the natural logarithm of total audit fees. PAYCUT is an indicator variable that takes the value of 1 if there is an extreme CEO pay cut, as defined previously, and 0 otherwise. TDC1 is total CEO compensation (in thousands) from Execucomp. SIZE is the natural logarithm of total assets (in millions). ROA is net income divided by average total assets. ACCRUALS is the absolute value of total accruals scaled by total assets. CA is current assets divided by total assets. DISCACC is performance-adjusted discretionary accruals calculated following the approach used by Reichelt and Wang (2010). FOREIGN is foreign sales divided by total sales. BSEGS is the number of business segments. LEV is total liabilities divided by total assets. LOSS is in indicator variable that takes the value of 1 if income before extraordinary items is negative and 0 otherwise. DECFYE is an indicator variable that takes the value of 1 if a firm's fiscal year ends in December and 0 otherwise. ARLAG is the number of days in between the end of a firm's fiscal year and the date the audit report is filed. TENURE is the number of years the auditor has audited a firm. ACQ is an indicator variable that takes the value of 1 if a firm engages in an acquisition and 0 otherwise. HIGHLIT is an indicator variable that takes the value of 1 if a firm is in a high litigation risk industry (SIC codes 2833–2836, 3570–3577, 3600–3674, 5200–5961, 7370–7374, and 8731–8734) and 0 otherwise. GCO is an indicator variable that takes the value of 1 if a firm received a going-concern audit opinion and 0 otherwise. AGE is the number of years a firm has been on Compustat. SPEC is an indicator variable that takes the value of 1 if a firm is audited by an industry specialist auditor, with specialist auditors identified using the approach used by Fung et al. (2012), and 0 otherwise. BIG is an indicator variable that takes the value of 1 if a firm is audited by a Big 4/5 auditor and 0 otherwise. SECTIER is an indicator variable that takes the value of 1 if a firm is audited by Grant Thornton or BDO Seidman and 0 otherwise.

Table 2
The association between extreme CEO pay cuts and audit fees.

DV = FEES	Predicted Sign	Coefficient	T-statistic
PAYCUT	+	0.045	2.59***
TDC1	+	0.000	2.42***
SIZE	+	0.482	41.26***
ROA	–	−0.355	−3.65***
ACCRUALS	+	0.179	1.85**
CA	+	0.300	3.92***
DISCACC	+	0.282	3.53***
FOREIGN	+	0.624	10.16***
BSEGS	+	0.064	8.65***
LEV	+	0.375	6.06***
LOSS	+	0.047	2.22**
DECFYE	+	0.098	3.54***
ARLAG	+	0.002	6.79***
TENURE	?	0.000	0.22
ACQ	+	0.061	3.50***
HIGHLIT	+	−0.149	−1.22
GCO	+	−0.019	−0.25
AGE	?	0.004	4.80***
SPEC	+	0.072	3.93***
BIG	+	0.146	1.43*
SECTIER	+	0.160	1.38*
INTERCEPT	?	7.881	21.78***
Industry Fixed Effects		Included	
Year Fixed Effects		Included	
Adjusted R^2		83.98%	
N		8352	

Standard errors are clustered by firm. The continuous variables are winsorized at the 1st and 99th percentiles. Year and industry indicator variables are not presented in the table for brevity. A detailed description of the variables can be found in Table 1.
*** Statistically significant at the 0.01 level using a 1-tailed test when there is a predicted direction and a 2-tailed test otherwise.
** Statistically significant at the 0.05 level using a 1-tailed test when there is a predicted direction and a 2-tailed test otherwise.
* Statistically significant at the 0.10 level using a 1-tailed test when there is a predicted direction and a 2-tailed test otherwise.

where values in bold are statistically significant at the five percent level using a two-tailed test.

4.3. Extreme CEO pay cuts and audit fees

Table 2 provides the results from estimating Eq. (1) for our sample of 8352 firm-year observations. The model has high explanatory power, with an adjusted R^2 of 83.98%, and all of the statistically significant control variables are in the expected direction. In support of H1, PAYCUT is positive and significant, ($t = 2.59$, $p < 0.01$), and the coefficient suggests that extreme CEO pay cuts are associated with an audit fee that is 4.6% higher.[5,6,7] Since the average audit fee in our sample is approximately $2,423,000, this represents an audit fee that is $111,458 higher for the average firm-year observation in our sample.[8]

4.4. Further analyses

4.4.1. Definition of an extreme CEO pay cut

We follow the approach used by Gao et al. (2012) in considering a decline in a CEO's total compensation of at least 25% to be an extreme pay cut. However, we also examine whether our results are sensitive to using other cutoffs to define an extreme CEO pay cut. We repeat our analysis using declines in total CEO compensation of at least 20%, 30%, 35%, and 40% to identify a CEO pay cut as extreme. We continue to find (untabulated) a positive and significant association between PAYCUT and audit fees using each alternative measure. Therefore, we conclude that our results are not sensitive to the definition of an extreme CEO pay cut.

4.4.2. Real earnings management

Lobo et al. (2013) investigate the association between extreme CEO pay cuts and earnings management and find that extreme CEO pay cuts are associated with both greater accruals earnings management and real earnings management. In our main analysis, we control for accruals earnings management by including discretionary accruals in our regression. As an additional test, we also examine whether our results are robust to controlling for real earnings management. We follow Lobo et al. (2013) in using the real earnings management measures from Roychowdhury (2006), which are (1) abnormal cash flow from operations, (2) abnormal production, and (3) abnormal discretionary expenses. When controlling for each measure, our results (untabulated) continue to indicate a positive and significant association between extreme CEO pay cuts and audit fees.

4.4.3. Changes analysis

We also examine whether our results are robust to utilizing a changes approach since our paper focuses on the auditor's response to a specific event. An important advantage to a changes approach is that it "mitigates biases related to omitted correlated variables" (Ghosh & Pawlewicz, 2009).[9] We limit our changes analysis to firms that have had an extreme CEO pay cut because it allows us to compare the year of the extreme CEO pay cut to other years from the same set of firms. Following prior research, our continuous variables are calculated as the difference from the prior year (e.g., Francis & Wang, 2005; Ghosh & Pawlewicz, 2009; Stanley, 2011). For each indicator variable from Eq. (1), we follow Ghosh and Pawlewicz (2009) and create two new indicator variables that signify the direction of the change in the indicator variable from the prior year. We estimate the following model.

$$\begin{aligned}\Delta FEES = {} & \alpha + \beta_1 TO\_PAYCUT + \beta_2 FROM\_PAYCUT + \beta_3 \Delta TDC1 + \beta_4 \Delta SIZE \\ & + \beta_5 \Delta ROA + \beta_6 \Delta ACCRUALS + \beta_7 \Delta CA + \beta_8 \Delta DISCACC \\ & + \beta_9 \Delta FOREIGN + \beta_{10} \Delta BSEGS + \beta_{11} \Delta LEV + \beta_{12} TO\_LOSS \\ & + \beta_{13} FROM\_LOSS + \beta_{14} \Delta ARLAG + \beta_{15} SWITCH + \beta_{16} TO\_ACQ \\ & + \beta_{17} FROM\_ACQ + \beta_{18} TO\_GCO + \beta_{19} FROM\_GCO \\ & + \beta_{20} TO\_SPEC + \beta_{21} FROM\_SPEC + \beta_{22} TO\_BIG + \beta_{23} FROM\_BIG \\ & + \beta_{24} TO\_SECTIER + \beta_{25} FROM\_SECTIER + \beta_i INDUSTRY + \beta_j YEAR + \varepsilon \end{aligned} \quad (2)$$

The Δ symbol indicates that the variable is the difference from the prior year. TO_PAYCUT (FROM_PAYCUT) is an indicator variable that takes the value of 1 if there was an extreme CEO pay cut in the current year (prior year), but there was not one in the prior year (current year), and 0 otherwise. TO_LOSS (FROM_LOSS) is an indicator variable that takes the value of 1 if income before extraordinary items was negative in the current year (prior year), but not in the prior year (current year), and 0 otherwise. SWITCH is an indicator variable that takes the value of 1 if there was a change in auditors during the year, and 0 otherwise. TO_ACQ (FROM_ACQ) is an indicator variable that takes the value of 1 if a firm engaged in an acquisition in the current year (prior year), but did not in the prior year (current year), and 0 otherwise. TO_GCO (FROM_GCO) is an indicator variable that takes the value of 1 if a firm received a going-concern audit opinion in the current year (prior

[5] In an untabulated analysis, we use the natural log of total fees (audit fees + non-audit fees) as the dependent variable and PAYCUT remains statistically significant at the one percent level.
[6] As a robustness test, we also control for strict governance using board size, CEO duality, and the G-index from Gompers, Ishii, and Metrick (2003) and find that the results (untabulated) continue to hold.
[7] For a regression where the dependent variable is the logarithmic transformation, the coefficient on a binary variable, such as PAYCUT, needs to be transformed as $e^b - 1$ to calculate a percentage change in the base dependent variable (FEES), when the binary variable changes from zero to one (see Kennedy (1992 p. 223) for further details).
[8] In an untabulated analysis, we also examine the association between extreme CFO pay cuts and audit fees; however, we find no evidence of an association between extreme CFO pay cuts and audit fees.
[9] Assuming correlated omitted variables are constant over time, using a changes specification reduces the correlated omitted variable problem in cross-sectional regressions (Ghosh & Lustgarten, 2006).

Table 3
Descriptive Statistics – Changes Sample.

Panel A: Summary statistics – changes sample

	Mean	Median	*S.D.*
ΔFEES	**0.17**	0.06	*0.41*
TO_PAYCUT	**0.18**	0.00	*0.39*
FROM_PAYCUT	**0.16**	0.00	*0.36*
ΔTDC1	**−192.69**	−15.01	*3874.12*
ΔSIZE	**0.06**	0.05	*0.23*
ΔROA	**−0.00**	0.00	*0.11*
ΔACCRUALS	**−0.00**	−0.00	*0.11*
ΔCA	**−0.00**	0.01	*0.08*
ΔDISCACC	**0.00**	0.00	*0.11*
ΔFOREIGN	**0.01**	0.00	*0.06*
ΔBSEGS	**0.00**	0.00	*0.53*
ΔLEV	**0.01**	−0.00	*0.09*
TO_LOSS	**0.11**	0.00	*0.31*
FROM_LOSS	**0.10**	0.00	*0.31*
ΔARLAG	**−0.04**	0.00	*16.67*
SWITCH	**0.16**	0.00	*0.36*
TO_ACQ	**0.08**	0.00	*0.28*
FROM_ACQ	**0.09**	0.00	*0.29*
TO_GCO	**0.01**	0.00	*0.09*
FROM_GCO	**0.00**	0.00	*0.06*
TO_SPEC	**0.07**	0.00	*0.26*
FROM_SPEC	**0.08**	0.00	*0.27*
TO_BIG	**0.00**	0.00	*0.03*
FROM_BIG	**0.01**	0.00	*0.11*
TO_SECTIER	**0.01**	0.00	*0.10*
FROM_SECTIER	**0.00**	0.00	*0.03*

Panel B: Correlation matrix – changes sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
(1) ΔFEES																										

(continued on next page)

Table 3 (*continued*)

Panel B: Correlation matrix – changes sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
(2) TO_PAYCUT	*0.03*																									
(3) FROM_PAYCUT	*0.00*	**−0.20**																								
(4) ΔTDC1	*0.02*	**−0.29**	**0.22**																							
(5) ΔSIZE	**0.25**	**−0.06**	**−0.03**	**0.05**																						
(6) ΔROA	*−0.03*	**−0.12**	**0.03**	**0.08**	**0.17**																					
(7) ΔACCRUALS	*0.01*	**0.06**	*−0.01*	*−0.03*	**−0.18**	**−0.66**																				
(8) ΔCA	**−0.11**	**−0.07**	**0.03**	**0.03**	**−0.21**	**0.10**	**0.03**																			
(9) ΔDISCACC	**−0.05**	**−0.04**	*−0.02*	*−0.02*	**0.04**	**0.61**	**−0.67**	**0.00**																		
(10) ΔFOREIGN	**0.07**	*0.03*	*0.00*	*0.00*	*0.00*	*0.02*	*−0.02*	**−0.03**	**0.05**																	
(11) ΔBSEGS	*0.03*	*−0.02*	*0.01*	*−0.01*	**0.05**	*−0.02*	*0.01*	*−0.02*	*0.00*	**0.06**																
(12) ΔLEV	**0.04**	**0.04**	*0.02*	**−0.04**	*−0.03*	**−0.33**	**0.22**	**−0.06**	**−0.22**	*−0.01*	*0.02*															
(13) TO_LOSS	*0.00*	**0.11**	*0.01*	**−0.06**	**−0.16**	**−0.43**	**0.30**	**−0.04**	**−0.27**	*0.01*	*−0.00*	**0.16**														
(14) FROM_LOSS	*−0.01*	**−0.06**	**0.07**	**0.04**	*0.01*	**0.42**	**−0.26**	**0.11**	**0.24**	**0.05**	*0.01*	**−0.16**	**−0.12**													
(15) ΔARLAG	**0.12**	*0.00*	*0.01*	**0.03**	*−0.00*	**−0.04**	**0.07**	**0.04**	**−0.07**	*−0.00*	*−0.01*	**0.04**	*0.02*	*−0.02*												
(16) SWITCH	**0.16**	*0.02*	**0.05**	*0.02*	*0.03*	*−0.00*	*−0.00*	*−0.03*	*−0.00*	**0.06**	*−0.01*	**0.06**	**0.04**	**0.06**	*−0.02*											
(17) TO_ACQ	**0.14**	*−0.01*	*−0.01*	*0.01*	**0.28**	**−0.04**	*−0.02*	**−0.31**	**−0.03**	*−0.00*	**0.05**	**0.09**	**0.04**	*−0.02*	*−0.01*	**0.06**										
(18) FROM_ACQ	*−0.01*	*0.00*	*−0.01*	**−0.05**	**−0.08**	**−0.05**	**0.07**	**0.06**	*−0.00*	**0.03**	*0.01*	**−0.03**	*0.02*	*−0.01*	*−0.02*	**−0.03**	**−0.10**									
(19) TO_GCO	*0.00*	*0.02*	*−0.03*	*−0.01*	**−0.13**	**−0.09**	**0.09**	*0.01*	**−0.05**	**0.04**	*−0.01*	**0.13**	**0.07**	*−0.00*	**0.13**	**0.05**	*−0.03*	*−0.01*								
(20) FROM_GCO	*−0.03*	*0.00*	**0.04**	**0.05**	*−0.02*	**0.07**	**−0.04**	**0.04**	**0.06**	*−0.00*	*0.01*	**−0.07**	*−0.02*	**0.05**	**−0.06**	**0.04**	*0.00*	*−0.02*	*−0.00*							
(21) TO_SPEC	**0.07**	*−0.01*	*−0.00*	*0.01*	**0.04**	*0.01*	*−0.01*	*−0.00*	*0.01*	*−0.00*	*0.01*	**0.03**	*−0.01*	*0.02*	*0.01*	**0.08**	*0.02*	*0.00*	*−0.02*	*−0.02*						
(22) FROM_SPEC	*0.00*	*0.01*	*−0.02*	*−0.01*	*−0.01*	**−0.04**	**0.03**	*−0.01*	*−0.03*	*0.01*	*−0.00*	**0.03**	*0.01*	*−0.02*	*0.01*	**0.08**	*−0.00*	*−0.02*	*0.00*	*−0.02*	**−0.09**					
(23) TO_BIG	*0.00*	*−0.01*	*−0.01*	*0.01*	**0.03**	*−0.00*	*−0.01*	*0.01*	*0.00*	*0.01*	*−0.00*	*0.00*	*−0.01*	*−0.01*	*−0.01*	**0.06**	**0.04**	*−0.01*	*−0.00*	*−0.00*	*−0.01*	*−0.01*				
(24) FROM_BIG	*−0.01*	*−0.01*	**0.05**	*0.00*	*−0.02*	*0.02*	*−0.02*	*0.02*	**0.04**	*0.03*	*−0.02*	**0.05**	*−0.03*	*0.02*	*0.02*	**0.25**	*0.00*	*−0.01*	*0.03*	*−0.01*	**−0.03**	**0.06**	*−0.00*			
(25) TO_SECTIER	*−0.00*	*−0.01*	**0.05**	*0.00*	*−0.02*	*0.02*	*−0.02*	*0.02*	**0.04**	*0.03*	*−0.01*	**0.05**	*−0.03*	*0.02*	*0.02*	**0.24**	*0.00*	*−0.01*	*0.03*	*−0.01*	**−0.03**	**0.06**	*−0.00*	**0.99**		
(26) FROM_SECTIER	*−0.02*	*−0.01*	*−0.01*	*0.01*	*0.00*	*−0.01*	*−0.02*	**0.04**	*0.01*	*0.01*	*−0.02*	*−0.02*	*−0.01*	*−0.01*	*−0.01*	**0.07**	*0.03*	*−0.01*	*−0.00*	*−0.00*	*−0.01*	*−0.01*	**0.82**	*−0.00*	*−0.00*	

Table 3 presents summary statistics and a correlation matrix for our sample of 3137 firm-year observations utilized in our changes analysis for the period 2000–2011. The continuous variables are winsorized at the 1st and 99th percentiles. Panel B of Table 3 presents a Pearson correlation matrix. Values that are in bold are statistically significant at the 0.05 level using a 2-tailed test. Values that are in italics are not statistically significant. The Δ symbol indicates that the variable is the difference from the prior year. TO_PAYCUT (FROM_PAYCUT) is an indicator variable that takes the value of 1 if there was an extreme CEO pay cut in the current year (prior year), but there was not one in the prior year (current year), and 0 otherwise. TO_LOSS (FROM_LOSS) is an indicator variable that takes the value of 1 if income before extraordinary items was negative in the current year (prior year), but not in the prior year (current year), and 0 otherwise. SWITCH is an indicator variable that takes the value of 1 if there was a change in auditors during the year, and 0 otherwise. TO_ACQ (FROM_ACQ) is an indicator variable that takes the value of 1 if a firm engaged in an acquisition in the current year (prior year), but did not in the prior year (current year), and 0 otherwise. TO_GCO (FROM_GCO) is an indicator variable that takes the value of 1 if a firm received a going-concern audit opinion in the current year (prior year), but did not in the prior year (current year), and 0 otherwise. TO_SPEC (FROM_SPEC) is an indicator variable that takes the value of 1 if a firm was audited by an industry specialist auditor in the current year (prior year), but was not in the prior year (current year), and 0 otherwise. TO_BIG (FROM_BIG) is an indicator variable that takes the value of 1 if a firm was audited by a Big 4/5 auditor in the current year (prior year), but was not in the prior year (current year), and 0 otherwise. TO_SECTIER (FROM_SECTIER) is an indicator variable that takes the value of 1 if a firm was audited by Grant Thornton or BDO Seidman in the current year (prior year), but was not in the prior year (current year), and 0 otherwise.

year), but did not in the prior year (current year), and 0 otherwise. TO_SPEC (FROM_SPEC) is an indicator variable that takes the value of 1 if a firm was audited by an industry specialist auditor in the current year (prior year), but was not in the prior year (current year), and 0 otherwise. TO_BIG (FROM_BIG) is an indicator variable that takes the value of 1 if a firm was audited by a Big 4/5 auditor in the current year (prior year), but was not in the prior year (current year), and 0 otherwise. TO_SECTIER (FROM_SECTIER) is an indicator variable that takes the value of 1 if a firm was audited by Grant Thornton or BDO Seidman in the current year (prior year), but was not in the prior year (current year), and 0 otherwise.

We provide summary statistics for our changes sample in Panel A of Table 3 and a correlation matrix in Panel B of Table 3. In Panel B, values in bold are statistically significant at the five percent level using a two-tailed test. For our changes sample, the mean (median) firm has ΔFEES of 0.17 (0.06) and the mean (median) of ΔTDC1 is −192.69 (−15.01). Further, the mean (median) of TO_PAYCUT and FROM_PAYCUT is 0.18 (0.00) and 0.16 (0.00), respectively. While the means of TO_PAYCUT and FROM_PAYCUT are larger in the changes sample compared to the mean of PAYCUT of 0.093 in the main sample, this increase is consistent with limiting our changes analysis to firms that have had an extreme CEO pay cut.

The results from estimating Eq. (2) for our changes sample of 3,137 firms-years are reported in Table 4. Similar to prior studies that utilize an audit fee model with a changes design (Francis & Wang, 2005; Ghosh & Pawlewicz, 2009; Stanley, 2011), our adjusted R^2 of 34.71% is substantially lower than in the levels specification. Consistent with our earlier findings, TO_PAYCUT is positive and significant (t = 2.13, p = 0.02), while FROM_PAYCUT is not statistically significant.[10] Specifically, we find evidence consistent with a 4.1% increase in audit fees for firms with an extreme CEO pay cut in the current year, while audit fees remain unchanged for firms with an extreme CEO pay cut in the prior year. Since the average audit fee in the changes sample is approximately $2,332,000, this represents an increase in audit fees of $95,612 for the average firm-year observation in our sample.

Table 4
The association between extreme CEO pay cuts and changes in audit fees.

DV = ΔFEES	Predicted Sign	Coefficient	T-statistic
TO_PAYCUT	+	0.040	2.13**
FROM_PAYCUT	?	0.005	0.32
ΔTDC1	+	0.000	0.87
ΔSIZE	+	0.355	9.06***
ΔROA	−	−0.244	−2.35***
ΔACCRUALS	+	0.087	0.90
ΔCA	+	−0.324	−3.00
ΔDISCACC	+	0.000	0.01
ΔFOREIGN	+	0.274	2.29**
ΔBSEGS	+	0.007	0.44
ΔLEV	+	0.075	0.87
TO_LOSS	+	0.015	0.64
FROM_LOSS	−	0.024	0.94
ΔARLAG	+	0.002	4.11***
SWITCH	?	0.190	7.91***
TO_ACQ	+	0.052	1.88**
FROM_ACQ	−	0.013	0.61
TO_GCO	+	−0.005	−0.07
FROM_GCO	−	−0.038	−0.35
TO_SPEC	+	0.037	1.29*
FROM_SPEC	−	−0.002	−0.10
TO_BIG	+	0.500	5.71***
FROM_BIG	−	−0.772	−14.78***
TO_SECTIER	+	0.530	5.21***
FROM_SECTIER	−	−0.627	−10.33***
INTERCEPT	?	0.119	3.99***
Industry Fixed Effects		Included	
Year Fixed Effects		Included	
Adjusted R^2		34.71%	
N		3,137	

Standard errors are clustered by firm. The continuous variables are winsorized at the 1st and 99th percentiles. Year and industry indicator variables are not presented in the table for brevity. A detailed description of the variables can be found in Table 1.

*** Statistically significant at the 0.01 level using a 1-tailed test when there is a predicted direction and a 2-tailed test otherwise.

** Statistically significant at the 0.05 level using a 1-tailed test when there is a predicted direction and a 2-tailed test otherwise.

* Statistically significant at the 0.10 level using a 1-tailed test when there is a predicted direction and a 2-tailed test otherwise.

5. Conclusion

We investigate whether sudden and severe decreases in total CEO compensation affect audit fees. We argue that extreme CEO pay cuts provide an incentive for the CEO to manipulate the financial reports or to make risky operational decisions in a desperate attempt to improve firm performance. This incentive, in turn, is likely to increase the auditor's perception of audit risk and auditor business risk, leading a higher audit fees. We test our hypothesis by utilizing a sample of 8352 firm-year observations from the period 2000–2011. Our results provide evidence of a positive and highly significant association between extreme CEO pay cuts and audit fees. The coefficient on PAYCUT suggests that audit fees are 4.6% higher when there is an extreme CEO pay cut, which represents an audit fee that is $111,458 higher for the average firm-year observation in our sample.

Our study contributes to the growing stream of literature that investigates how executive compensation incentives affect auditor perceptions of risk. While prior findings suggest a positive association between audit fees and CEO compensation (e.g., Wysocki, 2010; Zhang & Xian, 2014), we find that abrupt decreases in CEO compensation are associated with higher audit fees for a subset of firms with extreme CEO pay cuts. Also, in finding that auditors view extreme CEO pay cuts as increasing risk, our paper complements Lobo et al. (2013) by providing further evidence that extreme CEO pay cuts may have unintended consequences. Our paper should also be of interest to regulators because our results add to the findings from prior research that suggest auditors do consider characteristics of executive compensation when assessing risk, consistent with the requirements under Auditing Standard No. 12, as amended in 2014 (PCAOB, 2010b).

References

American Institute of Certified Public Accountants (AICPA) (2002,). Considerations of fraud in a financial statement audit. *Statement on Auditing standards No. 99*. New York, NY: AICPA.

American Institute of Certified Public Accountants (AICPA) (2006,). Audit risk and materiality in conducting an audit. *Statement on Auditing standards No. 107*. New York, NY: AICPA.

Armstrong, C., Jagolinzer, A., & Larcker, D. (2010). Chief executive officer equity incentives and accounting irregularities. *Journal of Accounting Research*, *48*(2), 225–271.

Baber, W., Kang, S., & Liang, L. (2007). Shareholder rights, corporate governance and accounting restatement. *Working paper*. Georgetown University.

Ball, R., Jayaraman, S., & Shivakumar, L. (2012). Audited financial reporting and voluntary disclosure as complements: A test of the confirmation hypothesis. *Journal of Accounting and Economics*, *53*, 136–166.

Bedard, J., & Johnstone, K. (2004). Earnings manipulation risk, corporate governance risk, and auditors' planning and pricing decisions. *The Accounting Review*, *79*(2), 277–304.

Bell, T., Landsman, W., & Shackelford, D. (2001). Auditor's perceived business risk and audit fees: analysis and evidence. *Journal of Accounting Research*, *39*(1), 35–43.

Bergstresser, D., & Philippon, T. (2006). CEO incentives and earnings management. *Journal of Financial Economics*, *80*(3), 511–529.

Billings, B., Gao, X., & Jia, Y. (2014). CEO and CFO equity incentives and the pricing of audit services. *Auditing: A Journal of Practice & Theory*, *33*(2), 1–25.

[10] In the year after the year of an extreme CEO pay cut, the CEO is likely to still be under a great deal of pressure to improve firm performance, so the risks to the auditor would continue to be present in the year following the year of an extreme CEO pay cut. If the auditor increased audit fees for the audit of the fiscal year in which there was an extreme CEO pay cut to account for the increased risk associated with the audit, then we expect that the auditor will maintain a similar level of audit fees for the audit of the next fiscal year since the audit presents a similar level of risk. This idea is consistent with there being a statistically insignificant coefficient on FROM_PAYCUT.

Burns, N., & Kedia, S. (2006). The impact of performance-based compensation on misreporting. *Journal of Financial Economics*, *79*, 35–67.
Chen, Y., Gul, F., Veeraraghavan, M., & Zolotoy, L. (2015). Executive equity risk-taking incentives and audit pricing. *The Accounting Review* (in press).
Cheng, Q., & Warfield, T. (2005). Equity incentives and earnings management. *The Accounting Review*, *80*(2), 441–476.
Denis, D., Hanouna, P., & Sarin, A. (2006). Is there a dark side to incentive compensation? *Journal of Corporate Finance*, *12*(3), 467–488.
Efendi, J., Srivastava, A., & Swanson, E. (2007). Why do corporate managers misstate financial statements? the role of option compensation and other factors. *Journal of Financial Economics*, *85*, 667–708.
Erickson, M., Hanlon, M., & Maydew, E. (2006). Is there a link between executive equity incentives and accounting fraud? *Journal of Accounting Research*, *44*, 113–143.
Fargher, N., Jiang, A., & Yu, Y. (2014). How do auditors perceive CEO's risk-taking incentives? *Accounting and Finance*, *54*, 1157–1181.
Francis, J., & Wang, D. (2005). Impact of the SEC's public fee disclosure requirement on subsequent period fees and implications for market efficiency. *Auditing: A Journal of Practice & Theory*, *24*, 145–160 (Supplement).
Francis, J., Reichelt, K., & Wang, D. (2005). The pricing of national and city-specific reputations for industry expertise in the U.S. audit market. *The Accounting Review*, *80*(1), 113–136.
Fung, S., Gul, F., & Krishnan, J. (2012). City-level auditor industry specialization, economies of scale, and audit pricing. *The Accounting Review*, *87*(4), 1281–1307.
Gao, J., Harford, J., & Li, K. (2012). CEO pay cuts and forced turnover: their causes and consequences. *Journal of Corporate Finance*, *18*(2), 291–310.
Ghosh, A., & Lustgarten, S. (2006). Pricing of initial audit engagements by large and small audit firms. *Contemporary Accounting Research*, *23*(2), 333–368.
Ghosh, A., & Pawlewicz, R. (2009). The impact of regulation on auditor fees: evidence from the Sarbanes-Oxley act. *Auditing: A Journal of Practice & Theory*, *28*(2), 171–197.
Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics*, *118*(1), 107–155.
Greiner, A., Kohlbeck, M., & Smith, T. (2013). Do auditors perceive real earnings management as a business risk? *Working paper*. Florida Atlantic University.
Gul, F., Chen, C., & Tsui, R. (2003). Discretionary accounting accruals, managers' incentives and audit fees. *Contemporary Accounting Research*, *20*(3), 441–464.
Harris, J., & Bromiley, P. (2007). Incentives to cheat: the influence of executive compensation and firm performance on financial misrepresentation. *Organization Science*, *18*(3), 350–367.
Hay, D., Knechel, W. R., & Wong, N. (2006). Audit fees: a meta-analysis of the effect of supply and demand attributes. *Contemporary Accounting Research*, *23*(1), 141–191.
Jayaraman, S., & Milbourn, T. (2015). CEO equity incentives and financial misreporting: the role of auditor expertise. *The Accounting Review*, *90*(1), 321–350.
Johnson, S., Ryan, H., & Tian, Y. (2009). Managerial incentives and corporate fraud: the sources of incentives matter. *Review of Finance*, *13*, 115–145.
Kannan, Y., Skantz, T., & Higgs, J. (2014). The impact of CEO and CFO equity incentives on audit scope and perceived risks as revealed through audit fees. *Auditing: A Journal of Practice & Theory*, *33*(2), 111–139.
Kennedy, P. (1992). *A guide to econometrics* (3rd ed.). Cambridge: MIT Press.
Kim, Y., Li, H., & Li, S. (2015). CEO equity incentives and audit fees. *Contemporary Accounting Research*, *32*(2), 608–638.
Larcker, D., Richardson, S., & Tuna, I. (2007). Corporate governance, accounting outcomes, and organizational performance. *The Accounting Review*, *82*(4), 963–1008.
Lobo, G., Manchiraju, H., & Sridharan, S. (2013). *Do CEO pay cuts really work?* Working paper: University of Houston.
Lyon, J., & Maher, M. (2005). The importance of business risk in setting audit fees: evidence from cases of client misconduct. *Journal of Accounting Research*, *43*(1), 133–151.
O'Connor, J., Priem, R., Coombs, J., & Gilley, K. (2006). Do CEO options prevent or promote fraudulent financial reporting? *Academy of Management Journal*, *49*(3), 483–500.
Pratt, J., & Stice, J. (1994). The effects of client characteristics on auditor litigation risk judgments, required audit evidence, and recommended audit fees. *The Accounting Review*, *69*(4), 639–656.
Public Company Accounting Oversight Board (PCAOB) (2010a). Audit risk. *Auditing Standard No. 8*. Washington, DC: PCAOB.
Public Company Accounting Oversight Board (PCAOB) (2010b). Identifying and assessing the risks of material misstatement. *Auditing Standard No. 12*. Washington, DC: PCAOB.
Reichelt, K., & Wang, D. (2010). National and office-specific measures of auditor industry expertise and effects on audit quality. *Journal of Accounting Research*, *48*(3), 647–686.
Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, *42*, 335–370.
Schelleman, C., & Knechel, R. (2010). Short-term accruals and the pricing and production of audit services. *Auditing: A Journal of Practice & Theory*, *29*(1), 221–250.
Seetharaman, A., Gul, F., & Lynn, S. (2002). Litigation risk and audit fees: evidence from U.K. firms cross-listed on U.S. markets. *Journal of Accounting and Economics*, *33*, 91–115.
Simunic, D. (1980). The pricing of audit services: theory and evidence. *Journal of Accounting Research*, *18*(1), 161–190.
Stanley, J. (2011). Is the audit fee disclosure a leading indicator of client's business risk? *Auditing: A Journal of Practice & Theory*, *30*(3), 157–179.
Wysocki, P. (2010). Corporate compensation policies and audit fees. *Journal of Accounting and Economics*, *49*, 155–160.
Zhang, Y., & Xian, C. (2014). Auditor reports, audit fees, and CEO compensation. *International Journal of Economics and Finance*, *6*(9), 1–10.