

## ABSTRACT

Title of Dissertation: THREE ESSAYS ON AUDIT REPORT LAG  
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The FASB's conceptual framework emphasizes the relevance of financial information as one of the fundamental qualities of financial reporting. The research shows that financial information loses its relevance when it is not timely. The literature suggests that an audit report lag, hereafter ARL, determines the timeliness of financial information, and the market responds negatively to delays in the disclosure of financial information. Thus, ARL is an exciting subject to stakeholders.

In this three-part dissertation, I investigate the impact of executive tournament incentives, managerial entrenchment, and extreme cuts in CEO compensation on ARL. In the first essay, I examine the association between

ARL and executive tournament incentives. I use four different measure of tournament incentives to test my hypothesis. Firstly, I measure tournament incentive as the difference between the CFO compensation and the CEO compensation. Secondly, I measure tournament incentive as a ratio of the CEO compensation to the sum of the CFO compensation and the CEO compensation. Using a subsample, I measure tournament incentive as the compensation difference between the CEO compensation and the median compensation of the top five executives. I also measure tournament incentive as the compensation difference between the CEO compensation and the mean compensation of the top five executives of the firm. I find a negative association between tournament incentives and ARL indicating that strong tournament incentive results in shorter ARL.

In the second essay, I examine the association between ARL and managerial entrenchment. My proxy for managerial entrenchment is the entrenchment index (EINDEX) as constructed by Bebchuk et al. (2009). The results of the study show a significantly positive association between ARL and the EINDEX. I also examine the association between ARL, and the individual provisions used to create the EINDEX. Bebchuk et al. (2009) use staggered boards, golden parachutes, and poison pills along with the supermajority requirements to amend the corporate bylaws and the charter, and a supermajority requirement for mergers to create the EINDEX. The results also show that staggered boards, golden parachutes, and supermajority requirement

to amend the corporate bylaws is positively associated with ARL. Additionally, the results show that supermajority requirement to amend the corporate charter negatively associates with ARL.

In the third essay of this dissertation, I examine the association between ARL and extreme cuts in CEO compensation. Consistent with the literature, I define extreme cuts as those of 25 percent or more in CEO compensation. Using two different methods to operationalize the extreme cut in CEO compensation, I find no evidence to suggest any association between extreme cut in CEO compensation and ARL.

THREE ESSAYS ON AUDIT REPORT LAG

by

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A Dissertation Submitted in Partial Fulfillment  
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## **DEDICATION**

I dedicate this academic achievement to my late father Emmanuel Kofi Lamptey, my mother Victoria Amakie Lamptey, my brother Kals Lamptey and the rest of my siblings, my daughter Patricia Kals-Lamptey, and my two sons Michael Kals-Lamptey and Emmanuel Kals-Lamptey, and my fantastic wife, Justina Biyo Lamptey.

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## CHAPTER 1: INTRODUCTION

In this dissertation, I examine the association between managerial entrenchment, severe tournament incentives, extreme cut in CEO compensation, and audit report lag (ARL). Academics, legislators, investors, and standard setters constantly express severe concern about the timeliness of financial information. The many high-profile scandals such as Wells Fargo's recent bank fraud, the Bernie Madoff's scheme, and the Lehman Brothers' collapse have only increased this concern. Therefore, the timeliness of financial reporting has become an increasingly debated issue in recent years (Bryant-Kutcher, Peng, & Weber, 2013; Schmidt & Wilkins, 2013).

The timeliness of financial information significantly influences investment decisions and enhances the potential for fraudsters to defraud investors. The Financial Accounting Standards Board's (FASB) conceptual framework emphasizes that financial information is decision-useful when it is timely. Timeliness is an enhancing characteristic of decision usefulness. Thus, for financial information to be decision-useful, it must have the potential to influence the decision-making process. Therefore, the timeliness of financial information is very relevant for decision making. When financial information is not timely, it loses its relevance (Atiase, Bamber, & Tse, 1989) to those who depend on such information to make decisions.

Additionally, researchers document that the market responds negatively to late Securities and Exchange Commission (SEC) filings (Bartov, DeFond, &

Konchitchki, 2011; Li & Ramesh, 2009; Alford, Jones, & Zmijewski, 1994).

Abernathy, Barnes, Stefaniak and Weisbarth (2017) are among researchers who argue that ARL determines the timeliness of financial information. Consistent with the literature, I define ARL as the period of time from the firm's fiscal year-end to the audit report date.

In the first essay I examine the association between ARL and executive tournament incentives. I use four different measure of tournament incentives to test my hypothesis. Firstly, I measure tournament incentive as the difference between the CFO's compensation and the CEO's compensation. Secondly, I measure tournament incentive as a ratio of the CEO's compensation to the sum of the CFO's compensation and the CEO's compensation. Using a subsample, I measure tournament incentive as the compensation difference between the CEO's compensation and the mean compensation of the top five executives. I also measure tournament incentive as the compensation difference between the CEO's compensation and the median compensation of the top five executives of the firm. I find a negative association between tournament incentives and ARL suggesting that strong tournament incentive results in shorter ARL.

In the second essay of this dissertation, I examine the association between managerial entrenchment and ARL. My proxy for managerial entrenchment is the entrenchment index (EINDEX) as constructed by Bebchuk, Cohen, and Ferrell (2009). The results of the study show a significantly positive association between ARL and the EINDEX. This is consistent with the

exacerbation theory that argues that entrenched managers are motivated by short-term performance and therefore are more likely to engage in short-term projects for immediate results that are intended to improve shareholder wealth.

I also examine the association between ARL, and the individual provisions used to create the EINDEX. Bebchuk et al. (2009) use staggered boards, golden parachutes, and poison pills along with the supermajority requirements to amend the corporate bylaws and the charter, and a supermajority requirement for mergers to create the EINDEX. The results also show that staggered boards, golden parachutes, and supermajority requirement to amend the corporate bylaws positively associate with ARL. The results indicate that firms that adopt these anti-takeover provisions engage in short-term projects for immediate results that suggest those firms are performing very well. The incentive to show better performance in the short-term causes managers of these firms to manage earnings. The results are therefore consistent with exacerbation theory that suggests managerial entrenchment encourages managerial misbehavior.

Additionally, the results show that the supermajority requirement to amend the corporate charter negatively associates with ARL. The negative association between ARL and supermajority requirement to amend the corporate charter is consistent with the mitigation theory, which argues that managerial entrenchment does not engender managerial misbehavior. This indicates that firms that adopt the supermajority requirement to amend the corporate charter do not engage in

short-term projects and have no reason to manipulate their financial information to show that they are performing well.

In the third essay, I examine the association between ARL and extreme cuts in CEO compensation. Consistent with the literature, I define extreme cuts as those of 25 percent or more in CEO compensation. I use two different methods to measure extreme CEO compensation. Firstly, I measure extreme CEO compensation as a binary variable which assumes a value of one when the cut in CEO compensation is 25 percent or more, and zero when experiences a compensation increase or a cut less than 25 percent. However, this method does not produce any evidence to suggest that there exists a significant relationship between extreme CEO compensation and ARL. Secondly, I put the CEO compensation data into three categories such that category one includes all CEO compensation cut above 25 percent defined as extreme compensation cut. Category two includes all CEO compensation cut below 25 percent, and category three includes all CEO compensation increases. Using CEO compensation cut below 25 percent as my reference point, I include extreme CEO compensation cut (that is compensation cut above 25 percent) and CEO compensation increases in model 2. Consistent with the main test, this test also does not provide any evidence to suggest that there exists a relationship between extreme cut in CEO compensation and ARL.

## **ARL**

The ARL is the dependent variable in all three essays in my dissertation. I review all the pertinent literature on the determinants of ARL. Researchers define ARL as the length of time an external auditor needs to complete an audit (Bamber, Bamber, & Schoderbek, 1993). Blankley, Hurtt, and MacGregor (2014) define ARL more explicitly as the number of days between the fiscal year-end and the date that the audit report was signed. Tanyi, Raghunandan, and Barua (2010) also define ARL as the time lag between the fiscal year-end and the date of the audit report. Amin, Eshleman, and Feng (2017) and Ashton, Willingham, and Elliott (1987) define ARL as the period between a firm's fiscal year-end date and the date that the audit report was signed. These definitions show that the time and effort it takes an external auditor to complete an audit reflects the ARL.

### **The Studies on ARL**

This section investigates the literature on ARL. Abernathy, Beyer, Masli, and Stefaniak (2015) examine the relationship between an audit committee's financial expertise, its knowledge of public accounting, and whether its chair has financial accounting expertise, and the timeliness of financial reporting. Using the observations from 332 firms and 966 firm-years over three years, Abernathy et al. (2015) find that when audit committee members have accounting expertise, that expertise helps to make the firms' financial reporting timelier. Similarly, Abernathy et al. (2015) find that when accounting experts on audit committee members are drafted from people who have public accounting experience, they



bring their expertise to bear on the financial reporting process and make it timelier.

Abbott, Parker, and Peters (2012) examine a sample of 134 observations obtained from a survey of the chief audit executives of Fortune 1000 firms. They use a regression model to determine the association between the delay in an external audit and the assistance that the internal audit of the client provides to the external auditor. Abbott et al. (2012) find that firms with weak internal control, material weaknesses, restatements, high leverage, extraordinary items, and losses have longer audit delays. Using a sample of US banking firms, Huang, Dao, and Sun (2017) examine the association between fair values and reporting lags. Drawing on the measurement of fair value, the Accounting Codification Standard (ASC 820), Huang et al. (2017) reiterate the three classifications of financial assets and liabilities.<sup>1</sup> They find that when fair values are unobservable as in level three inputs, ARLs tend to be longer. Krishnan and Yang (2009) use longitudinal data from firms in a sample period from 2001-2006 to examine ARL. They find that both before the introduction of the SEC rule<sup>2</sup> that mandated that

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<sup>1</sup> ASC 820 classifies financial assets and liabilities into three levels. Level 1 consists of observable inputs from quoted market prices in active markets. Level 2 comprises of observable inputs from quoted market prices in inactive markets, while level 3 includes unobservable inputs that are usually determined by the firm.

<sup>2</sup> The SEC rule (Commission, 2002, 2005) shortens the annual report (10-K) filing deadlines from 90 days after the company's fiscal year-end to 75 days for accelerated filers. Accelerated filers are public companies that have a public float between \$75 million and 700 million. The rule also established 60 days after the fiscal year-end of the firm as the deadline for large accelerated filers. Large accelerated filers are public companies that have a public float of 700 million or more. The deadline for non-accelerated filers is 90 days after the company's fiscal year-end. Non-accelerated are public companies with less than 75 million public floats.

firms reduce their 10-K filling lag in 2003 and after the introduction of the same, ARLs have been longer.

Knechel and Payne (2001) provide more understanding of ARL by examining the incremental effort through the hours spent on an audit and the resource allocation of the audit team. They measure the effort with the rank of the members of the audit team that includes the partner, the manager, and staff. They also measure the performance of the non-audit services by the audit firm. Knechel and Payne (2001) use data from a proprietary database on a public accounting firm that contains a sample of 226 audits. They find that when the audit firm increases its effort in terms of the hours, when the audit client has unsettled tax issues, or when the audit firms use staff that have less experience, the ARL is likely to increase. They also find that ARL decreases with the interaction between the management's advisory role and audit services.

Leventis, Weetman, and Caramanis (2005) explore the ARL of firms listed on the Athens stock exchange as of December 31, 2000. For a sample of 171 companies, they use a linear regression model and find that ARL is related to audit fees, the presence of extraordinary items, and the auditor's type. Leventis et al. (2005) also document that qualified audit opinions associate with longer ARLs. Owusu-Ansah (2000) explores the behavior of firms listed on the Zimbabwean stock exchange as of December 31, 1994, by examining a sample of 47 nonfinancial companies. Owusu-Ansah argues that timely financial statements are essential to the relevance of accounting information. He finds

that the size, profitability, and age of firms affect the timeliness of the financial reporting of companies listed on the Zimbabwe stock exchange.

Using a sample of 465 firms from the Toronto Stock Exchange, Ashton, Graul, and Newton (1989) examine the factors that influence ARL. They find that the type of auditor, the firm's financial performance, and the existence of extraordinary items influence ARL. Also, Ashton et al. (1987) examine the determinants of ARL and find that firms that have strong internal controls and firms for which auditors perform interim audit procedures have shorter ARLs while firms with modified audit opinions and those that have fiscal year-ends on December 31 experience extended ARLs. Bamber et al. (1993) use data from 972 firms from 7 industries for each of three consecutive years in a regression model to investigate the determinants of ARL. They argue that ARL depends on the amount of audit work needed, the incentive to issue a timely audit report, and the degree structure in the approach that the auditor adopts.

Habib and Bhuiyan (2011) contribute to the literature on ARL by examining the association between the industry specialization of the audit firm and ARL. They argue that auditors who are industry specialists develop the knowledge and expertise required to perform audits and are quicker to understand the business practices of the firms they audit than the auditors who are non-industry specialists. They find that the ARL is shorter for firms whose auditors are industry specialists.

Sultana, Singh, and Van der Zahn (2015) are among the researchers who seek to determine whether corporate governance mechanisms, precisely the characteristics of the audit committee, associate with the timeliness of financial reporting. They use a sample of 100 firms that were continuously listed on the Australian stock exchange from 2004 to 2008 and find that the size of the audit committee and its gender diversity are not significantly associated with ARL. However, the authors find that the financial expertise of the audit committee members, their prior committee experience, and their independence result in shorter ARLs.

### **ARL and Audit Fees**

Researchers are divided on the relationship between audit fees and ARL. While some researchers argue that higher audit fees may lead to longer ARLs (Chan, Ezzamel, & Gwilliam, 1993; Knechel & Payne, 2001), others argue that higher audit fees may lead to shorter ARLs (Carcello, Hermanson, & McGrath, 1992; Leventis et al., 2005). Chan et al. (1993) posit that the relation between audit fees and ARLs is not settled because short ARLs may be the result of an attempt to meet a reporting deadline that could yield an inefficient audit at exorbitant cost while longer ARLs could be because of problems encountered during the audit that require additional work. Anecdotal evidence also suggests that some firms may agree with their auditors to delay the audit as part of a negotiated lower audit fee that leads to a situation where longer ARLs have an association with high audit fees.

Knechel and Payne (2001) argue that ARLs may be a direct reflection of the efficiency of an audit. The efficiency can be affected by issues encountered during the performance of the audit and the difficulty in resolving them as well as the complexity of the financial statements. Therefore, the audit may take a long time that will consequently extend the ARL. These issues may cause the auditors to require higher compensation for their services. Thus, the ARL may potentially be positively associated with audit fees.

Examining the determinants of ARL for firms listed on the Athens Stock Exchange, Leventis et al. (2005) find that although firms that choose their auditors from the internationally affiliated audit firms pay a premium, such firms experience shorter ARLs that indicate high audit fees are related to shorter ARLs. Naser and Hassan (2016) examine the factors that influence external audit fees and find a negative association between ARL and audit fees. Kamal and Rana (2008) investigate the determinants of audit fees from emerging economies and find that ARL is not a significant determinant of audit fees.

Therefore, the above discussion of the literature on the relationship between ARL and audit fees suggests that there is no consensus among researchers on the relationship between ARL and audit fees.

## CHAPTER 2: TOURNAMENT INCENTIVES AND ARL

### Motivation

In this study, I examine the correlation between tournament incentive and ARL. Firms typically adopt tournaments that involve individuals or groups that compete against each other for some reward (Berger, Klassen, Libby, & Webb, 2013; Lynch, 2005; Orrison et al., 2004; Knoeber & Thurman, 1994). The reward that the winner of the tournament receives provides a significant incentive for the tournament participants. Lazear and Rosen (1981) argue that the uncertainty about the outcome of the tournament while it is in progress sustains the participants' effort throughout the tournament. The sustained effort can lead to an improvement in firm performance (Casas-Arce & Martinez-Jerez, 2009; Matsumura & Shin, 2006).

Bryan and Mason (2017) posit that senior executives expect significant increases in compensation when the firm promotes them to CEO; thus, they have an incentive to work towards becoming the next CEO. This incentive is known as the "executive tournament incentive." The literature argues that as senior executives engage in silent competition as to who is more suitable and qualified to be the next CEO, each executive derives great incentive and motivation to show their ability to lead the firm after the current CEO leaves (Kubiack & Masli, 2016; HaB, Muller & Vergauwe, 2015). Senior executives may adopt various strategies that enable them to outperform rival executives and gain an edge in

the race to be the next CEO of the firm. In the process, the competition among the potential CEOs results in improved firm performance.

Other researchers argue that the improvement in firm performance that intense tournament incentives induce may be the result of negative or harmful efforts where managers engage in financial misreporting (Conrads, Irlenbusch, Rilkie, Schielke & Walkowitz, 2014). Harbring and Irlenbusch (2011) argue that improved firm performance may be the result of sabotage on the part of some managers that leads to increases in recorded output, while HaB et al. (2015) find that strong tournament incentives lead to an increased likelihood of fraud. Thus, researchers do not agree on the effects of tournament incentives on firm performance.

Therefore, when auditors are cognizant that strong tournament incentives exist in a firm and the auditors expect that senior executives engage in negative behavior, they assess the audit risk and their business risk as high. The riskiness of the audit is reflected in a longer audit report lag (ARL). However, when the auditors do not suspect that tournament participants engage in the negative effort and harmful behavior, the auditors assess the audit risk as low, and the ARL is shorter. In this study, I investigate the correlation between a tournament incentive and a longer or shorter ARL.

Subsequent sections proceed as follows: In the next section, I discuss the literature that is related to this study and develop the hypothesis. In the following section, I discuss the research design, methodology, and data collection of the

study; while in the next section, I discuss the summary statistics and results of the data analysis. The summary of the findings and the conclusion of the study are discussed in the last section.

## **Background**

**Firm executives and financial reporting.** In this section, I discuss tournament theory, the correlations among tournament incentives and firm performance, managerial misbehavior, audit risk, and audit fees. Further, I explore the impact that executives have on financial reporting and the audit process. The Sarbanes Oxley Act of 2002 requires that CEOs and CFOs certify the internal controls and financial statements before the disclosure of the firm's financial statements. This requirement emphasizes the critical role that the CEOs and CFOs play in the quality of earnings and financial reporting.

The literature contends that top management plays a vital role in the decision-making on operational and financial reporting (Ge, Matsumoto, and Zhang 2011; Schrand and Zechman 2012; Demerjian, Lev, Lewis, and McVay, 2013). Demerjian et al. (2013) use the MA score developed by Demerjian et al. (2012) as a measure of managerial ability to examine the correlation between managerial ability and earnings quality and find that managers influence the decisions on mergers and acquisitions and on research and development.

Schrand and Zechman (2011) provide evidence that explains why firms misstate earnings. They analyze 49 firms subject to the SEC's Accounting and Auditing Enforcement Release (AAER) and find that the AAER shows that 25



percent of the firms in the sample have significant managerial intent to misstate earnings that indicate fraud. They classify the remaining 75 percent as misreporting.

**Tournament theory.** Lazear and Rosen (1981) developed the tournament theory to explain the significant difference between the CEO's compensation and the compensation of executives one level below the CEO (hereafter, VPs) in the firm's hierarchy. The tournament theory argues that firms deliberately create a significant compensation gap between their CEOs and VPs (Lazear & Rosen, 1981). Kale, Reis, and Venkateswaran (2009) show that in a typical rank-order tournament, firms promote the VP who performs best to the office of CEO. The promotion to CEO comes with an immediate increase in compensation. Conyon and Sadler (2001) argue that the rationale of the tournament theory is that low ranking officers expend considerably more effort in increasing productivity in order to be promoted to a higher position where they can enjoy significantly higher compensation.

Lazear and Rosen (1981) comment that:

On the day that a given individual is promoted from vice-president to president, his salary may triple. It is difficult to argue that his skills have tripled in that one day, presenting difficulties for standard theory, where supply factors should keep wages in those two occupations approximately equal. It is not a puzzle, however, when interpreted in the context of a prize. (p. 847)

This comment suggests that VPs see the immediate increase in compensation as a reward for winning the tournament.

The firms intend for the compensation gap between the CEO and the VPs to incentivize the VPs to strive to make more significant effort to improve performance and increase the firm's output. Lazear and Rosen (1981) explain that as the compensation gap increases, the incentives for the VPs to improve their likelihood of winning the tournament increases that then increases productivity.

Shi, Connelly and Sanders (2015) argue that tournament incentives are intended to ignite the competitive ability of managers and force them to make a more significant effort to win the tournament and also to increase firm performance. However, they go on to say that these tournaments can also induce a negative work environment that forces the participants to misbehave.

### **The Literature on Tournament Incentives**

**Tournament incentives and firm performance.** Kale et al. (2009) examine concurrently the effect of promotion-based tournament incentives for VPs and the effect of equity-based incentives for VPs and the CEO on firm performance. They measure the tournament incentive by the compensation differential between the CEO and the VPs and find a positive correlation with firm performance. However, the authors also find a stronger positive correlation when the CEO is near retirement. This correlation shows that the age of the CEO can

determine the strength of the positive correlation between a tournament incentive and firm performance.

A possible reason may be the fact that as the current CEO approaches retirement, the competition for his or her position among the VPs becomes even more intense as all the VPs work hard to get promoted to CEO when the existing CEO exits the firm. Such hard work among the VPs consequently leads to improved firm performance. Kale et al. (2009) also find that the correlation between tournament incentives and firm performance is less positive when the firm appoints a new CEO or when the new CEO is appointed from outside of the firm.

Lee, Lev and Yeo (2008) study whether the dispersions of compensation across managers have any effect on firm performance. They examine 12,197 firm-year observations for 1,855 US firms for the period from 1992 to 2003. They measure performance with Tobin's Q and stock returns. They measure compensation dispersion as the coefficient of the variation in the total pay<sup>3</sup> across the top management team; that is, the ratio of the standard deviation to the mean. Lee et al. (2008) find that the dispersion of management compensation positively correlates with firm performance. They also find an even stronger positive correlation between the management's pay dispersion and firm performance for those firms where the agency cost related to managerial

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<sup>3</sup> Lee, Lev and Yeo (2008) measure the total pay as salary, bonus, granted stock options, long-term incentive pay, restricted stock grants, and other compensation.

discretion is high. Additionally, Lee et al. (2008) find that effective corporate governance also significantly influences the correlation between management's pay dispersion and firm performance. They find a stronger positive correlation when the CEO does not double as the board's chair and when the board is highly independent.

Xu, Liu and Lobo (2016) investigate the correlation between firm performance and the internal pay gap of top management and the compensation level of top management relative to the industry. Xu et al. (2016) use 9,186 firm-level observations for the period from 2005 to 2012 for firms listed in the Chinese stock market for their analysis. They measure the pay gap for top management as the difference between the CEO's pay and that of the other top managers. Xu et al. (2016) find that the pay gap positively correlates with firm performance.

Kato and Long (2011) use a sample of firms listed in the Chinese stock market from 1998 to 2002 to investigate whether promotional tournaments provide incentives to top management in transitional economies. They use a different measure for the tournament incentive by using the average compensation of the top three executives and dividing that by the average of the compensation of all other senior-level executives. They then measure the promotional tournament incentive by taking the natural logarithm of the ratio. They find evidence that a higher tournament incentive results in an improved managerial effort that increases firm performance.

**Tournament incentives and managerial misbehavior.** The tournament theory proposes that tournament incentives may initiate managerial misbehavior to increase the chances of promotion to CEO. The literature provides experimental and empirical studies that support the idea that tournament incentives cause managers to misbehave (Kini & Williams, 2012; Harbring & Islenbusch, 2011; Conrads et al., 2014; HaB et al., 2015; Kubick & Masli, 2016; Park, 2017; Shi, Connelly & Sanders, 2015).

Park (2017) investigates whether pay disparity between the CEO and the next layer of executives causes them to engage in earnings management by manipulating real activities. Park (2017) uses a sample of 12,462 executives for the period from 1994 to 2013 to test the correlation. He uses the total gap that he calculates from total compensation and a short-term gap that he bases on short-term compensation such as salaries and bonuses. He also uses the long-term gap that he bases on the total long-term compensation such as restricted stock, stock options, long-term incentive plans, and other payments. He also excludes former CEOs who are still members of management and measures the pay disparity by taking the natural logarithm of the difference between the CEO's compensation and the median compensation of the top four non-CEO executives' compensation. Park (2017) finds a positive correlation between tournament incentives and real earnings manipulation. He also finds that tournament incentives correlate with low future performance for a firm.

Kini and William (2012) examine the effect of a higher tournament incentive on the risk-taking of senior executives to increase their probability of being promoted to CEO. They use a sample of 19,333 firm-year observations from 1994 to 2009 and measure tournament incentives as the compensation differential between the CEO and the next lower level of senior managers. Kini and William (2012) find that firms with greater tournament incentives also engage in more research and development (R&D) and have higher leverage. However, those firms spend less on capital projects. They conclude that for firms that have higher tournament incentives, the managers have an incentive to increase the firms' risk by engaging in riskier policies. Their findings also indicate that the senior managers engage in short-term risky projects to show increased performance that has the potential to erode shareholders' wealth in the long term.

Shi et al. (2015) study the influence that a tournament incentive, as a proxy for the managerial pay gap, may have on managerial behavior. They examine how the executive pay gap impacts the extent to which managers take deceptive actions that affect investors or stakeholders. Shi et al. (2015) argue that extreme tournament incentives may lead to extreme "negative effort." They define negative effort as employee actions that violate the legitimate interests of shareholders and stakeholders. They explain that these actions may include withholding damaging information about the firm's product or services,

misreporting or false reporting of financial information, or engaging in interorganizational relationships that do not benefit the firm.

Shi et al. (2015) use a sample of 1,929 firms for the period from 1996 to 2012 for their analysis. They measure a tournament incentive as the vertical compensation gap between the CEO's compensation and the average compensation of the firm's top managers. They find that the vertical compensation gap as represented by the tournament incentive positively correlates with securities class action lawsuits.

**Tournament incentive and the audit risk and fees.** Jia (2017) examines the correlation between a tournament incentive and audit fees by using a multivariate regression analysis and a sample of 10,527 firm-year observations from 2000 to 2013. Jia (2017) determines the tournament incentive with three different measures. First, Jia uses the pay gap between the CEO and the median pay of the VPs to determine the tournament incentive. Second, Jia uses the pay differential between the CEO and the CFO, and third, Jia (2017) uses the CEO's pay slice that he calculates as the total CEO compensation scaled by the sum of the total compensation of the top five non-CEO executives in a given year.

Jia (2017) finds a positive correlation between tournament incentives and audit fees. He also finds that the correlation is stronger for firms with large abnormal accruals, for those with poor performance, and for those where the CEO is about to retire. For firms with a recent turnover and for firms that are

family owned, the correlation between tournament incentives and audit fees is lower.

Bryan and Mason (2017) examine the relation between tournament incentives and audit fees. They argue that auditors perceive that tournament incentives increase the risk of material misstatement of the firm's financial information and the litigation risk for the auditor. They use a sample of 8,604 firm-years that constitute 1,432 distinct firms for the period from 2004 to 2014 and measure the extreme tournament incentive in three ways. They measure it as the compensation difference between the CEO's compensation and the mean and median compensation of the top five VPs, and the CFO. They argue that any increase in risk causes the auditors to increase the audit fees. Bryan and Mason (2017) find a positive correlation between the extreme tournament incentive and audit fees. However, they note that whether an insider succeeds the CEO, how old the CEO is, how long the CEO's tenure is, how long the auditor's tenure is, and how much the abnormal accrual is moderates the positive correlation between the extreme tournament incentive and audit fees.

Jia (2018) investigates the effect that tournament incentives have on the stock price's risk of crashing. He represents the tournament incentive with the difference in compensation between the CEO and the median compensation of the VPs. He measures the crash risks as the negative skewness of firm-specific weekly returns. Jia (2018) uses a sample of 25,571 firm-years for the period from 1992 to 2014 to conduct his analysis and finds some impressive results. First,



after controlling for other factors that determine the crash risk, he finds a positive correlation between tournament incentives and crash risks. He provides evidence that his finding is not driven by poor governance but by the tournament incentives. Second, Jia (2018) finds that firms that are under greater external monitoring have a weaker correlation between tournament incentives and crash risks but firms with information opacity show a stronger correlation.

### **Hypothesis Development**

In this study, I investigate the correlation between a tournament incentive and ARL. Kale et al. (2009) find a positive correlation between a tournament incentive and firm performance. This correlation means that *ceteris paribus* tournament incentives ensure positive competition and corroboration while incentivizing VPs to make significantly positive effort to increase production and improve firm performance. When auditors find that the VPs are not engaged in managerial misbehavior, they do not increase their assessed audit risk or business risk, they expect to complete the audit in a shorter time, which results in a shorter ARL.

By contrast, researchers including Shi et al. (2016) argue that greater tournament incentives encourage negative effort whereby the VPs may engage in actions that are detrimental to the legitimate interests of shareholders and stakeholders. Such actions may include withholding information and misreporting or false reporting of financial information. HaB et al. (2015) argue that the performance evaluation associated with a tournament provides

incentives for participants of the tournament to manipulate and to engage in risky activities. Specifically, HaB et al. (2015) find that tournament incentives positively correlate with the probability of engaging in fraudulent behavior.

Thus, when the auditor suspects that the VPs are engaged in greater competition that exudes negative effort and misbehavior, they assess the firm's audit risk as high, their own business risk as high, and the risk of material misstatements in the financial information as high. The assessed high audit risk causes the auditors to perform extended procedures to reduce the likelihood of the audit failing, which is the situation where the auditors issue an opinion that the firm's financial information is not materially misstated when in fact it is. Thus, the audit takes longer to complete that leads to an increase in the ARL.

However, there is a lack of evidence on the effect that the tournament incentive has on the timeliness of financial information and the ARL. Therefore, in this essay, I test the correlation between a greater tournament incentive among senior managers of firms and the length of time it takes the auditor to complete his or her work.

Based on the fact that the auditor's assessment of risk is essentially related to the length of time it takes to complete the audit, and the fact that managerial behavior is a major determinant of audit risk, I expect that a correlation exists between a greater tournament incentive and the ARL. However, since a tournament incentive may generate positive effort and corroboration on the one

hand, and negative effort and greater competition on the other, I am not able to assign a direction to the correlation. Therefore, I hypothesize the following:

*H1: A correlation exists between a greater tournament incentive and the length of the ARL.*

## **Research Design and Methodology**

**Data sources.** The sample for this study comprises publicly traded US companies from 2012 to 2016. The data for this study is available from Wharton Research Data Services (WRDS). The data on compensation for CEOs and VPs come from Execucomp; data for the firms' fundamentals come from Compustat; and the data for audit opinion, fees, and SOX404 control weaknesses come from Audit Analytics.

**Sample construction.** In Table 2.1, I present the selection process for the firms in the final sample. I started the process by obtaining 9,009 firm-years of total compensation data for the CEOs and CFOs from Execucomp data item TDC1. Then I exclude 140 firms-years from the sample for missing information on firm fundamentals in Compustat. I also do not include 1,505 firm-years for missing data on audit opinions. Then I exclude 284 firm-years for missing data on audit fees and 107 firm-years for missing data on SOX404. I exclude 173 firm-years for firms not incorporated in the United States. I deleted 226 firm-years for firms in the utility industry and 1,419 firm-years for firms in the financial services industry. Finally, I excluded 1,800 firms-years that did not have a year-

end of December 31. Therefore, the final sample is 3,355 firm-years for 767 distinct firms. Additionally, I winsorized the ARL at the 1st and 99th percentiles.

In Table 2.2, I report the industry distribution of the firms in the final sample by using portfolios based on the Fama-French 12-industry classifications. The largest industry group is “other” with a total of 711 firm-years and 163 distinct firms that comprises 21.25 percent of the total number of firms. This is followed by the business equipment group with 511 firm-years and 119 distinct firms that comprises 15.51 percent, and then the manufacturing group with a total of 549 firm-years and 118 distinct firms that comprises 15.38 percent of the total number of firms in the sample. The smallest industry group is the telecommunication group with 108 firm-years and 27 distinct firms that comprises 3.52 percent of the total number of firms in the sample.

Table 2.1.  
*Sample Selection Procedure*

Description	Number of Firm-years
Execucomp data for qualified firm	9,009
Less firms with missing Compustat Data	140
Less firms with missing audit opinion data	1,505
Less firms with missing audit fee data	284
Less firms with missing SOX data	107
Less firms not incorporated in the U. S	173
Less firm in Utility	226
Less firm in Financial industry	1,419
Less firm-years with non-December 31 year-end	1,800
Final Sample	3,355

Table 2.2.  
*Industry Distribution using Fama-French 12 Industry Classification Portfolios*

Industry	Number of Firm-years	Number of Firms	Percentage of Firms
Consumer Nondurables - Food, Tobacco, Textiles, Apparel, Leather, Toys	198	43	5.61
Consumer Durables - Cars, TV's, Furniture, Household Appliances	144	30	3.91
Manufacturing - Machinery, Trucks, Planes, Off Furn, Paper, Com Printing	549	118	15.38
Energy - Oil, Gas, and Coal Extraction and Products	267	63	8.21
Chemicals and Allied Products	141	34	4.43
Business Equipment - Computers, Software, and Electronic Equipment	511	119	15.51
Telecommunication - Telephone and Television Transmission	108	27	3.52
Shops - Wholesale, Retail, and Some Services (Laundries, Repair Shop)	302	76	9.92
Healthcare, Medical Equipment, and Drugs	424	94	12.26
Other - Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment	711	163	21.25
Total	3,355	767	100.00

**Research design.** I test the hypothesis for this study by conducting univariate analyses and estimating a regression model. To test hypothesis that an association exists between a greater tournament incentive and the length of the ARL, I specify the variables in my model as follows:

**Dependent variable.** ARLP365 is the dependent variable in the model for testing my hypothesis. Consistent with prior studies, I measure the ARL by the number of days between the fiscal year-end of the firm and the date on which management signed the audit report scaled by 365.

**Independent variable.** The test variable for this study is LCFDIFF, the natural logarithm of the compensation differential between the CEO and the

CFO. Many stakeholders suggest that the CFOs of firms are the most likely candidates to succeed a CEO after he or she leaves the firm. This is especially true because the CFO plays a critical role in financial reporting. Therefore, I measure the tournament incentive by taking the natural logarithm of the difference between the CFO's compensation and the CEO's compensation.

**Control variables.** Following the research on the ARL, I control for the firm's size, inherent risk, material control weakness, return on assets, and leverage. Further, I control for whether the firm engaged in a merger in the current year; was audited by a BIG4 audit firm; was an accelerated filer; was a large accelerated filer; whether the auditor provides non-audit services for the firm; and whether the firm operates in high-tech, high-litigious, or a high-growth industry. I also control for year and industry fixed effects.

Collins et al. (2009) argue that the size of a firm affects its ability to monitor its managers. They find that it positively correlates with managerial monitoring and therefore that effective monitoring results in better information disclosure and a reduction in the risk assessed by the auditor. Therefore, I expect a negative correlation between the size of the firm and the ARL. I measure size by the natural logarithm of the total assets of the firm.

According to audit theory, the inherent risk of a firm is a determinant of audit risk. Newton and Ashton (1989) argue that inventory and receivables are the most challenging balance sheet items to audit that is reflective of high inherent risk. Hays et al. (2006) show that researchers measure inherent risk as

the inventory scaled by total assets or receivables scaled by total assets, or a combination of inventory and receivables scaled by total assets. I use the combination approach to measure inherent risk. Auditors may view firms that have high inherent risk as challenging to audit and they may need to make more effort to complete the audit. Therefore, I expect the inherent risk to have a positive correlation with the ARL.

Ettredge, Li, and Sun (2006) find that firms that have weak internal controls are associated with longer ARLs. I control for this weakness by measuring a binary variable that equals one when the firm has material control weaknesses, and zero otherwise. Weak internal controls mean that auditors take longer to complete the audit because they cannot rely on the internal controls but have to use more substantive tests on the transactions and accounts. Thus, I expect a positive correlation between material control weakness and the ARL.

The firm's profitability is a measure of its risk. Simunic (1980) argues that when the firm is performing poorly, it may expose the auditor to risk. I control for the firm's profitability using its return on assets that I measure by the income before interest and taxes scaled by total assets. A better return on assets means lower risk for auditors that indicates less time for the audit. I expect a negative correlation between the firms' profitability and ARL.

To control for firms' financial risk, I include their leverage that I measure as the ratio of total liabilities to total assets. Defond and Jiambalvo (1994) show that high leveraged firms have a greater incentive to manipulate accruals to enhance

earnings to avoid debt covenants that may be unfavorable to them. Because the manipulation of accruals signals that the firm has misstated the financial statements, auditors may have to make substantial additional effort to audit the firm's financial statements to avoid failure. Consequently, I expect the firm's financial leverage to have a positive correlation with the ARL.

Simunic and Stein (1996) argue that a BIG4 auditor provides quality audits that reduce the incidence of fraud. I control for quality audits by including a binary variable that identifies the type of auditor engaged to the firm. This binary variable equal one when a BIG4 auditor audits the firm, and zero otherwise. BIG4 auditors also have the resources to complete the audit within a shorter time. I expect a negative correlation between the ARL and a BIG4 auditor.

Simunic (1980) submits that complex firms are difficult to audit. Therefore, auditors need more time to complete the audits of such firms. I control for complexity with a binary variable that equals one when the firm engages in a merger in the current year, and zero otherwise. Because acquisitions and mergers make firm's financial statements more complex, I expect that the merger causes auditors to make more effort to complete the audit. This conjecture means that firms that engage in mergers experience longer ARLs.

Following Blankley et al. (2014), I control for the differences in industry. I add three binary variables in the model to represent firms that operate in high-tech industries, high-litigious industries, or high-growth industries. Different industries require different expertise from auditors. Auditors may require more



effort and time to complete audits in litigious industries to reduce the risk of material misstatement and subsequent litigation. Additionally, because high-tech industries are specialized industries, the auditors may require special skills to complete the audits of these firms, which may result in more time. Therefore, I expect that firms that engage in high-tech and high-litigious industries experience longer ARLs.

Firms that operate in high-growth industries and miss analysts' forecasts experience significant penalties from the market (Skinner & Sloan, 2002). McNichols (2000) finds a positive correlation between firm growth and discretionary accruals. These findings indicate that high-growth firms may manage earnings and therefore cause the auditor to make more effort that extends the ARL. However, a high-growth firm could have the resources to monitor their managers and ensure that internal controls are working efficiently as planned. Thus, auditors may not require more time to complete their work, which means a shorter ARL. Considering that high-growth firms may experience longer or shorter ARL, I am not able to assign the direction for the correlation between firms that operate in a high-growth industry and the ARL.

Auditors that provide advisory services to management transfer the knowledge acquired from the advisory of the firm to the audit. This transfer means that the knowledge spillover helps to reduce the time it takes to complete the audit. Similarly, difficult tax issues affect the audits of financial statements. The research posits that the provision of non-audit services influences the ARL

(Hays et al. (2006). Therefore, I control for non-audit services with the natural logarithm of the fees that the client pays the auditor for those services. Due to the conflicting correlation that the provision of advisory and tax services may have with the time it takes to complete an audit, I do not suggest a direction for the correlation.

The SEC reduces the filing deadlines for firms that are accelerated filers and large accelerated filers. This reduction puts pressure on both the firm and the auditors to complete their audits. To control for such exogenous pressures, I include two binary variables in the model. First, I include a binary variable that equals one when the firm is an accelerated filer in the current year, and zero otherwise. Second, I include a binary variable that equals one when the firm is a large accelerated filer in the current year, and zero otherwise. Because the external pressure from the regulatory bodies forces the audit to be completed more quickly, I expect that the correlation between accelerated filers and the ARL to be negative. I also expect the correlation between the large accelerated filers and the ARL to be negative.

**Regression Model.** I test my hypothesis by using a regression model that modifies that used by Krishnan and Yang (2009):

$$\begin{aligned} \text{ARLP365}_{it} = & \alpha_0 + \alpha_1 \text{LCFDIFF}_{it} + \alpha_2 \text{IRISKIR}_{it} + \alpha_3 \text{MCW}_{it} + \alpha_4 \text{ROA}_{it} + \\ & \alpha_5 \text{LEV}_{it} + \alpha_6 \text{ACQ}_{it} + \alpha_7 \text{ACF}_{it} + \alpha_8 \text{LACF}_{it} + \alpha_9 \text{BIG4}_{it} + \alpha_{10} \text{HITECH}_{it} + \\ & \alpha_{11} \text{HILIT}_{it} + \alpha_{12} \text{HIGROTH}_{it} + \alpha_{13} \text{LNAUDFEE}_{it} + \text{FF12} + \text{YR} + \varepsilon \dots 1 \end{aligned}$$

Where:

$ARLP365_{it}$  = the ARL scaled by 365 days of firm  $i$  in year  $t$ .

$LCFDIFF_{it}$  = the natural logarithm of the difference between the CEO's compensation and the CFO's compensation of firm  $i$  in year  $t$ .

$IRISKIR_{it}$  = the inherent risk of firm  $i$  in year  $t$ .

$MCW_{it}$  = a binary variable that equals one if firm  $i$  has material control weaknesses in year  $t$ , and zero otherwise.

$ROA_{it}$  = the return of assets of firm  $i$  in year  $t$ .

$LEV_{it}$  = the leverage of firm  $i$  in year  $t$ .

$BIG4_{it}$  = a binary variable that equals one if firm  $i$  is audited by a BIG4 audit firm in year  $t$ , and zero otherwise.

$ACQ_{it}$  = a binary variable that equals one if firm  $i$  engages in mergers in year  $t$ , and zero otherwise.

$ACF_{it}$  = a binary variable that equals one if firm  $i$  is an accelerated filer in year  $t$ , and zero otherwise.

$LACF_{it}$  = a binary variable that equals one if firm  $i$  is a large accelerated filer in year  $t$ , and zero otherwise.

$HITECH_{it}$  = a binary variable that equals one if firm  $i$  is operates in a high-tech industry in year  $t$ , and zero otherwise.

$HILITIG_{it}$  = a binary variable that equals one if firm  $i$  is operates in high-litigious industry in year  $t$ , and zero otherwise.

HIGROTH<sub>it</sub> = a binary variable that equals one if firm *i* operates in a high-growth industry in year *t*, and zero otherwise.

NAUDFEE<sub>it</sub> = to the fees paid by firm *i* in year *t* for nonaudit fees.

## **Empirical Results and Discussion**

In this section, I present the summary statistics, correlation analysis, and the regression results. I also use the variance inflation factor (VIF) to test for multicollinearity, and the largest VIF is 5.22, which indicates that no multicollinearity concerns exist.

**Summary statistics.** In Table 2.3, I report the summary statistics of the sample used to test the hypothesis. The mean ARL is 56 days and is consistent with that reported by Tanyi et al. (2010). The mean difference between the CEO's compensation and the CFO's compensation is 4601.84. I find that on average, 99 percent of the firms in the sample are accelerated filers, while 85 percent are large accelerated filers. This is important because the SEC has different guidelines for the filing dates of accelerated filers and large accelerated filers. BIG4 firms audited 91 percent of the firms, while 52 percent engaged in mergers. I also find that 28, 41, and 27 percent of the firms come from high-tech, high-litigious, and high-growth industries respectively. An average of 3.5 percent of the firms reported material control weaknesses while the average firm performance of the firms in my sample is 8.3 percent.

**Pearson's correlation analyses.** In Table 2.4, I present the Pearson's correlation coefficients for the variables that I use to examine the correlation

between a tournament incentive and the ARL. Pearson's correlation matrix shows a significantly negative correlation between a greater tournament incentive and ARL.

Table 2.3.  
*Summary Statistics*

Variable	Mean	Std. Dev	Minimum	Q1	Median	Q3	Maximum
ARL	56.0212	9.2142	32.0000	51.0000	57.0000	60.0000	82.0000
ARLP365	0.1545	0.0336	0.0575	0.1397	0.1562	0.1644	0.8411
DIFF	4601.840	5169.2	0.7810	1612.300	3246.140	6004.110	118333.26
LCDIFF	0	800	0	0	0	0	00
LCDIFF	3.4506	0.4867	-0.1073	3.2074	3.5114	3.7784	5.0731
IRISKIR	1.0906	0.8134	0.0012	0.5668	0.8969	1.4142	9.6203
MCW	0.0352	0.1842	0.0000	0.0000	0.0000	0.0000	1.0000
ROA	0.0834	0.1478	-3.1439	0.0524	0.0883	0.1310	1.2468
LEV	0.5741	0.2817	0.0326	0.4123	0.5561	0.6975	3.7928
ACQ	0.5198	0.4997	0.0000	0.0000	1.0000	1.0000	1.0000
ACF	0.9863	0.1163	0.0000	1.0000	1.0000	1.0000	1.0000
LACF	0.8453	0.3617	0.0000	1.0000	1.0000	1.0000	1.0000
BIG4	0.9073	0.2901	0.0000	1.0000	1.0000	1.0000	1.0000
HITECH	0.2778	0.4480	0.0000	0.0000	0.0000	1.0000	1.0000
HILIT	0.4116	0.4922	0.0000	0.0000	0.0000	1.0000	1.0000
HIGROTH	0.2724	0.4453	0.0000	0.0000	0.0000	1.0000	1.0000
LNAUDFE	5.4856	0.7897	3.0000	4.9999	5.5331	6.0390	7.8306

Note: n=3355. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. ARL is the number of days from the firm's fiscal year-end to the date the audit report is signed. For the definitions of variables, please see the Appendix.

Table 2.4.  
Summary Statistics

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
(1)ARLP365	1													
(2)LCDIFF	0.34** *	1												
(3)IRISKIR	0.02	- 0.15***	1											
(4)MCW	0.27** *	- 0.05***	-0.02	1										
(5)ROA	0.16** *	0.10***	0.22***	- 0.06***	1									
(6)LEV	0.12** *	0.27***	0.05***	0.03	-0.02	1								
(7)ACQ	-0.04**	0.12***	-0.03*	0.02	0.07** *	-0.01	1							
(8)ACF	- 0.11** *	0.17***	0.01	-0.01	0.18** *	0.02	0.09** *	1						
(9)LACF	- 0.33** *	0.41***	-0.04**	- 0.09***	0.21** *	0.11***	0.17** *	0.28***	1					
(10)BIG4	- 0.22** *	0.29***	-0.04**	- 0.08***	0.06** *	0.20***	0.08** *	0.13***	0.29***	1				
(11)HITECH	0.06** *	- 0.08***	- 0.18***	0.04**	- 0.04**	- 0.20***	-0.01	-0.40**	- 0.06***	- 0.08***	1			
(12)HILIT	0.04**	-0.04**	- 0.22***	0.02	0.00	- 0.18***	0.06** *	- 0.05***	- 0.05***	-0.03*	0.61** *	1		
(13)HIGROTH	-0.02	0.02	- 0.11***	0.02	0.05** *	0.06***	0.11** *	-0.04**	0.05***	0.03**	-0.01	0.30** *	1	
(14)LNAUDFEE	- 0.16** *	0.43***	- 0.13***	-0.01	0.11** *	0.24***	0.17** *	0.09***	0.27***	0.26***	0	0.05** *	0.05** 5***	1

Note. n=3355. \*\*\* Represents significance at the 1 percent level. \*\* Represents significance at the 5 percent level. \* Represents significance at the 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

**Regression results.** I present the results of estimating the regression model in Table 2.5. The overall model is significant with an F-value equal to 40.87 and a p-value of less than 0.0001, and the adjusted R-squared is 23.61 percent. I find that the coefficient of the independent variable LCFDIFF is negative ( $\alpha = -0.01517$ ) and significant at the 1 percent level.

I interpret the results of this test to mean that firms with greater tournament incentives experience shorter ARLs. This interpretation is consistent with the tournament theory's argument that tournaments create incentives among the VPs and causes them to increase their effort and output that then results in increases in firm performance. This theory is based on the assumption that the VPs do not engage in misbehavior that forces the auditors to assess the firm's audit risk and their own business risk as high. Therefore, the incentive for VPs to expend greater positive effort leads to the auditors needing less time to complete the firm's audit. Consistent with my expectations, the results of the study show positive and significant coefficients for MCW and ACQ. The results also indicate negative and significant coefficients for ROA, LACF, and BIG4.

Although I control for the firm's size in my model, I perform another test by measuring tournament incentive differently. I measure tournament incentive now by dividing the CEO's compensation by the sum of that compensation and the CFO's compensation (CEOPTL). By doing so, I alleviate any concerns that the results for the correlation between a tournament incentive and the ARL are driven by the firm's size. I test the hypothesis by using model 2:

$$\begin{aligned} \text{ARLP365}_{it} = & \alpha_0 + \alpha_1 \text{CEOPTL}_{it} + \alpha_2 \text{IRISKIR}_{it} + \alpha_3 \text{MCW}_{it} + \alpha_4 \text{ROA}_{it} + \alpha_5 \text{LEV}_{it} \\ & + \alpha_6 \text{ACQ}_{it} + \alpha_7 \text{ACF}_{it} + \alpha_8 \text{LACF}_{it} + \alpha_9 \text{BIG4}_{it} + \alpha_{10} \text{HITECH}_{it} + \\ & \alpha_{11} \text{HILIT}_{it} + \alpha_{12} \text{HIGROTH}_{it} + \alpha_{13} \text{LNAUDFEE}_{it} + \text{FF12} + \text{YR} + \varepsilon \dots 2 \end{aligned}$$

Where:

$\text{CEOPTL}_{it}$  = the ratio of the CEO's compensation to the sum of that compensation and the CFO's compensation of firm  $i$  in year  $t$ .

The dependent variable and all the control variables remain as specified in model 1.

In Table 2.6, I present the results of model 2. I find that the overall model is significant with an F-value of 34.96 and a p-value of less than 0.0001, and the adjusted R squared is 20.84 percent. I find that the coefficient for the independent variable CEOPTL is negative ( $\alpha = -0.02714$ ) and significant at the 1 percent level. Consistent with the results obtained from model 1, I find that firms with greater tournament incentives experience shorter ARLs.

**Additional tests.** In this section, I present the results of the test in Table 2.7 that I conducted to ensure the robustness of my findings. In this test, I first determine the median compensation of the top five VPs and then calculate the difference between that and the CEO's compensation to obtain the tournament incentive. I label this difference the CMIDIF and take the natural logarithm to create my independent variable LCMIDIF. Then I regress LCMIDIF on the ARL using model 3:



$$\begin{aligned} \text{ARLP365}_{it} = & \alpha_0 + \alpha_1 \text{LCMIDIF}_{it} + \alpha_2 \text{IRISKIR}_{it} + \alpha_3 \text{MCW}_{it} + \alpha_4 \text{ROA}_{it} + \alpha_5 \text{LEV}_{it} \\ & + \alpha_6 \text{ACQ}_{it} + \alpha_7 \text{ACF}_{it} + \alpha_8 \text{LACF}_{it} + \alpha_9 \text{BIG4}_{it} + \alpha_{10} \text{HITECH}_{it} + \\ & \alpha_{11} \text{HILIT}_{it} + \alpha_{12} \text{HIGROTH}_{it} + \alpha_{13} \text{LNAUDFEE}_{it} + \text{FF12} + \text{YR} + \varepsilon \dots 3 \end{aligned}$$

Where:

$\text{LCMIDIF}_{it}$  = the difference between the CEO's compensation and the median compensation of the top five VPs of firm  $i$  in the year  $t$ .

The dependent variable and all the control variables remain as specified in model 1.

Similarly, I determine the mean compensation of the top five VPs, and then I calculate the difference between the CEO's compensation and the average compensation of the top five VPs to obtain the tournament incentive. I label this difference the CMEDIF and take the natural logarithm to create my independent variable LCMEDIF. Then I regress LCMEDIF on the ARL using the model 4:

$$\begin{aligned} \text{ARLP365}_{it} = & \alpha_0 + \alpha_1 \text{LCMEDIF}_{it} + \alpha_2 \text{IRISKIR}_{it} + \alpha_3 \text{MCW}_{it} + \alpha_4 \text{ROA}_{it} + \\ & \alpha_5 \text{LEV}_{it} + \alpha_6 \text{ACQ}_{it} + \alpha_7 \text{ACF}_{it} + \alpha_8 \text{LACF}_{it} + \alpha_9 \text{BIG4}_{it} + \alpha_{10} \text{HITECH}_{it} + \\ & \alpha_{11} \text{HILIT}_{it} + \alpha_{12} \text{HIGROTH}_{it} + \alpha_{13} \text{LNAUDFEE}_{it} + \text{FF12} + \text{YR} + \varepsilon \dots 4. \end{aligned}$$

Where:

$\text{LCMEDIF}_{it}$  = the difference between the CEO's compensation and the mean compensation of the top five VPs of firm  $i$  in the year  $t$ .

The dependent variable and all the control variables remain as specified in model 1.

I present the result of model 4 in Table 2.8. The results from models 3 and 4 show a negative correlation between the test variables LCMEDIF and LCMEDIF and the ARL at the 1 percent level of significance. These results are consistent with those obtained from using models 1 and 2, and they accentuate my finding that greater tournament incentives are negatively correlated with the ARL.

Table 2.5.  
*Results of Regression of LCFDIFF on ARL*

Independent Variables	Pred. Sign	Estimated Coefficients	t-Value
Intercept	?	0.22143***	35.08
LCFDIFF	?	-0.01517***	-11.74
IRISKIR	?	0.00050847	0.67
MCW	+	0.04329***	15.51
ROA	-	-0.02042***	-5.41
LEV	+	-0.0019	-0.94
ACQ	+	0.00205*	1.92
ACF	-	-0.00071165	-0.15
LACF	-	-0.0166***	-10.06
BIG4	-	-0.00936***	-4.88
HITECH	+	-0.00004183	-0.02
HILIT	+	0.00277	1.58
HIGROTH	?	-0.0005044	-0.34
LNAUDFEE	?	0.00057092	0.76

Note. n=3355. Adjusted R-squared=0.2361. F(p-value) =40.87(<.0001). Year fixed effect=yes. Industry fixed effect=yes. Model=  $ARLP365 = \alpha_0 + \alpha_1LCFDIFF + \alpha_2IRISKIR + \alpha_3MCW + \alpha_4ROA + \alpha_5LEV + \alpha_6ACQ + \alpha_7ACF + \alpha_8LACF + \alpha_9BIG4 + \alpha_{10}HITECH + \alpha_{11}HILIT + \alpha_{12}HIGROTH + \alpha_{13}LNAUDFEE + FF12 + INDFE + \epsilon$ . \*\*\* Represents significance at the 1 percent level. \*\*Represents significance at the 5 percent level. \* Represents significance at the 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

Table 2.6.  
Results of Regression of CEOTL on ARL

Independent Variables	Pred. Sign	Estimated Coefficients	t-Value
Intercept	?	0.21092***	28.91
CEOTL	?	-0.02714***	-4.07
IRISKIR	?	0.00136*	1.79
MCW	+	0.04413***	15.54
ROA	-	-0.02257***	-5.88
LEV	+	-0.00519**	-2.56
ACQ	+	0.00164	1.51
ACF	-	-0.0026	-0.55
LACF	-	-0.02126***	-13.1
BIG4	-	-0.0115***	-5.92
HITECH	+	0.00053857	0.2
HILIT	+	0.00231	1.29
HIGROTH	?	-0.00029393	-0.19
LNAUDFEE	?	-0.00185**	-2.51

Note. N=3355. Adjusted R-squared=0.2084. F(p-value) =34.96(<.0001). Year fixed effect=yes. Industry fixed effect =yes. Model= ARLP365 =  $\alpha_0 + \alpha_1$ CEOTL +  $\alpha_2$ IRISKIR +  $\alpha_3$ MCW +  $\alpha_4$ ROA +  $\alpha_5$ LEV +  $\alpha_6$ ACQ +  $\alpha_7$ ACF +  $\alpha_8$ LACF +  $\alpha_9$ BIG4 +  $\alpha_{10}$ HITECH +  $\alpha_{11}$ HILIT +  $\alpha_{12}$ HIGROTH +  $\alpha_{13}$ LNAUDFEE + FF12 + INDFE +  $\epsilon$ . \*\*\* Represents significance at the 1 percent level. \*\*Represents significance at the 5 percent level. \* Represents significance at the 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

Table 2.7.  
Results of regression of LCMEDIF on ARL

Independent Variables	Pred. Sign	Estimated Coefficient	t-Value
Intercept	?	0.21607***	28.71
LCMEDIF	?	-0.01288***	-7.11
IRISKIR	?	0.00574	1.35
MCW	+	0.02277***	7.57
ROA	-	-0.01129**	-2.55
LEV	+	0.00495**	2.16
ACQ	+	0.00319***	2.64
ACF	-	0.00565	1.11
LACF	-	-0.01748***	-9.35
BIG4	-	-0.01049***	-4.18
HITECH	+	0.00145	0.55
HILIT	+	-0.00028814	-0.14
HIGROTH	?	-0.00105	-0.63
LNAUDFEE	?	-0.00181**	-2.07

Note: n=1258. Adjusted R-squared = 0.2700. F(p-value) = 18.88(<.0001). Year fixed effect = yes. Industry fixed effect = yes. Model= ARLP365 =  $\alpha_0 + \alpha_1$ LCMEDIF +  $\alpha_2$ IRISKIR +  $\alpha_3$ MCW +  $\alpha_4$ ROA +  $\alpha_5$ LEV +  $\alpha_6$ ACQ +  $\alpha_7$ ACF +  $\alpha_8$ LACF +  $\alpha_9$ BIG4 +  $\alpha_{10}$ HITECH +  $\alpha_{11}$ HILIT +  $\alpha_{12}$ HIGROWTH +  $\alpha_{13}$ LNAUDFEE+ FF12 + YR +  $\epsilon$ . \*\*\*Represents significance at 1 percent level. \*\* Represents significance at 5 percent level. \* Represents significance at 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

Table 2.8.  
*Results of regression of LCMIDIF on ARL*

Independent Variables	Pred. Sign	Estimated Coefficient	t-Value
Intercept	?	0.21534***	28.79
LCMIDIF	?	-0.01269***	-7.09
IRISKIR	?	0.00581	1.36
MCW	+	0.02276***	7.57
ROA	-	-0.01137**	-2.57
LEV	+	0.00494**	2.15
ACQ	+	0.00318***	2.63
ACF	-	0.00576	1.14
LACF	-	-0.0176***	-9.42
BIG4	-	-0.01039***	-4.14
HITECH	+	0.0014	0.53
HILIT	+	-0.00027891	-0.13
HIGROTH	?	-0.00109	-0.66
LNAUDFEE	?	-0.00179**	-2.04

Note: n=1258. Adjusted R-squared = 0.2699. F(p-value) = 18.87(<.0001). Year fixed effect = yes. Industry fixed effect = yes. Model=  $ARLP365 = \alpha_0 + \alpha_1 LCMIDIF + \alpha_2 IRISKIR + \alpha_3 MCW + \alpha_4 ROA + \alpha_5 LEV + \alpha_6 ACQ + \alpha_7 ACF + \alpha_8 LACF + \alpha_9 BIG4 + \alpha_{10} HITECH + \alpha_{11} HILIT + \alpha_{12} HIGROTH + \alpha_{13} LNAUDFEE + FF12 + YR + \epsilon$ . \*\*\*Represents significance at 1 percent level. \*\* Represents significance at 5 percent level. \* Represents significance at 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

## Conclusion

In this study, I examine whether tournament incentives have a correlation with the ARL. I use a sample of 3,355 firms-years for 767 distinct firms and four different measures of tournament incentives and find a negative correlation between tournament incentives and the ARL while controlling for other factors that influence the ARL. The results of my study are very robust because I measure the tournament incentive in four different ways and obtain similar results.

I argue that there is a correlation between the tournament incentive and the ARL. However, because researchers do not agree on the cause of the

correlation between tournament incentives and firm performance, I hypothesize that a correlation exists between tournament incentives and the ARL, but I am not able to assign a direction for my hypothesis. The results from the study show a significantly negative correlation between tournament incentives and the ARL.

## CHAPTER 3: ARL AND MANAGERIAL ENTRENCHMENT

### Motivation

Knechel and Payne (2001) argue that audited financial information loses value when the ARL increases. The authors assert that stakeholders that base their decisions on audited financial information may resort to other sources of information to enable them to make timely decisions. Consistent with the literature, the authors indicate that unexpected delays in the release of audited financial information is usually associated with lower quality information that may not be beneficial to stakeholders.

The research shows that ARL determines the timeliness of financial information (Abbott et al., 2012; Abernathy et al., 2017). Abernathy et al. (2017) provides a synthesis of studies on the determinants of ARL for US and International audits and asserts that most researchers view ARL as the most critical determinant of the timeliness of financial information. Abbott et al. (2012) argue that most stakeholders view ARL as the most important determinant of the timeliness of financial reporting. Leventis et al. (2005) assert that the timeliness of financial reporting increases investors' confidence in investment decision-making. Knechel and Sharma (2012) argue that the most critical determinant of timely financial reporting is the length of the annual audit. Thus, the timely disclosure of financial statements undoubtedly helps in the valuation of firms and significantly attenuates the information asymmetry between firms and stakeholders. Much of the research on the market's reaction to the timing of

SEC filings indicates that the market responds negatively to late SEC filings (Bartov et al., 2011; Li & Ramesh, 2009; Alford et al., 1994).

Researchers document that anti-takeover provisions entrench management. However, the effect of managerial entrenchment on firm performance and the quality of financial reporting is based on two competing theories. These theories are the mitigating theory and the exacerbating theory. These competing theories lead researchers to arrive at mixed findings on the impact that managerial entrenchment has on firms' performance, value, and quality of financial reporting. Berger, Ofek, and Yermack (1997, p. 1411) define managerial entrenchment as "the extent to which managers fail to experience discipline from the full range of corporate governance and control mechanisms, including monitoring by the board, the threat of dismissal or takeover, and stock- or compensation-based performance incentives."

Therefore, as argued by the exacerbating theory, if entrenchment causes management to manipulate earnings more, there is the likelihood that auditors will take a longer time to complete their audits. Contrarily, consistent with the mitigating theory, if entrenchment does not lead to significant earnings management, then external auditors may complete their audits within a shorter time. In this essay, I examine the association between ARL and managerial entrenchment. My proxy for managerial entrenchment is EINDEX. Also, I examine the association between ARL the provisions of the EINDEX.

In the next section, I discuss the the background of the EINDEX, corporate governance indices and how these indices relate to firm performance, managerial entrenchment and shareholders interest. I also discuss firms' audit risk and auditors, business risks.

## **Background**

In this section, I discuss the research on anti-takeover provisions of corporate governance. Specifically, I review the historical perspective of anti-takeover provisions, corporate governance indices, and firm performance. I then examine the relationship among anti-takeover provisions, managerial entrenchment, and shareholder interest.

**Historical perspectives of anti-takeover provisions.** The literature shows that the conglomerate movement of the 1960s introduced corporate takeovers through tender offers to replace the existing negotiated merger approach (Weston, Mitchell, & Mulherin, 2004). Weston et al. (2004) explain that tender offers allow acquiring firms to make their offers directly to the shareholders of the firm. Thus, the management of targeted firms is not involved in the takeover negotiations. Weston et al. (2004) claim that some tender offers are hostile because managers of the target firms disagree with the takeover. Comment and Schwert (1995) assert that hostile takeovers significantly increased during the 1980s. Firms added various anti-takeover provisions to their charters especially during the latter part of the 1980s to insulate themselves from takeovers (Comment & Schwert, 1995; Danielson & Karpoff, 1998).



Straska and Waller (2014) explain anti-takeover provisions as structures at both the state and firm levels that are designed to attenuate shareholder rights and enhance managerial power during corporate takeovers. Straska and Waller (2014) explain that firms might adopt different types of anti-takeover provisions. However, these provisions have common themes or purposes. They are intended to enhance the managerial ability to thwart takeover efforts or reduce the impact on management when takeover efforts are successful.

**Corporate governance indices and firm performance.** Many researchers have created indices as proxies for corporate governance mechanisms. Using 24 different corporate governance provisions, Gompers et al. (2003) establish the Governance Index (GINDEX) to represent the relationship between shareholders and management. A lower G indicates stronger shareholder rights and lower managerial power, while a higher G indicates higher managerial power and weaker shareholder rights. Gompers et al. (2003) find that firms with a high G experience lower net profits and sales growth and make more capital expenditures and corporate acquisitions. The authors also find that high G firms have high agency costs. By contrast, Gompers et al. (2003) find that low G firms experience low agency costs and increase shareholder wealth. Furthermore, they state that their study does not provide any evidence to suggest that the GINDEX entrenches management. Also, the GINDEX does not identify which anti-takeover provisions drive the relationship between corporate governance and firm values.

Bebchuk and Cohen (2005) examine the influence that provisions that protect management have on the value of publicly traded firms. Using data from the Investor Responsibility Research Center (IRRC) for the period from 1995 to 2002, the authors investigate the correlation between staggered boards and firm value. They find that a staggered board is associated with lower firm values. Additionally, Bebchuk and Cohen (2005) find that a small number of governance provisions drive the association between corporate governance and firm value.

Using 1,868 firms based on 51 corporate governance provisions, Brown and Caylor (2006) created the Gov-Score as a proxy to examine the association between governance and firm values. They find that Gov-Score is positively associated with firm values. They also find that out of the 51 corporate governance mechanism only seven<sup>4</sup> drive the association between corporate governance mechanisms and firm values. Consistent with the finding of Bebchuk and Cohen (2005), Brown and Caylor (2006) find that only a small number of corporate governance provisions are related to firm values.

Bebchuk et al. (2009) examine the relationship between the 24 corporate governance provisions that Gompers et al. (2003) use to create the GINDEX and

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<sup>4</sup> Brown and Caylor (2006) identify 7 out of 51 governance provisions that drive the relationship between corporate governance and firm values. These seven provisions are (1) the annual election of board members; (2) the firm either has no poison pills or one approved by the shareholders; (3) within the last three years, options repricing did not occur; (4) average options granted in the past three years as a percentage of basic shares outstanding did not exceed 3%; (5) all directors attended at least 75% of board meetings or had a valid excuse for non-attendance; (6) board guidelines are published in each proxy statement, and (7) directors are subject to stock ownership guidelines.

firm values. They find no evidence that 18 of the 24 provisions are either individually or in aggregate negatively correlated with Tobin's Q. However, Bebchuk et al. (2009) find that six of the provisions described as entrenchment provisions drive the association between corporate governance and firm values. They find that the entrenchment provisions are negatively associated with Tobin's Q.

Bebchuk et al. (2009) construct the EINDEX by using the following entrenchment provisions: the staggered board, limits to amend bylaws, limits to amend charter, supermajority requirements for mergers, golden parachutes, and poison pills. Of these six entrenchment provisions, they assert that staggered boards, limits to charter amendments, limits to shareholder amendments of bylaws, and a supermajority requirement for mergers curtail shareholders' power by imposing constitutional limits on their voting powers, thus limiting the shareholders' ability to enforce their will on management. To insulate themselves from job and financial losses managers use poison pills and golden parachutes to discourage takeovers. Considering that the GINDEX does not provide any evidence that it entrenches management and also does not identify which anti-takeover provisions drive the relationship between corporate governance and firm values, I examine the relationship between anti-takeover provisions and ARL by using the EINDEX as a proxy for the anti-takeover provisions.

Staggered boards are designed such that members of the board are elected to staggered terms. With these boards, the board members are put into groups (mostly three groups) in a manner that allows members to serve overlapping multiyear terms. Therefore, with this board grouping, a third of the board members are elected, and each board member is voted on every three years (Faleye 2007). The importance of the staggered board is to ensure that any acquirer of a firm that has the staggered board provision will have to wait for at least two years to gain control of the boards. Thus, staggered boards serve as a deterrent to potential acquirers.

Golden parachutes essentially require the payment of significant compensation that does not require shareholder approval to top executives when a takeover is successful (Gompers et al., 2003; Straska & Waller, 2014). This prohibitive compensation that the acquirer must pay to top management increases the cost of the acquisition and discourages a takeover.

Poison pills are exclusive rights that allow a common stockholder to purchase more shares of the target firm at a significant discount. Thus, poison pills make the target firm less attractive to the acquirer and make takeovers not supported by the boards extremely difficult, especially since poison pills do not need shareholder approval.

The supermajority provisions require that the supermajority of shareholders approve amendments for the corporate bylaws, the corporate

charter, and mergers. The supermajority provisions inhibit the ability of shareholders to cause the removal of previously accepted provisions.

***Anti-takeover provisions, managerial entrenchment, and shareholder interest.*** Many researchers find that the adoption of anti-takeover provisions by firms results in the entrenchment of managers (Al Dah, Michael, & Dixon, 2017; Chakraborty, Rzakhanov, & Sheikh, 2014; Gompers et al., 2003; Straska & Waller, 2014). Bebchuk et al. (2009) argue that the adoption of anti-takeover provisions insulates managers from the threat of takeover, which fortifies managements' power and attenuates shareholder rights. Thus, the adoption of anti-takeover provisions entrenches managers.

Although many researchers agree with this finding, there is no consensus among researchers on the effect of managerial entrenchment on firms' performance, value, earnings quality, managerial myopia, and earnings management among other variables of interest to shareholders. Two theories emerge from this lack of consensus. These theories are the mitigating theory and the exacerbation theory.

The mitigating theory contends that managerial entrenchment provides managers with the incentives to invest in long-term and risky high-yield investment projects without the fear of reprisals from the shareholders. Thus, the mitigating theory argues that managerial entrenchment significantly attenuates the pressure on managers to achieve short-term goals. Therefore, management will have no incentive to misbehave by doing whatever it takes to meet analysts'

projections and stakeholders' short-term expectations. The mitigating theory posits that managerial entrenchment attenuates managerial myopia, mitigates agency cost, and enhances shareholder wealth (Armstrong et al., 2012; Bhojraj, Sengupta, & Zhang, 2017; Chemmanur et al., 2011; Chemmanur & Tian, 2018; DeAngelo & Rice, 1983; Di Meo, Lara, & Surroca, 2017; Ge & Kim, 2014; Stein, 1988; Zhao & Chen, 2009; Zhao, Chen, & Yao, 2009; Zhao, Chen, Zhang, & Davis, 2012).

The exacerbation theory argues that managerial entrenchment is antagonistic to shareholders' interests. This theory contends that when anti-takeover provisions entrench managers, they strengthen the management position and provide them with incentives to misbehave. An unintended consequence of implementing anti-takeover provisions is the weakening of the monitoring performed by the board of directors. The weak oversight by the board and the dramatic reduction in the threat of takeover encourage management to misbehave by facilitating managerial myopia, exacerbating agency cost, and eroding firm values. (Bebchuk & Cohen, 2005; Bebchuk et al., 2008; Chakraborty et al., 2014; Faleye, 2007; Gompers et al., 2003; Masulis, Wang, & Xie, 2007, 2009; Souther, 2016).

Bebchuk and Cohen (2005) posit that the staggered board provides significant protection against takeovers. Using data obtained from IRRC from 1995-2000, Bebchuk and Cohen (2005) find that firms that have staggered boards are associated with lower firm values. Cremers and Nair (2005) posit that

managerial entrenchment ensures that managers are protected against hostile takeovers and causes firms to experience a reduction in their values. Faleye (2007) uses CEO turnover, executive compensation, proxy contests, and shareholder proposals to investigate how staggered boards entrench management. Faleye (2007) finds that the probability of staggered boards being able to dismiss CEOs is very low. Faleye (2007) also finds that the likelihood of staggered boards being able to implement shareholder-initiated proposals is low.

Other researchers argue that staggered boards have a lower probability of causing a reduction in firm values. Rose (2009) empirically finds that for firms that are not under takeover threat, staggered boards do not negatively affect firm values. Consistent with the bonding hypothesis, staggered boards ensure that managers engage in projects that are beneficial to shareholders, and entrenched managers are obligated to engage in strategic investment, thus providing indications that staggered boards associate positively with Tobin's Q, an indicator of firm value.

Many researchers examine the association between anti-takeover provisions and earnings management (Bhojraj et al., 2017; Di Meo et al., 2017; Ge & Kim, 2014; Zhao et al., 2009, 2012). Examining the effect of managerial entrenchment on earnings management, Di Meo et al. (2017) argue that managerial entrenchment attenuates managerial myopia and reduces the potential for managing earnings to meet short-term financial goals. Di Meo et al. (2017) find a negative association between managerial entrenchment and both

accruals and real earnings management. Zhao et al. (2012) examine the impact of takeover provisions and real earnings management by using staggered boards as a proxy for enhanced takeover provisions. They contend that managers of firms that have adopted takeover provisions experience less pressure to manage earnings. Further, they find a negative association between highly protected firms and earnings management intended to meet a short-term earnings target.

Bhojraj et al. (2017) use propensity score matching to perform a cross-sectional analysis that compares the Tobin's Q of protected innovative firms to those of unprotected innovative firms. They find that protected firms show less vulnerability to short-term pressures and have a low probability of managing earnings to meet or beat analysts' expectations. Zhao et al. (2009) use staggered boards as a proxy for superior takeover protection to explore the relationship between staggered boards and earnings manipulations. The authors explain that staggered boards weaken the threats of potential takeovers and diminish pressure on managers to overstate earnings. They also find that firms that adopt staggered boards have a low probability of overstating earnings.

Bowen, Rajgopal, and Venkatachalam (2008) find that firms that experience reductions in takeover threats engage in higher discretionary accrual practices. Baber, Kang, Liang, and Zhu (2015) document that when firms observe a decrease in takeover threats, they engage in financial statement misreporting. Hwang and Lee (2012) use data obtained from IRRC for the period from 1990 to 2006 to study the influence of takeover defenses on earnings



informativeness. They find that firms that have enhanced anti-takeover provisions record lower earnings response coefficients. They argue that entrenchment improves the probability of management expropriating shareholder wealth and managing earnings to reduce the chances of detection of such expropriations to avoid the consequences thereof. Based on this premise, Hwang and Lee (2012) express doubt on the stream of research that shows that anti-takeover provisions cause management to be less likely to engage in earnings management.

Sul (2018) use staggered boards as a proxy for takeover provisions to explore the influence of the enhanced sensitivity of CEO turnovers to performance on financial reporting choices. Sul (2018) finds that laws that encourage takeover activities result in abnormally high accruals, smaller positive earnings, and poor quality in accruals. Other researchers have a stronger view of anti-takeover provisions. McGurn (2002) and Manne (2002) argue that anti-takeover provisions encourage managerial misbehavior and even fraud and should not be encouraged. Armstrong et al. (2012) explore the association between corporate governance and the information environment of firms and find that managerial entrenchment restricts information asymmetry that enhances the quality of financial reporting, while Ferreira and Laux (2007) document that managerial entrenchment diminishes unsystematic risks.

***ARL, client audit risk, and auditors' business risk.*** In this section, I discuss the firms' audit risk and the auditors' business risk and their relationship

with ARL. The American Accounting Association defines auditing as “a systematic process of objectively obtaining and evaluating the evidence regarding assertions about economic actions and events to ascertain the degree of correspondence between the assertions and established criteria and communicating the results to interested users” (American Accounting Association & Committee on Basic Auditing Concepts, 1973). This definition requires auditors to obtain and evaluate evidence on the firms’ financial statements to assure stakeholders that the financial statements are reasonably free of material misstatements. The auditor’s risk assessment determines the volume of evidence the auditor obtains, the timing of the audit test, and the nature of the evidence.

The audit risk is that where the auditor will arrive at the opinion that the financial statements of a firm are not materially misstated when in fact they are. The audit risk model provides an understanding of the relationship between audit risk, inherent risk, control risk, and detection risk. The model shows that even in the case where the auditors find that the internal controls are deficient, the auditor will reduce the detection risk and will increase the substantive tests of the transactions and accounts. Thus, a high control risk or a high inherent risk leads auditors to assess the audit risk as high. A high audit risk indicates a low detection risk, and therefore auditors need to perform more substantive tests of the transactions and accounts. The performance of more substantive tests requires more time that will increase the ARL.

Bedard and Johnstone (2004) explore the relationship between firms' earnings manipulations, auditors' risk assessment, and auditors' pre-planning and decisions. They use data from 1,000 public accounting clients for one audit firm and find that auditors increase their effort and charge higher rates when they assess that the audit risk is high. Bedard and Johnstone (2004) note that auditors can increase their effort by increasing their planned hours. Using a sample of 119 audits for firms in the Netherlands, Schelleman and Knechel (2010) investigate the association between earnings management by measuring the level of accruals and the audit's service production and prices. They find that short-term accruals lead to substantial increases in the audit's total effort and fees.

The auditors' business risk is the risk of being sued because they arrive at the wrong opinions. Heninger (2001) uses a matched sample to examine the relationship between the auditors' level of litigation and the level of discretionary accruals and finds that the level of litigation is significantly and positively associated with the level of discretionary accruals. This finding means that when a client engages in accrual earnings management, the auditor needs to change his or her pre-audit plans to perform additional procedures to arrive at the correct opinion to avoid being sued.

### **Hypotheses Development**

In this study, I examine the association between ARL and anti-takeover provisions. The study explores anti-takeover provisions as represented in the

EINDEX that is based on the exacerbating and mitigating theories, and how those provisions influence ARL. The exacerbation theory asserts that management knows that they are insulated from takeover. This insulation provides management with the incentive to engage in managerial misbehavior. The research posits that management engages in managerial misbehavior via the manipulation of real activities and accruals management. Management engages in earnings management to meet or beat earnings thresholds to indicate to stakeholders that the firm is performing very well when in fact the reported earnings do not reflect the real picture of the firm's performance.

Auditors would assess the audit risk as high and the auditor's own business risk as high when their client manages earnings. The audit theory predicts that by assessing the audit risk as high, the auditors will assess the risk of material misstatement as high. The audit theory defines the risk of material misstatement as a product of the inherent risk and control risk. Therefore, when the material misstatement of a firm is assessed as high, this level indicates that the auditor assesses either the control risk both at the firm and entity levels as high or the inherent risk as high. When the control risk is high, it signifies material weaknesses in the internal controls. The audit theory explains material weakness as a deficiency or a blend of deficiencies in the internal controls over financial reporting. When a firm has weak material control, the firm's structures are not able to timely prevent the financial statements of the firm from being materially misstated.

Weak internal control signifies weaknesses in managerial supervision and board monitoring and highlights a breakdown in the firm's structures from the board level to the employee level. The exacerbation theory asserts that when management is entrenched, the entrenchment engenders managerial myopia such that managers are incentivized to engage in the short-term projects that may yield immediate results. Considering the substantial reduction in monitoring by the board, management is encouraged to engage in behaviors that indicate that the firm is performing well in the short term. When the risk of material misstatement is high, the auditor performs more substantive tests of transactions and accounts. Since the performance of more substantive testing requires more time to complete the audit, I expect that this testing will increase the ARL.

By contrast, the mitigating theory asserts that because management is entrenched, they are not scared or worried about meeting short-term goals and have little or no incentives to engage in earnings management or in activities that will negatively impact financial information and shareholder wealth. When auditors determine that management is not engaging in earnings management or other forms of managerial misbehavior, the auditors will assess the firm's audit risk as low and their own business risk as low. The auditors will, therefore, perform fewer substantive tests on the details of transactions and accounts that would reduce the duration of the audit. I expect that this level of testing will decrease the ARL.

The mitigating theory also argues that managerial entrenchment leads to the curtailment of managerial myopia and encourages management to engage in long-term projects. This engagement creates more complexities in the firm's financial reporting process. This level of complexity affects how high or low auditors will assess the firm's risk. The more complex a firm's financial structures are, the higher the auditor will assess the level of audit risk. Therefore, as auditors assess the audit risk as high due to the firm's complexity, the auditor spends more time completing that firm's audit that consequently results in a longer ARL.

I contend that the time it takes auditors to complete audits depends on whether they assess the audit risk as high or low. Therefore, I hypothesize the following:

*H<sub>1</sub>: There is an association between EINDEX and the audit report lag.*

*H<sub>2</sub>: There is an association between anti-takeover provisions (components of the EINDEX) and the audit report lag.*

## **Research Design and Methodology**

**Data sources.** I retrieve data from several public sources that covers the years 2012-2016. These include data on anti-takeover provisions from the governance database of the Institutional Shareholders Services (ISS); data for the firm fundamentals from the COMPUSTAT database; and the audit opinions, audit fees, and SOX404 control weaknesses from Audit Analytics.

**Sample construction.** In Table 3.1, I present the selection information of the firms included in the final sample. The sample consists of all firms that show anti-takeover provisions used to construct the EINDEX from the ISS governance database. I start with 7,523 firm-years and excluded 491 firm-years with missing COMPUSTAT data. Then I exclude 953 firm-years with missing data on audit opinions used for creating the ARL variable. I also exclude 179 firm-years with missing data on audit fees and 22 firm-years with missing SOX404 data that is needed to determine whether the firm has weak material control. I exclude 178 firm-years of firms not incorporated in the United States. I also exclude from the final sample 1,498 firm-years of firms engaged in the utility and financial services industries, and 1,432 firm-years with a year-end month other than December. Thus the final sample for this study is 2,770 firm-years for 693 distinct firms. Additionally, I winsorized the ARL at the 1st and 99th percentiles.

In Table 3.2, I present the industry distribution of the firms in the final sample using the Fama-French 12-industry classification portfolios. The top five industries include other, manufacturing, business equipment, healthcare, and shops with percentages of 21.61, 16.14, 15.13, 12.10, and 10.09 respectively. The bottom five industries include telecommunication, consumer durables, chemical and allied products, consumer nondurables, and energy with percentages of 3.17, 3.75, 4.76, 6.05, and 7.20 respectively.

Table 3.1.  
*Sample Selection Procedure*

Description	Number of Firm-years
Institutional Shareholders Governance data for firms with available data	7,523
Less firms with missing Compustat data	491
Less firms with missing Audit opinion data	953
Less firms with missing Audit fees data	179
Less firms with missing SOX404 data	22
Less non-US incorporated firms	178
Less firms in utilities and financial services industries	1,498
Less firm with a fiscal year-end month other than December	1,432
Final Sample	2,770

Table 3.2.  
*Industry Distribution using Fama-French 12 Industry Classification Portfolios*

Industry	Number of Firm-Years	Number of Firms	Percentage of Firms
Consumer Nondurables - Food, Tobacco, Textiles, Apparel, Leather, Toys	176	42	6.05
Consumer Durables - Cars, TV's, Furniture, Household Appliances	89	26	3.75
Manufacturing - Machinery, Trucks, Planes, Off Furn, Paper, Com Printing	486	112	16.14
Energy - Oil, Gas, and Coal Extraction and Products	227	50	7.20
Chemicals and Allied Products	130	33	4.76
Business Equipment - Computers, Software, and Electronic Equipment	427	105	15.13
Telecommunication - Telephone and Television Transmission	75	22	3.17
Shops - Wholesale, Retail, and Some Services (Laundries, Repair Shop)	255	70	10.09
Healthcare, Medical Equipment, and Drugs	314	83	12.10
Other - Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment	591	150	21.61
Total	2,770	693	100.00



**Research design.** I test my hypothesis by conducting univariate analysis and estimate regression models. To test hypothesis 1 which examine the association between ARL and EINDEXT, I specify the variables in my model as follows:

**Dependent variable.** ARLP365 is the dependent variable. Consistent with prior studies, I measure the ARL by the number of days between the fiscal year-end of the firm and the date when the audit report was signed, which is scaled by 365.

**Independent variables.** The independent variable of interest is the EINDEXT. I measure this variable by following Bebchuk et al. (2009) and assigning a value of one for any one of the six anti-takeover provisions that a firm may have adopted. The index ranges from zero to six. Therefore, when a firm has none of the anti-takeover provisions, I assign the value of zero to that firm in the index, and when a firm has all six anti-takeover provisions, then I assign the value of six.

**Control variables.** Consistent with prior research on ARL, I use a number of control variables in the model. Specifically, I control for the size of the firm, inherent risk, material control weakness, return on assets, the firm's leverage, whether the firm engaged in merger in the current year, whether the firm is audited by a BIG4 audit firm, whether the firm is an accelerated filer, whether the firm is a large accelerated filer, whether the firm operates in high technology industry or high litigious industry, or high growth industry, whether the audit firm provides non-audit services for the firm. I also control for the year and industry effects.

Ashton et al. (1987) find a negative relationship between firm size and ARL while Collins, Gong, and Li (2009) document that firm size influences the ability of firms to effectively monitor managerial behavior. I measure firm size as natural logarithm of total assets. Large firms have more resources and can restrict managerial opportunism. Effective monitoring is directly related to improved information disclosure. Therefore, I expect a negative relation between SIZE and ARL.

Audit theory contends that inherent risk is a determinant of audit risk. Researchers argue that inventory and receivables are the most difficult to audit (Simunic, 1980; Newton & Ashton, 1989). Hay, Knechel, and Wong (2006) find that researchers measure inherent risk as the inventory scaled by total assets or receivables scaled by total asset, or a combination of inventory and receivables scaled by total assets. I use a combination of inventory and receivables scaled

by total assets to measure inherent risk. High inherent risk requires auditors to perform more work. Therefore, I expect inherent risk to have a positive relationship with ARL.

Knechel and Payne (2001) argue that the audit process is responsive to differences in the firm's control environment. I measure material control weakness as a binary variable that is equal to one if the firm reports one or more material control weakness, and zero otherwise. The weak internal control will require auditors to perform more work. Thus, I expect a positive relationship between material control weakness and ARL.

Simunic (1980) argue that auditors may be exposed to losses if the firm's financial performance is not good. Thus, the firm's profitability measures may predict the auditor's risk. Thus, better firm performance means lower risk and a shorter ARL. I measure the firm's profitability by its return on assets. Following Anderson and Bizjack (2003), I measure return on asset as the ratio of earnings before interest and taxes to total assets. Therefore, I expect ARL to be negatively associated with the firm's return on asset.

I control for the firms' financial risk by including leverage that I measure by dividing the total liabilities by total assets in my model. The literature shows that highly levered firms have incentives to engage in the manipulation of accruals to enhance earnings and to avert tighter debt covenants (Rochowdhury, 2006; Defond & Jiambalvo, 1994). Levered firms have the incentive to reduce reported earnings during contractual negotiations through downward manipulations of the

discretionary accruals (DeAngelo, DeAngelo, & Skinner, 1994). Therefore, I expect a positive association between ARL and leverage.

To control for audit quality, I include the BIG4 in the model. Research suggest that BIG4 auditors ensure high quality audits that attenuate the incidence of fraudulent financial reporting (Simunic and Stein, 1996). Therefore, I control for the auditor's type by including BIG4, which is a binary variable equal to one when the firm is audited by a BIG4 audit firm, and zero otherwise. Also, BIG4 auditors have the resources to conduct an audit in a shorter time than non-BIG4 auditors. I expect a negative relation between BIG4 and ARL.

The literature shows that the difficulty of an audit is positively related to the complexity of the firm (Simunic 1980). Thus, auditors will require a longer time to audit a complex firm. I measure complexity by including a binary variable that equals one when the firm engaged in a merger in the current year, and zero otherwise. I expect that when a firm engages in the mergers, it will take auditors a longer time to complete the audit of the firms suggesting a positive association between firm complexity and ARL.

Consistent with Krishnan and Yang (2009), I control for the differences in industries by including two different dummy variables to represent firms that operate in high-tech industries and high-litigious industries. Auditors may require more effort and time to complete audit engagement in litigious industries to reduce the risk of material misstatement and subsequent litigation. Additionally, because high-tech industries are specialized industries, the auditors may require

special skills to complete the audits of firms operating in the industry, which may result in a longer time. Therefore, I expect that firms that operate in high-tech and high-litigious industries will experience extended ARL.

Firms that operate in high-growth industries and miss analysts forecasts experience significant penalties from the market (Skinner & Sloan, 2002). McNichols (2000) finds a positive association between firm growth and discretionary accruals. These findings suggest that high-growth firms will manage earnings and cause the auditor to expend more effort which may extend the ARL. However, it is conceivable that high-growth firm will have the resources to monitor their managers and ensure that internal controls are working efficiently as planned. Thus, auditor may not require more time to complete their work suggesting a shorter ARL. Therefore, I am not able to assign the direction to the relationship between firms operating in high-growth industry and ARL.

When auditors provide management advisory services, they transfer the knowledge acquired to the audit engagement. This transfer means that the knowledge spillover will help to reduce the time it takes to complete the audit. Similarly, difficult tax issues impact the audit of financial statements. Extant research posits that the provision of non-audit services influences the ARL. Therefore, I control for non-audit services provided by the auditor by the fees that the client pays the auditor for those services. Due to the conflicting relationship that the provision of non-audit services may have with the time it takes to

complete an audit, I do not suggest a direction for the relationship between the provision of non-audit services and ARL.

Factors outside of the firm and the auditor's control may influence ARL. The SEC has reduced the filing deadlines for firms that are accelerated filers and large accelerated filers. This reduction puts pressure on both the firm and the auditors to complete their audits within a specified time. To control for such external pressures, I include two binary variables in the model. Firstly, I include a binary variable which is equal to one when the firm is an accelerated filer, zero otherwise. Secondly, I include a binary variable equal to one when the firm is a large accelerated filer in the current year, and zero otherwise. Considering that the external pressure from the regulatory bodies will force the audit to be completed within a shorter time, I expect that the relationship between accelerated filers and ARL to be negative. I also expect the relationship between the large accelerated filers and ARL to be negative.

To test hypothesis 1, which examines whether there is an association between ARL and the EINDEX, I use the following regression model modified from those used by Krishnan and Yang (2009) and Tanyi et al. (2010):

$$\begin{aligned} \text{ARLP365}_{it} = & \alpha_0 + \alpha_1 \text{EINDEX}_{it} + \alpha_2 \text{IRISKIR}_{it} + \alpha_3 \text{MCW}_{it} + \alpha_4 \text{ROA}_{it} + \alpha_5 \text{LEV}_{it} \\ & + \alpha_6 \text{ACQ}_{it} + \alpha_7 \text{ACF}_{it} + \alpha_8 \text{LACF}_{it} + \alpha_9 \text{BIG4}_{it} + \alpha_{10} \text{HITECH}_{it} + \\ & \alpha_{11} \text{HILITIG}_{it} + \alpha_{12} \text{HIGROTH}_{it} + \alpha_{13} \text{NAUDFEE}_{it} + \text{FF12} + \text{YR} + \\ & \varepsilon \dots \dots 1 \end{aligned}$$

Where:

$ARLP365_{it}$  = the ARL of firm  $i$  in year  $t$ .

$EINDEX_{it}$  = the entrenchment index of firm  $i$  in year  $t$ .

$IRISKIR_{it}$  = the inherent risk of the firm  $i$  in year  $t$ .

$MCW_{it}$  = a binary variable which is equal to one when firm  $i$  has material control weaknesses in year  $t$ , zero otherwise.

$ROA_{it}$  = the return of assets of firm  $i$  in year  $t$ .

$LEV_{it}$  = the leverage of firm  $i$  in year  $t$ .

$ACQ_{it}$  = a binary variable equal to one if firm  $i$  engages in acquisitions in year  $t$ , zero otherwise.

$ACF_{it}$  = a binary variable equal to one when the firm  $i$  is an accelerated filer in year  $t$ , zero otherwise.

$LACF_{it}$  = a binary variable equal to one when firm  $i$  is a large accelerated filer in year  $t$ .

$BIG4_{it}$  = a binary variable equal to one when firm  $i$  is audited by a BIG4 audit firm in year  $t$ , zero otherwise.

$HITECH_{it}$  = a binary variable equal to one when firm  $i$  is engaged in high technology industry in year  $t$ , zero otherwise.

$HILITIG_{it}$  = a binary variable equal to one when firm  $i$  is engaged in high litigious industry in year  $t$ , zero otherwise.

$HIGROTH_{it}$  = a binary variable equal to one when firm  $i$  engages in growth industry in year  $t$ , zero otherwise.

NAUDFEE<sub>it</sub> = to the fees paid by firm *i* in the year *t* for nonaudit services.

**ARL and Anti-takeover provisions.** To test hypothesis 2 which investigates the association between ARL and the individual anti-takeover provisions, I use the following regression model modified from Krishnan and Yang (2009):

$$\begin{aligned} \text{ARLP365}_{it} = & \alpha_0 + \alpha_1 \text{STAGBOD}_{it} + \alpha_2 \text{POIPILL}_{it} + \alpha_3 \text{GOLDPAR}_{it} + \\ & \alpha_4 \text{ABYLAW}_{it} + \alpha_5 \text{ACHART}_{it} + \alpha_6 \text{SUPMERG}_{it} + \alpha_7 \text{IRISKIR}_{it} + \\ & \alpha_8 \text{MCW}_{it} + \alpha_9 \text{ROA}_{it} + \alpha_{10} \text{LEV}_{it} + \alpha_{11} \text{ACQ}_{it} + \alpha_{12} \text{ACF}_{it} + \alpha_{13} \text{LACF}_{it} + \\ & \alpha_{14} \text{BIG4}_{it} + \alpha_{15} \text{HITECH}_{it} + \alpha_{16} \text{HILITIG}_{it} + \alpha_{17} \text{HIGROWTH}_{it} + \\ & \alpha_{18} \text{LNAUDFEE}_{it} + \text{FF12} + \text{YR} + \varepsilon \dots \dots 2 \end{aligned}$$

Where:

STAGBOD<sub>it</sub> = a binary variable equal to one when firm *i* adopts staggered boards by the end of year *t*, zero otherwise.

POIPILL<sub>it</sub> = a binary variable equal to one when firm *i* adopts poison pills by the end of year *t*, zero otherwise.

GOLDPAR<sub>it</sub> = a binary variable equal to one when firm *i* adopts golden parachute by the end of year *t*, zero otherwise.

ABYLAW<sub>it</sub> = a binary variable equal to one when firm *i* requires supermajority to amend corporate bylaws by the end of year *t*, zero otherwise.



ACHART<sub>it</sub> = a binary variable equal to one when firm *i* requires supermajority to amend corporate charter by the end of year *t*, zero otherwise.

SUPMERG<sub>it</sub> = a binary variable equal to one when firm *i* requires supermajority to approve mergers by the end of year *t*, zero otherwise.

All the control variables remain the same as specified in model 1 above.

To test hypothesis 2, which examines the association between ARL and the anti-takeover provisions, the dependent variable is ARLP365. I measure this variable by dividing the number of days between the firm's fiscal year-end and the date the audit report was signed scale the number by 365. The independent variables of interest are the anti-takeover provisions that include staggered boards (STAGBOD), golden parachutes (GOLDPAR), poison pills (POIPILL), a supermajority requirement to amend the firm's bylaws (ABYLAWs), a supermajority requirement to amend the firm's charter (ACHART), and a supermajority requirement for mergers (SUPMERG). All these variables are binary and are equal to one when the firm has that anti-takeover provision, and zero otherwise. All the control variables used in the model are as described and shown in model 1.

## **Empirical Results and Discussion**

In this section, I present the summary statistics, correlation analysis, and a discussion of the regression results. I examine the variance inflation factor (VIF) to test for multicollinearity, and the largest VIF is 5.80 that indicates the absence of any multicollinearity issues.

**Summary statistics.** In Table 3.3, I present the statistics for the sample used to test the hypotheses. The mean ARL is about 55 days for my sample firms. The ARL of 55 days is comparable to that reported by Tanyi et al. (2010) for firms who do not change auditors. The summary statistics show that, on average, firms in the sample adopt about two of the anti-takeover provisions used in the composition of the EINDEX. I note that about 93 percent of the firms are audited by BIG4 audit firms, approximately three percent of the firms have weak material control, 56 percent of the firms are highly levered, and 54 percent are engaged in mergers. Ninety-nine percent of the firms are accelerated filers while 89 percent are large accelerated filers. Twenty-six percent of the firms operate in high-tech industries while 41 percent operate in highly litigious industries and 27 percent in high growth industries.

The summary statistics also show that about 39 percent of the firms adopt staggered boards, while 81 percent adopt golden parachutes. About ten percent adopt poison pills, while 37 percent of the firms in the sample adopt a supermajority requirement to amend the firm's bylaws. Also, 48 percent of the

firms adopt a supermajority requirement to amend the corporate charter, while 17 percent adopt supermajority requirements for mergers.

**Pearson's correlation analyses.** In table 3.4, I present the Pearson's correlation coefficients for the variables that I use to examine the association between ARL, EINDEX, and the provisions of the EINDEX. The Pearson's correlation matrix shows a significantly positive correlation between ARL and the EINDEX. The correlation matrix also shows a significantly positive relationship between ARL and staggered boards (STAGBOD), and ARL and supermajority requirement to amend corporate bylaws (ABYLAWS). Additionally, the correlation matrix shows a significantly negative relationship between ARL and supermajority requirement for mergers (SUPMERG).

Table 3.3.  
*Summary Statistics*

Variable	Mean	Std. Dev	Minimum	Q1	Median	Q3	Maximum
ARL	54.8466	8.6094	31.0000	51.0000	56.0000	59.0000	77.0000
ARLP365	0.1503	0.0236	0.0849	0.1397	0.1534	0.1616	0.2110
EINDEX	2.3108	1.4539	0.0000	1.0000	2.0000	4.0000	6.0000
STAGBOD	0.3899	0.4878	0.0000	0.0000	0.0000	1.0000	1.0000
POIPILL	0.0971	0.2962	0.0000	0.0000	0.0000	0.0000	1.0000
GOLDPAR	0.8051	0.3962	0.0000	1.0000	1.0000	1.0000	1.0000
ABYLAWS	0.3693	0.4827	0.0000	0.0000	0.0000	1.0000	1.0000
ACHART	0.4765	0.4995	0.0000	0.0000	0.0000	1.0000	1.0000
SUPMERG	0.1729	0.3783	0.0000	0.0000	0.0000	0.0000	1.0000
IRISKIR	0.2307	0.1556	0.0060	0.1073	0.2092	0.3165	0.8950
MCW	0.0307	0.1725	0.0000	0.0000	0.0000	0.0000	1.0000
ROA	0.0935	0.1232	-2.7568	0.0584	0.0923	0.1352	0.6539
LEV	0.5552	0.2542	0.0326	0.4115	0.5465	0.6779	3.6290
ACQ	0.5379	0.4987	0.0000	0.0000	1.0000	1.0000	1.0000
ACF	0.9953	0.0684	0.0000	1.0000	1.0000	1.0000	1.0000
LACF	0.8874	0.3162	0.0000	1.0000	1.0000	1.0000	1.0000
BIG4	0.9285	0.2577	0.0000	1.0000	1.0000	1.0000	1.0000
HITECH	0.2614	0.4395	0.0000	0.0000	0.0000	1.0000	1.0000
HILIT	0.4134	0.4925	0.0000	0.0000	0.0000	1.0000	1.0000
HIGROTH	0.2726	0.4454	0.0000	0.0000	0.0000	1.0000	1.0000
LNAUDFEE	5.5353	0.7845	3.0000	5.0719	5.5866	6.0697	7.8306

*Note.* N= 2770. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. ARL is the number of days from the firm's fiscal year-end to the date the audit report is signed. For the definitions of variables, please see the Appendix.

Table 3.4.  
Pearson Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
(1) ARLP36 5	1																				
(2) EINDEX	0.08** *	1																			
(3) CLASBO D	0.13** *	0.65* **	1																		
(4) POIPILL	0.01	0.32* **	0.11* **	1																	
(5) GOLDPA R	0.02	0.40* **	0.07* **	0.02	1																
(6) ABYLAW S	0.10** *	0.73* **	0.38* **	0.08* **	0.14** *	1															
(7) ACHART	0.02	0.81* **	0.42* **	0.12* **	0.18** *	0.62** *	1														
(8) SUPME RG	- 0.04**	0.33* **	0.01	0.04* *	-0.02	0.01	0.18* **	1													
(9) IRISKIR	0.00	-0.01	0.04* *	0.04* *	- 0.06** *	- 0.06** *	-0.02	0.07* **	1												
(10) MCW	0.19** *	-0.01	0.02	- 0.04*	-0.01	0.00	-0.01	0.01	0.00	1											
(11) ROA	- 0.13** *	- 0.04*	-0.03	0.01	- 0.08** *	-0.02	-0.02	0.02	0.14* **	- 0.06** *	1										

(continued)

Table 3.4.  
Pearson Correlation Matrix (continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
(12) LEV	-	-	-	-	0.05**	-	-	0.05***	-	0.01	-	1								
(13) ACQ	-	0.03*	0.01	0.01	0.08***	0.03*	0.03*	0.03	0.01	0.03	0.04**	-	1							
(14) ACF	-	-	-	0.02	0.03*	-	-	0.02	0.01	0.01	0.07***	0.04*	0.06***	1						
(15) LACF	-	-	-	-	0.03	-	-	0.03*	-	-	0.15***	0.16***	0.15***	0.19***	1					
(16) BIG4	-	0.07***	-	-	0.10***	0.05***	0.06***	0.07***	-	-	-	0.19***	0.07***	0.06***	0.0	0.25***	1			
(17) HITEC H	0.03	0.02	0.02	0.07***	0.02	0.01	0.00	-	-	0.01	0.02	0.21***	0.04**	0.02	0.01	0.07***	1			
(18) HILIT	0.02	0.08***	0.09***	0.07***	0.09***	0.05***	0.01	-	0.03*	0.00	0.01	0.18***	0.11***	0.03	0.02	0.05***	0.61***	1		
(19) HIGR OTH	0.00	-	0.00	0.05***	0.01	0.00	-	0.08***	0.07***	0.00	0.06***	0.14***	0.14***	0.02	0.07***	0.04**	0.00	0.31***	1	
(20) LNAU DFEE	-	-	-	-	0.02	0.07***	0.01***	0.05**	0.05***	-	0.07***	0.27***	0.15***	0.05***	0.24***	0.23***	0.05**	0.08***	0.0	0.1

Note. n=2770. \*\*\* Represents significance at the 1 percent level. \*\* Represents significance at the 5 percent level. \* Represents significance at the 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

**Regression results.** In table 3.5, I present the regression estimations with ARL as the dependent variable and EINDEXT as the independent variable of interest. The overall model is significant at an F-value equal to 28.33 and a p-value less than 0.0001; and the adjusted R squared is 20.42 percent. The coefficient for the independent variable is positive and statistically significant at 1 percent level. The results show that firms that are protected by anti-takeover provisions experience longer ARLs.

In table 3.6, I present the regression estimations with ARL as the dependent variable and the anti-takeover provisions as independent variables. The overall model is significant at an F-value equal to 25.53 and a p value less than 0.0001; and the adjusted R squared is 21.55 percent. Consistent with the correlation matrix, the coefficient for the STAGBOD is positive and statistically significant at the 1 percent level. The results show that when firms adopt staggered boards, their ARL increases. The results confirm that staggered boards are the most important of all the anti-takeover provisions. This is consistent with Faleye (2007) who finds that staggered boards shield managers from market forces and entrench them while significantly reducing the board's oversight abilities and negatively affecting firm values.

The coefficient of ABYLAWS is positive and statistically significant at 1 percent level. This indicates that firms that adopt supermajority requirement to amend the corporate bylaws experience longer ARLs. Also, the coefficient of GOLDPAR is positive and statistically significant at 5 percent level. This shows

that firms that adopt golden parachutes have longer ARLs. The positive relationships between STAGBOD and ARL, ABYLAWS and ARL, and GOLDPAR and ARL are consistent with the exacerbation theory and suggest that managers of firms that adopt staggered boards, supermajority requirement to amend the corporate bylaws, and golden parachutes have a penchant to manage earnings. This will cause auditors to assess the firm's audit risk and the auditor's own business risk as high. The high-risk assessment is then reflected in the longer time it takes the auditor to complete the engagement.

The coefficient of ACHART is negative and statistically significant at 1 percent level. This result indicates that firms that adopt supermajority requirement to amend the corporate charter experience shorter ARLs. The negative relationships between ARL and ACHART is consistent with the mitigation theory which advocates that managers of firms that adopt supermajority requirement to amend the corporate charter are less likely to manage earnings, which will cause auditors to assess the firm's audit risk and the auditor's own business risk as low. This low risk assessment is reflected in the shorter time it takes the auditor to complete the engagement. In this study, while I find a positive and significant associations between ARL and ACQ, and ARL and MCW, I find a negative and significant associations between ARL and ROA, ARL and LEV, ARL and LACF, ARL and BIG4, and ARL and LNAUDFEE.



## **Conclusion**

In this paper, I examine the association between the ARL and the EINDEX. I measure ARL by the number of days between the fiscal year-end of the firm and the date on which the audit report was signed. I argue that there is an association between the ARL and EINDEX. However, because the research has mixed findings on the impact of managerial entrenchment on firm performance, I hypothesize that there is an association between ARL and EINDEX without direction. Consistent with the correlation matrix, I find a positive significant association between ARL and EINDEX.

Additionally, I examine the association between ARL, and the individual provisions used to create the EINDEX. I find that a staggered board and supermajority requirement to amend the corporate bylaws, and golden parachutes have positive and statistically significant associations with ARL. The results show that firms that adopt staggered board, golden parachute, and supermajority requirement to amend the corporate bylaws have longer ARLs. Also, I find that the supermajority requirement to amend the corporate charter has negative and statistically significant associations with ARL.

Table 3.5.  
*Results of regression of EINDEX on ARL*

Independent Variables	Pred. Sign	Estimated Coefficient	t-Value
Intercept	?	0.18633***	27.91
EINDEX	?	0.00111***	3.9
IRISKIR	?	-0.00237	-0.81
MCW	+	0.0203***	8.61
ROA	-	-0.01607***	-4.6
LEV	+	-0.00556***	-3.19
ACQ	+	0.0022***	2.59
ACF	-	0.00068019	0.11
LACF	-	-0.02337***	-16.66
BIG4	-	-0.00569***	-3.37
HITECH	+	0.00048827	0.22
HILIT	+	-0.00076751	-0.53
HIGROTH	?	0.00101	0.86
LNAUDFEE	?	-0.00248***	-4.32

Note: n=2770. Adjusted R-squared = 0.2042 F(p-value) = 28.33(<.0001). Year fixed effect = yes. Industry fixed effect = yes. Model=  $ARLP365 = \alpha_0 + \alpha_1 EINDEX + \alpha_2 IRISKIR + \alpha_3 MCW + \alpha_4 ROA + \alpha_5 LEV + \alpha_6 ACQ + \alpha_7 ACF + \alpha_8 LACF + \alpha_9 BIG4 + \alpha_{10} HITECH + \alpha_{11} HILIT + \alpha_{12} HIGROTH + \alpha_{13} LNAUDFEE + FF12 + YR + \varepsilon$ . \*\*\*Represents significance at 1 percent level. \*\* Represents significance at 5 percent level. \* Represents significance at 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

Table 3.6.  
*Results of regression of EINDEX TAKEOVER PROVISSIONS on ARL*

Independent Variables	Pred. Sign	Estimated Coefficient	t-Value
Intercept	?	0.18457***	27.59
CLASBOD	?	0.00419***	4.46
POIPILL	?	-0.00013723	-0.1
GOLDPAR	?	0.00239**	2.27
ABYLAWS	?	0.00496***	4.55
ACHART	?	-0.00411***	-3.74
SUPMERG	?	-0.00125	-1.13
IRISKIR	?	-0.00193	-0.66
MCW	+	0.02002***	8.54
ROA	-	-0.01575***	-4.53
LEV	+	-0.00569***	-3.27
ACQ	+	0.00245***	2.9
ACF	-	0.00038665	0.06
LACF	-	-0.023***	-16.49
BIG4	-	-0.00548***	-3.26
HITECH	+	0.0009886	0.45
HILIT	+	-0.00153	-1.05
HIGROTH	?	0.00095907	0.82
LNAUDFEE	?	-0.00237***	-4.14

Note: n=2770. Adjusted R-squared = 0.2155. F(p-value) = 25.53(<.0001). Year fixed effect = yes. Industry fixed effect = yes. Model=  $ARLP365 = \alpha_0 + \alpha_1 EXCOMCUT + \alpha_2 COMINC + \alpha_3 SIZE + \alpha_4 IRISKIR + \alpha_5 MCW + \alpha_6 ROA + \alpha_7 LEV + \alpha_8 BIG4 + \alpha_9 ACQ + \alpha_{10} ACF + \alpha_{11} LACF + \alpha_{12} HITECH + \alpha_{13} HILIT + \alpha_{14} HIGROWTH + \alpha_{15} NAUDFEE + FF12 + YR + \varepsilon$ . \*\*\*Represents significance at 1 percent level. \*\* Represents significance at 5 percent level. \* Represents significance at 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

## **CHAPTER 4: Extreme Cut in CEO Compensation and ARL**

### **Motivation**

In this study, I explore whether an extreme cut in the CEO's compensation influences the length of the audit report lag (ARL). In the past few decades, many people including regulators and investors have expressed significant concern about the compensation of CEOs. The concern reached a crescendo when the public became aware that the financial institutions that taxpayer money had bailed out during the 2008 financial crisis had awarded compensation to their CEOs and top management in excess of \$1 billion.

Although many people believe that the CEOs' compensation is always on the increase, many researchers argue that boards of directors often cut this compensation when their firms perform poorly. They argue that these cuts go further than the normal pay-for-performance relation (Matsunaga & Park, 2001; Gao, Harford, & Li, 2012). Mergenthaler, Rajgopal, and Srinivasan (2012) find that CEOs who just miss analysts' most recent consensus projections experience bonus cuts, fewer equity grants, or even turnover.

Gao et al. (2012) posit that cuts in their compensation may motivate CEOs to improve their performance. However, Lobo, Manchiraju, and Sridharan (2018) argue that cuts may prompt a negative response of managerial misbehavior. Such misbehavior may include earnings management. Lobo et al. (2018) find that CEOs who experience compensation cuts have the penchant to manage earnings to bring their compensation back to pre-cut levels.

Researchers define an extreme cut as a reduction in total compensation of at least 25 percent (Gao et al., 2012, Bryan & Mason, 2016). Lobo, Manchiraju, and Sridharan (2013) argue that after a compensation cut, CEOs improve firm performance through income increasing accruals.

Bizjak, Hayes, and Kalpathy (2015) argue that although performance-contingent awards grow the firm's value, the awards have the potential to affect the reported firm performance. They argue that the performance-contingent awards are based on the stock price and accounting metrics, and managers have an incentive to report improved earnings that may not reflect the actual performance of the firm. Bizjak et al. (2015) explain that managers may adjust discretionary accruals by underestimating uncollectible accounts receivables and by reducing discretionary expenses such as research and development (R&D) to report higher earnings. This earnings management could lead to earnings restatements, regulatory sanctions, and shareholder lawsuits against both the firm and the auditor, and eventually erode the firm's value and adversely affect shareholder wealth.

These managerial activities lead auditors to believe that the firms' financial statements may be materially misstated and thus cause the audit to fail. Audit theory argues that the inability of auditors to detect material misstatements in the financial statements of their clients results in failed audits. A failed audit occurs when the auditor does not find the material misstatement in the financial statement and consequently concludes that the financial statement is reasonably

free of material misstatement when in fact it is not. Stakeholders who depend on such financial statements and suffer losses usually sue the auditors. Tackett, Wolf and Claypool (2004) provide a synopsis of the causes of failed audits. They explain that audit failures occur when the auditor commits unintentional errors or is compromised due to unnecessary influence by financial interests and a personal auditor-client relationship beyond the professional level.

To avoid failed audits and potential lawsuits, auditors have incentives to ensure that the audits are free of material misstatements. Auditors can certify that the audited financial statements are not materially misstated when they use procedures that extensively consider earnings management and ensure that such earnings management is significantly reduced. Additionally, The Public Company Accounting Oversight Board (PCAOB) requires auditors to gain an understanding of the structure of a firm's executive compensation and to perform procedures to help them identify any risks of material misstatements associated with that compensation (PCAOB Release No. 2012-001, PCAOB 2012).<sup>5</sup>

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<sup>5</sup> PCAOB (2012, A4-41) "Appendix 4—Additional Discussion" states that "the auditor must obtain an understanding of the company's financial relationship and transactions with its executive officers (e.g., executive compensation, including perquisites and any other arrangements)." PCAOB (2012, para. 10A) proposed amendments to Auditing Standard No. 12 that requires the auditor to "perform procedures designed to identify risks of material misstatements related to the company's relationship and transactions with its executive officers. Those procedures should be sufficient to identify whether these financial relationships and transactions could create conditions (e.g., incentives and pressures) that result in risks of material misstatement, including fraud risks." The auditor should perform procedures that include but are not limited to (1) reading employment and compensation contracts, and (2) reading proxy statements and other relevant company filings with the U.S. Securities and Exchange Commission (SEC) and other regulatory agencies that relate to the company's financial relationships and transactions with its executive officers. PCAOB (2012, A4-42) Release No. 2012-001 states that "understanding how a company has structured its compensation for executive officers can assist the auditor in understanding whether such compensation arrangements affect the assessment of the risks of material misstatement."

The remainder of the study is structured as follows: The next section presents the literature review and the development of the hypothesis. The following section explains the research design and data collection. The next section presents the summary statistics and the results of the data analyses while in the last section I provide a summary of the findings of the study.

## **Background**

**Research on extreme cuts into CEOs' compensation.** In this section, I discuss the literature on CEOs' compensation and extreme CEOs' compensation cuts, executive compensation, and the risks as well as the correlation between executive compensation and accounting irregularities.

The literature indicates that the boards of directors of many firms use an extreme cut to compensation as a motivational tool for CEOs to improve their firms' performance (Gao et al., 2012; Lobo et al., 2013, 2018). Gao et al. (2012) define an extreme cut in CEO compensation as a reduction of 25 percent or more in a CEO's total compensation. Gao et al. (2012) argue that firms are most likely to cut this compensation when the firm performs poorly especially when the firm's stock performance is significantly inferior. They claim that CEOs of firms that have strong corporate governance have a high probability of experiencing

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PCAOB (2012, A4-43) Release No. 2012-001 states that the proposed amendment requires "the auditor to consider inquiring the chair of the compensation committee or its equivalent and any compensation consultants engaged by either the compensation committee or the company regarding the structuring of the compensation for executive officers."

these cuts when their firms perform poorly as a punishment and a motivational tool.

Gao et al. (2012) measure the CEO's compensation by using the TDC1 in Execucomp to examine the correlation between significant decreases in that compensation and poor firm performance. They find that CEOs who experience extreme compensation cuts due to poor firm performance return their firms to significantly improved performance levels to restore their compensation to normal levels.

Bryant and Mason (2016) use a sample of 784 CEOs who have a tenure of at least three years to explore how extreme compensation cuts affect the auditors' perception of risk. They find that the extreme reduction in compensation or CEOs' anticipation of imminent extreme cuts provides them with significant incentives to engage in managerial misbehavior by manipulating financial reports that consequently increases audit risk. Bryant and Mason (2016) submit that the pressure to quickly improve firm performance imposes significant pressure on the CEOs and encourages them to accept risky projects with potentially abnormally high returns. These risky projects can signal to the auditors that the firms may potentially fail if the results of those projects are not what the CEO expects. The auditors will thus assess the audit risks and the client's business risk as high. Bryant and Mason (2016) find a highly significant and positive correlation between an extreme CEO compensation cut and audit fees and show that audit fees increase by 4.6% when CEOs experience one.



Lobo et al. (2018) explore whether extreme compensation cuts to CEOs cause managerial misbehavior regarding earnings management. They use propensity score matching and a difference-in-differences approach to explore the ramifications of these extreme CEO compensation cuts. The authors find elevated erratic idiosyncratic returns after the extreme compensation cuts for firms engaged in significant earnings management. They find that CEOs have a penchant for managing earnings after a compensation cut to hasten their firms' return to improved performance and to restore their compensation to pre-cut levels. Lobo et al. (2018) also find that firms that manage earnings less after CEOs experience a compensation cut improve their long-term performance.

Lobo et al. (2013) investigate whether the extreme compensation cuts of CEOs achieve their purpose. They use a sample of 1,330 firms for the period from 1994 to 2011 and find that their performance improves after an extreme compensation cut. Further, they posit that firms cut CEOs' compensation to motivate them to work harder to improve performance. However, they attribute improved earnings to manipulating real activities and managing accruals.

**Executive compensation and managerial misbehavior.** Armstrong, Jagolinzer and Larcker (2010) examine whether CEOs' equity-based holdings and compensation provide an incentive to manipulate accounting reports. They use propensity score matching for the period from 2001 to 2005 and find no evidence of a positive correlation between CEOs' equity incentives and accounting irregularities. However, they find some evidence that accounting

irregularities are less frequent at firms where CEOs have higher levels of equity incentives.

Jayaraman and Milbourn (2014) examine the correlation between CEOs' equity incentives and financial misreporting to determine whether effective auditing influences that correlation. They use a sample of 7,425 firm-years for 87 unique firms in the period from 1994 to 2004. The authors argue that effective auditing reduces the cost of equity incentives by discouraging managers from manipulating financial information. Further, they find that firms that are audited by industry experts grant their CEOs 14 percent more equity incentives than firms that are audited by non-industry experts.

Goldman and Slezak (2006) examine the impact of information manipulation on the equilibrium level of pay-for-performance sensitivity. They argue that stock-based compensation encourages managers to manipulate information to enhance their compensation at the expense of shareholders. Interestingly, Goldman and Slezak (2006) find that public policy meant to attenuate misreporting sometimes increases managerial manipulative behavior. The authors claim that firms endogenously choose the benefits that accrue to managers to counter the dictates of the policy. Further, they find that stock-based compensation is beneficial because it encourages effort that has the potential to improve firm performance. On the other hand, they find that stock-based compensation encourages managers to engage in information manipulation that is usually costly to their firms.

Burns and Kedia (2006) examine the correlation between CEOs' compensation contracts and misreporting. They use a sample of 215 firms for the period from 1995 to 2001 and provide evidence that CEOs with options that respond to stock prices have a high propensity to misreport. However, they do not find any sensitivity of other components of the CEOs' compensation that leads to misreporting.

Bizjak et al. (2015) examine performance-contingent awards to CEOs by using incentive lab data for 1,833 large US firms for the period from 1998 to 2012. They find evidence that performance-contingent awards correlate with real earnings management. They also discover that consistent with Roychowdhury (2006) the value of performance-contingent awards that are about to expire correlate negatively with abnormal discretionary expenses.

Bergstresser and Philippon (2006) examine the correlation between earnings manipulations and the power of CEO equity-based incentives. They represent the power of the incentive with a measure of the dollar change in the value of the CEO's stock and options from an increase of one percentage point in the firm's stock price. They find that when the CEO's compensation is highly connected to the value of the firm's stock, they heavily manage accruals.

**Executive compensation and risk.** Billings, Gao, and Jia (2013) examine the correlation between executive equity incentives and the auditors' risk assessment and pricing decisions by using a sample of 5,004 firm-years for 1,256 distinct firms in the period from 2002 to 2009. Consistent with the

American Institute of Certified Public Accountants (AICPA) standards 82 and 99 and the PCAOB auditing standard 12, Billings et al. (2014) argue that executive incentives affect a firm's business risk and the effect on that risk influences auditors' risk assessment. The authors find a positive correlation between the CFOs' equity compensation and audit fees. They also find that the auditors associate higher audit risk with the CFO's equity incentives, and hence auditors adjust their pricing upwards. They further find a negative correlation between CEOs' equity incentive and audit fees.

### **Hypothesis Development**

In this study, I examine whether the earnings management of firms whose CEOs experience a extreme compensation cut result in longer ARLs. The research indicates that CEO compensation affects the auditors' risk assessment (Chen, Gul, Veeraraghavan & Zolotoy, 2015; Kim, Li, & Li, 2014). Chen et al. (2015) use a sample of 11,889 firm-year observations for 2,078 US firms in the period from 2000 to 2010 to examine the correlations among the CEO's compensation portfolio, stock volatility, and audit fees. They find that audit firms consider executives' incentives to take risk as a major factor in assessing audit risk.

This study investigates the correlation between extreme executive compensation cuts and ARLs. The literature argues that firms whose CEOs experience these cuts subsequently show improved firm performance. The improved performance is attributable to income-increasing earnings management

that is achieved through accruals and the manipulation of real activities. CEOs' engagement in earnings management provides auditors with another reason to assess their audit risks as significant. Additionally, in compliance with the PCAOB requirement that auditors consider their clients' executive compensation to help formulate procedures to prevent the risk of material misstatements, auditors that find that their clients' CEOs have experienced extreme compensation cuts assess the client's audit risk and their own business risk as high.

With this assessment, audit practice requires that the auditors perform more substantive tests on the details of transactions and accounts to attenuate the risk of material misstatements in the financial statements. Consequently, this increase in effort increases the time it takes the auditor to complete the audit of the firm's financial statements. Therefore, I expect the ARL to increase as the auditor performs the needed extended procedures to ensure that the audit does not fail. Therefore, I hypothesize the following:

*H<sub>1</sub>: A positive correlation exists between extreme compensation cuts to CEOs and the length of ARLs.*

## **Research Design and Methodology**

**Data sources.** I retrieve data from several public sources for the years from 2012 to 2016. These data are on compensation cut to CEOs from the execucomp database; firm fundamentals from Compustat; and audit opinion, audit fees, and SOX404 control weaknesses from Audit Analytics.

**Sample construction.** In Table 4.1, I present information on the selection process for the firms included in the final sample. Consistent with Byant and Mason (2016), the sample consists of firms that show a compensation cut for CEOs that have a tenure of at least three years from 2012 to 2016 in the Execucomp database. I started with 5,530 firm-years and excluded 34 firm-years with missing Compustat data. Then I excluded 820 firm-years with missing data on audit opinions that I used for creating the ARL variable. I also excluded 197 firm-years with missing data on audit fees and 58 firm-years with missing data on SOX404 that I needed to determine whether the firm had material control weaknesses. I excluded 91 firm-years not incorporated in the United States. Further, I excluded from the final sample 4 firm-years of firms in the utility and 27 firm-years of firms in the financial services industries, and 1,425 firms-years with end of year month other than December. I also excluded 378 firm-years of firms that changed auditors. Thus, the final sample for this study is 2,496 firm years. Additionally, I winsorized the ARL at the 1st and 99th percentiles.

In Table 4.2, I present the industry distribution of the firms in the final sample using the Fama-French 12-industry classification portfolios. The top five industries are other, manufacturing, business equipment, healthcare, and shops with percentages of 21.05, 16.62, 15.79, 12.19, and 9.00 respectively. The bottom five industries are telecommunication, chemical and allied products, consumer durables, consumer nondurables, and energy with percentages of 3.32, 4.16, 4.71, 5.26, and 7.90 respectively.

Table 4.1.  
*Sample Selection Procedure*

Description	Number of firm-years
CEO compensation cut data for qualified firms	5,530
Less firm-years with missing Compustat data	34
Less firm-years with missing audit opinion data	820
Less firm-years with missing audit fees data	197
Less firms-years with missing SOX data	58
Less firm-years with non-December 31 year-end	1,425
Less firm-years of firms not incorporated in the U. S	91
Less firm-years of firms engaged in the Utility industry	4
Less firm-years of firms engaged in financial services industry	27
Less firm-years of firms that changed auditors	378
Final Sample	2,496

Table 4.2.  
*Industry Distribution using Fama-French 12 Industry Classification Portfolios*

Industry	Number of firm-years	Number of individual firms	Percentage of firms
Consumer Nondurables - Food, Tobacco, Textiles, Apparel, Leather, Toys	144	38	5.26
Consumer Durables - Cars, TV's, Furniture, Household Appliances	110	34	4.71
Manufacturing - Machinery, Trucks, Planes, Off Furn, Paper, Com Printing	412	120	16.62
Energy - Oil, Gas, and Coal Extraction and Products	189	57	7.9
Chemicals and Allied Products	99	30	4.16
Business Equipment - Computers, Software, and Electronic Equipment	407	114	15.79
Telecommunication - Telephone and Television Transmission	83	24	3.32
Shops - Wholesale, Retail, and Some Services (Laundries, Repair Shop)	219	65	9.00
Healthcare, Medical Equipment, and Drugs	309	88	12.19
Other - Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment	524	152	21.05
Total	2,496	722	100.00

**Research design.** I test the hypothesis for this study by conducting univariate analysis and estimating regression models. To test the hypothesis that a positive association exists between ARL and extreme CEO compensation cut, I specify the variables in my models as follows:

**Dependent variable.** ARLP365 is the dependent variable for this study. Consistent with the literature, I measure ARL by the number of days between the fiscal year-end of the firm and the date of the audit report that is scaled by 365.

**Independent variable.** The independent variable of interest is EXCOCUT. I measure this variable as a binary variable that equals one when the the CEO of the firm experiences a compensation cut of 25 percent or more, and zero otherwise.

**Control variables.** Following the literature on the ARL, I control for the variables that influence the ARL. These include the firm's inherent risk, size, material control weakness, return on assets, leverage, and acquisitions as well as the type of auditor and whether the firm is an accelerated filer and a large accelerated filer. They also cover whether the firm operates in high-tech, high-litigious, or high-growth industries; whether the audit firm also provides non-audit services to the firm; and the year and industry fixed effects.

Consistent with Collins et al. (2009) who argue that the size of a firm influences its ability to monitor its management, I expect that large firms monitor their managers more effectively that reduces the time it takes the auditor to



complete the audit. I measure the size of the firm as the natural logarithm of its total assets.

Newton and Ashton (1989) argue that the firm's receivables and inventory are the most difficult to audit. I measure the firm's inherent risk as a sum of its inventory and receivables scaled by total assets. According to audit theory, a high inherent risk may force auditors to make more effort that leads to longer ARLs. Therefore, I expect a positive correlation between a firm's inherent risk and the ARL.

Defond and Jiambalvo (1994) argue that levered firms have a greater propensity to manage earnings to avoid unfavorable debt covenants. I expect the financial leverage of a firm to be negatively correlated with the ARL. I measure leverage as the ratio of total liabilities to total assets. Simunic (1980) argues that when the firm is performing poorly, it may expose itself and the auditor to risk. I measure the firm's profitability by the income before interest and taxes scaled by total assets. A better ROA signifies a lower risk for auditors and a shorter ARL. Therefore, I expect a negative correlation between profitability and the ARL.

I control for the weaknesses in internal control by adding MCW to the model. MCW is a binary variable that equals one when the firm has material control weaknesses, and zero otherwise. Weaknesses in internal control mean that auditors have to spend more time to complete the audit because they cannot rely on the internal controls but have to perform more substantive tests on the

transactions and accounts. I expect that a positive correlation between MCW and the ARL. I control for audit quality by including BIG4 in the model. BIG4 is a binary variable that equals one when a BIG4 auditor audits the firm, and zero otherwise. Simunic and Stein (1996) argue that a BIG4 auditor provides quality audits that reduce the incidence of fraud. BIG4 auditors also have the resources to complete the audit within a shorter time. I expect that a negative correlation exists between the ARL and BIG4.

To control for industry differences, I add three binary variables to the model (HITECH) for high-tech industries, (HIGROTH) for high-growth industries, and (HILIT) for high-litigious industries. Gaver and Gaver (1993) find a positive correlation between high-growth firms and information asymmetry. McNichols (2000) also find a positive correlation between firm growth and discretionary accrual. Skinner and Sloan (2002) find that high-growth firms that miss analysts' forecasts experience significant penalties from the market. Also, high-growth firms have the resources to monitor their managers suggesting that internal controls at high-growth firms work effectively and consequently reduces ARL. Therefore, I am not able to assign the direction for the correlation between HIGROTH firms and the ARL. HILIT is a binary variable that equals one when the firm operates in the high-litigious industry, and zero otherwise.

I control for the litigation risk by adding HILIT to the model. Auditors are highly cautious when accepting audit requests in a high-litigious industry. The auditors assess their clients' audit risk as high and their own business risk as

high to ensure that the clients' financial information is free of material misstatements. I expect that the audit takes a longer time to achieve this objective that likely leads to a positive correlation between the ARL and HILIT.

I control for exogenous factors that may influence the ARL by adding ACF and LACF to the model. ACF is a binary variable that equals one when the firm is an accelerated filer, and zero otherwise. LACF is a binary variable that equals one when the firm is a large accelerated filer, and zero otherwise. These variables are added to control for the SEC's guidance on filing deadlines for accelerated filers and large accelerated filers. Due to the pressure on both the auditor and the firm from filing deadline instituted by the SEC, I expect a negative correlation between ARL and ACF. I also expect a negative relationship between ARL and LACF.

To control for the firm's complexity, I add ACQ to the model. ACQ is a binary variable that equals one if the firm engaged in merger, and zero otherwise. A firm that merges with another has complex financial information. The auditor may need additional time to properly audit the accounting behind the merger. I expect a positive correlation between the ARL and ACQ. Management advisory services provide auditors with leverage to complete audits on time. This is due to knowledge spillover from the advisory to the audit. I expect that when the same audit firm provides management advisory services and the audit, the ARL is shorter. However, when the firm has complex tax issues, the time it takes to complete its audit is longer, which means a longer ARL. Therefore, I am not able

to assign a direction to non-audit services. I measure NAUDFEE as the non-audit fees paid by the firm.

**Regression model.** To test my hypothesis on whether a correlation exists between a CEO's extreme compensation cut and the ARL, I use the following regression model modified from Tanyi et al. (2010):

$$\begin{aligned} \text{ARLP365}_{it} = & \alpha_0 + \alpha_1 \text{EXCOCUT}_{it} + \alpha_2 \text{IRISKIR}_{it} + \alpha_3 \text{MCW}_{it} + \alpha_4 \text{ROA}_{it} + \\ & \alpha_5 \text{LEV}_{it} + \alpha_6 \text{ACQ}_{it} + \alpha_7 \text{ACF}_{it} + \alpha_8 \text{LACF}_{it} + \alpha_9 \text{BIG4}_{it} + \alpha_{10} \text{HITECH}_{it} + \\ & \alpha_{11} \text{HILIT}_{it} + \alpha_{12} \text{HIGROTH}_{it} + \alpha_{13} \text{LNAUDFEE}_{it} + \text{FF12} + \text{YR} + \varepsilon \dots 1 \end{aligned}$$

Where:

$\text{ARLP365}_{it}$  = the ARL scaled by 365 days of firm  $i$  in year  $t$ .

$\text{EXCOCUT}_{it}$  = a binary variable that equals one if the CEO of firm  $i$  experiences a compensation cut greater than 25 percent in year  $t$ , and zero otherwise.

$\text{IRISKIR}_{it}$  = the inherent risk of firm  $i$  in year  $t$ .

$\text{MCW}_{it}$  = a binary variable that equals one if firm  $i$  has material control weaknesses in year  $t$ , and zero otherwise.

$\text{ROA}_{it}$  = the return of assets of firm  $i$  in year  $t$ .

$\text{LEV}_{it}$  = the leverage of firm  $i$  in year  $t$ .

$\text{BIG4}_{it}$  = a binary variable that equals one if firm  $i$  is audited by a BIG4 audit firm in year  $t$ , and zero otherwise.

$\text{ACQ}_{it}$  = a binary variable that equals one if firm  $i$  engages in merger in year  $t$ , and zero otherwise.

$ACF_{it}$  = a binary variable that equals one if firm  $i$  is an accelerated filer in year  $t$ , and zero otherwise.

$LACF_{it}$  = a binary variable that equals one if firm  $i$  is a large accelerated filer in year  $t$ , and zero otherwise.

$HITECH_{it}$  = a binary variable that equals one if firm  $i$  is in a high-technology industry in year  $t$ , and zero otherwise.

$HILITIG_{it}$  = a binary variable that equals one if firm  $i$  is in a high-litigious industry in year  $t$ , and zero otherwise.

$HIGROTH_{it}$  = a binary variable that equals one if firm  $i$  is in a high-growth industry in year  $t$ , and zero otherwise.

$NAUDFEE_{it}$  = the fees paid by firm  $i$  in year  $t$  for non-audit fees.

## **Empirical Results and Discussion**

In this section, I present the summary statistics, correlation analysis, regression results, and a discussion on the results. I inspect the variance inflation factor (VIF) to test for multicollinearity and find that the largest VIF is 4.81, which means no multicollinearity issues exist.

**Summary statistics.** In Table 4.3, I report the summary statistics of the sample used to test the hypothesis. The mean ARL is 55 days that is consistent with those reported by Khrishnan and Yang (2010). I find that on average 99 percent of the firms are accelerated filers, and 87 percent are large accelerated filers. This is important because the SEC has different guidelines for filing dates for accelerated filers and large accelerated filers. BIG4 audit firms audit 91

percent of the firms, and 54 percent engaged in mergers. I also find that 28, 41, and 28 percent of the firms are in high-tech, high-litigious, and high-growth industries respectively.

**Pearson's correlation analyses.** In Table 4.4, I present the Pearson's correlation coefficients for the variables that I use to examine the correlation between extreme compensation cuts and the ARL. The Pearson's correlation matrix shows a non-significant positive correlation between ARLP365 and EXCOCUT.

Table 4.3.  
*Summary Statistics*

Variable	Mean	Std. Dev	Minimum	Q1	Median	Q3	Maximum
ARL	55.3033	8.8763	32.0000	51.0000	56.0000	59.0000	77.0000
ARLP365	0.1515	0.0243	0.0877	0.1397	0.1534	0.1616	0.2110
EXCOCUT	0.1242	0.3299	0.0000	0.0000	0.0000	0.0000	1.0000
IRISKIR	0.2319	0.1580	0.0007	0.1047	0.2097	0.3261	0.8950
MCW	0.0272	0.1628	0.0000	0.0000	0.0000	0.0000	1.0000
ROA	0.0903	0.1150	-1.0562	0.0566	0.0918	0.1343	0.6539
LEV	0.5658	0.2666	0.0554	0.4160	0.5569	0.6869	3.7928
ACQ	0.5397	0.4985	0.0000	0.0000	1.0000	1.0000	1.0000
ACF	0.9916	0.0914	0.0000	1.0000	1.0000	1.0000	1.0000
LACF	0.8702	0.3362	0.0000	1.0000	1.0000	1.0000	1.0000
BIG4	0.9139	0.2806	0.0000	1.0000	1.0000	1.0000	1.0000
HITECH	0.2833	0.4507	0.0000	0.0000	0.0000	1.0000	1.0000
HILIT	0.4139	0.4926	0.0000	0.0000	0.0000	1.0000	1.0000
HIGROTH	0.2772	0.4477	0.0000	0.0000	0.0000	1.0000	1.0000
LNAUDFEE	5.5007	0.7983	3.0000	5.0000	5.5536	6.0441	7.8306

Note: N=2496. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. ARL is the number of days from the firm's fiscal year-end to the date the audit report is signed. For the definitions of variables, please see Appendix.

Table 4.4.  
Pearson Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
(1) ARLP365	1													
(2) EXCOCUT	0.03	1												
(3) IRISKIR	0.01	0.00	1											
(4) MCW	0.16***	0.00	-0.01	1										
(5) ROA	-0.18***	0.06***	0.19***	0.06***	1									
(6) LEV	-0.16***	0.00	-0.04*	-0.01	0.08** *	1								
(7) ACQ	-0.04*	0.01	0.03	0.02	0.07** *	-0.02	1							
(8) ACF	-0.10***	0.07***	-0.01	0.02	0.17** *	0.01	0.07** *	1						
(9) LACF	-0.41***	0.07***	0.06***	0.13***	0.22** *	0.14***	0.16** *	0.24***	1					
(10) BIG4	-0.27***	-0.04**	0.09***	0.07***	0.07** *	0.19***	0.08** *	0.14***	0.31***	1				
(11) HITECH	0.07***	0.02	0.10***	0.01	-0.04**	0.25***	0.00	-0.05**	0.06***	0.10***	1			
(12) HILIT	0.02	0.03	-0.01	-0.01	-0.02	0.20***	0.08** *	0.06***	0.06***	-0.02	0.62** *	1		

(continued)

Table 4.4.  
*Pearson Correlation Matrix (continued)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
(13) HIGROTH	-0.06***	0.06***	- 0.11***	0.00	0.04**	0.05**	0.12** *	- 0.06***	0.04*	0.03*	0.02	0.30** *	1	
(14) LNAUDFEE	-0.20***	- 0.06***	- 0.05***	-0.03	0.11** *	0.23***	0.15** *	0.06***	0.26***	0.23***	-0.02	0.06**	0.0 2	1

Note. N=2496. \*\*\* Represents significance at the 1 percent level. \*\* Represents significance at the 5 percent level. \* Represents significance at the 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.



**Regression results.** I present the results from estimating the model in Table 4.5. The overall model is significant at an F-value equal to 30.56 and a p-value less than 0.0001, and the adjusted R squared is 23.55 percent. Nine control variables are significant.

I find that the coefficient for IRISKIR is (-0.00544). Thus, the firm's inherent risk negatively correlates with ARL and is significant (t-statistics = -1.73; p-value <0.0835). The result is not consistent with my expectation that firms with high inherent risk experience extended ARLs. Consistent with my expectation that firms that report material control weaknesses are associated with longer ARLs, I report that the coefficient for MCW is (0.01621) and is significant (t-statistic = 6.08; p-value <0.01). The coefficient for ROA is (-0.02108) and is significant (t-statistic = -5.21; p-value <0.01) and indicates that the firm's profitability is negatively correlated with ARL and consistent with my prediction.

The results of the regression indicate that the coefficient for ACQ is (0.00246) and is significant (t-statistic = 2.73; p-value < 0.01). Consistent with my prediction, the firm's complexity has a positive correlation with audit complexity and consequently a positive correlation with the time it takes to complete the audit. Thus, the firm's complexity is positively correlated with the ARL. The LACF coefficient (-0.02326) is negative and significant (t-statistic = -16.14; p-value < 0.01). It indicates that auditors of large accelerated filers have the propensity to complete their audits sooner. This result also shows that the pressure that the

SEC exert on such firms to release their financial information sooner may have forced auditors to complete their audits much quicker.

I find the BIG4 coefficient (-0.0114) is negative and significant (t-statistic = -6.87; p-value < 0.01), which is consistent with the literature. This result accentuates that BIG4 audit firms have the expertise, technology, and resources to complete audits more quickly. The LEV coefficient (-0.00547) is negative and significant (t-statistic = -3.10; p-value < 0.01), which indicates that high leverage firms negatively correlate with the ARL. The coefficient for LNAUDFEE (-0.00242) is negative and significant (t-statistic = -4.12; p-value < 0.01), which indicates that for this sample, firms that hire the same audit firm to provide non-audit services experience shorter ARLs.

The coefficient of the variable of interest EXCOCUT (-0.00065918) is not significant (t-statistic = -0.50; p-value = 0.6136). Therefore, the result does not show any evidence of a correlation between a CEO's extreme compensation cut and the ARL.

**Additional test.** I present the results of an alternative test I conducted to examine whether a correlation exists between the CEO's extreme compensation cut and the ARL in Table 4.6. In this test, I divide the data on compensation into three categories. The first category contains the extreme compensation cut that I call EXCOMCUT. The second category contains the compensation cut of less than 25 percent that I call COMCUT, and the third category contains

compensation increases that I call COMINC. I include EXCOMCUT and COMINC with COMCUT as my reference point in model 2 specified below:

$$\begin{aligned} \text{ARLP365}_{it} = & \alpha_0 + \alpha_1 \text{EXCOMCUT}_{it} + \alpha_2 \text{COMINC}_{it} + \alpha_3 \text{IRISKIR}_{it} + \\ & \alpha_4 \text{MCW}_{it} + \alpha_5 \text{ROA}_{it} + \alpha_6 \text{LEV}_{it} + \alpha_7 \text{ACQ}_{it} + \alpha_8 \text{ACF}_{it} + \alpha_9 \text{LACF}_{it} + \\ & \alpha_{10} \text{BIG4}_{it} + \alpha_{11} \text{HITECH}_{it} + \alpha_{12} \text{HILIT}_{it} + \alpha_{13} \text{HIGROTH}_{it} + \\ & \alpha_{14} \text{LNAUDFEE}_{it} + \text{FF12} + \text{YR} + \varepsilon \dots 2 \end{aligned}$$

Where:

EXCOMCUT<sub>it</sub> is a categorical variable that equals one when the CEO of firm I experiences a compensation cut greater than 25 percent.

COMINC<sub>it</sub> is a categorical variable that equals one when the CEO of firm i experiences a compensation increase.

The dependent variable and all control variables remain the same as specified in model 1.

The results of the test in model 2 are presented in Table 4.6 and are consistent with the results obtained from the main test in Table 4.5. The variable of interest EXCOMCUT is insignificant (t-statistic = -0.58; p-value = 0.5650). Again, the results does not show any evidence that the extreme CEO compensation cut affects ARL.

## **Conclusion**

In this study, I examine whether an extreme cut to a CEO's compensation has any impact on the length of the ARL. The literature documents that when

CEOs experience extreme compensation cut, their firms pay higher audit fees. Bryant and Mason (2006) report that audit fees are 4.6 percent higher for firms whose CEOs experience extreme compensation cut. Considering that higher audit fees may have a positive relationship with ARL, I argue that extreme cut into CEO compensation will lead to longer ARL. Using a sample of 2,496 firm-years for 722 distinct firms and two different methods, I find no evidence to suggest a correlation between the extreme cut in CEO's compensation and the ARL.

Table 4.5.  
*Regression Results of EXCOCUT on ARL*

Independent Variable	Pred. Sign	Estimated Coefficients	t-Value
Intercept	?	0.19299***	33.5
EXCOCUT	?	-0.00065918	-0.5
IRISKIR	?	-0.00544*	-1.73
MCW	+	0.01621***	6.08
ROA	-	-0.02108***	-5.21
LEV	+	-0.00547***	-3.1
ACQ	+	0.00246***	2.73
ACF	-	0.00238	0.48
LACF	-	-0.02326***	-16.14
BIG4	-	-0.0114***	-6.87
HITECH	+	0.0026	1.25
HILIT	+	-0.00068362	-0.47
HIGROTH	?	-0.00194	-1.57
LNAUDFEE	?	-0.00242***	-4.12

Note. N=2496. Adjusted R-squared=0.2355 F(p-value) =30.56(<.0001). Year fixed effect=yes. Industry fixed effect =yes. Model=  $ARLP365 = \alpha_0 + \alpha_1 EXCOCUT + \alpha_2 IRISKIR + \alpha_3 MCW + \alpha_4 ROA + \alpha_5 LEV + \alpha_6 ACQ + \alpha_7 ACF + \alpha_8 LACF + \alpha_9 BIG4 + \alpha_{10} HITECH + \alpha_{11} HILIT + \alpha_{12} HIGROTH + \alpha_{13} LNAUDFEE + FF12 + YR + \varepsilon$ . \*\*\* Represents significance at the 1 percent level. \*\*Represents significance at the 5 percent level. \* Represents significance at the 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

Table 4.6.  
*Regression Results of EXCOMCUT and COMINC on ARL*

Independent Variable	Pred. Sign	Estimated Coefficients	t-Value
Intercept	?	0.19322***	33.29
EXCOMCUT	?	-0.00086175	-0.58
COMINC	?	-0.00035811	-0.36
IRISKIR	?	-0.00545*	-1.73
MCW	+	0.01621***	6.08
ROA	-	-0.02101***	-5.19
LEV	+	-0.00547***	-3.1
ACQ	+	0.00246***	2.73
ACF	-	0.00238	0.48
LACF	-	-0.02325***	-16.13
BIG4	-	-0.01143***	-6.87
HITECH	+	0.0026	1.25
HILIT	+	-0.00068575	-0.47
HIGROTH	?	-0.00194	-1.58
LNAUDFEE	?	-0.00242***	-4.11

Note. N=2496. Adjusted R-squared=0.2352. F(p-value) =29.42(<.0001). Year fixed effect=yes. Industry fixed effect =yes. Model=  $ARLP365 = \alpha_0 + \alpha_1 EXCOMCUT + \alpha_2 COMINC + \alpha_3 IRISKIR + \alpha_4 MCW + \alpha_5 ROA + \alpha_6 LEV + \alpha_7 ACQ + \alpha_8 ACF + \alpha_9 LACF + \alpha_{10} BIG4 + \alpha_{11} HITECH + \alpha_{12} HILIT + \alpha_{13} HIGROTH + \alpha_{14} LNAUDFEE + FF12 + YR + \varepsilon$ . \*\*\* Represents significance at the 1 percent level. \*\*Represents significance at the 5 percent level. \* Represents significance at the 10 percent level. ARLP365 is the number of days from the fiscal year-end to the date of the signature of the audit opinion scaled by 365. For the definition of variables, please see the Appendix.

## **CHAPTER 5: CONCLUSIONS**

In this three-part dissertation, I investigate the association between the dependent variable (ARL) and tournament incentive. Also, I examine the relationship between the ARL and managerial entrenchment, proxied by the EINDEX. Then I explore the association between ARL and the provisions used to create the EINDEX. Additionally, I study the relationship between ARL and extreme cut in CEO compensation. Audit reports play a serious role in decision making; therefore, the timing of audit reports is critical to investment decision making. The FASB's conceptual framework underscores the importance of the timeliness of financial information. The framework posits that relevance is a fundamental quality of financial information. The importance of the audit report to stakeholders forced the SEC to shorten the filing deadline for accelerated and large accelerated filers. The literature documents that entrenched managers may engage in managerial misbehavior that may affect ARL.

In the first essay, I examine the association between strong tournament incentive and ARL. I used four different measures of tournament incentives for my analyses. Using a sample of 3,355 firm-years for 767 distinct firms, I find a significant negative association between strong tournament incentive and ARL. The outcome of this study may be of interest to regulators who are considering changes to the regulations for the ARL. The study also sheds light on the correlation between a tournament incentive and the ARL. Auditors may thus consider how the positive effort made by tournament participants and the harmful

efforts that influence their misbehavior may help to assess the firm's audit risk, the auditor's business risk, the risk of material misstatements, and the failure of audits. Tournament participants may also benefit from this study by knowing that their behavior provides signals to auditors and that receive a significant consideration in risk assessment, and signal to the board of directors about their honesty and ability to become the CEO of the firm. The results of this study provide an understanding of the positives and negatives of promotion based incentives and how those incentives affect the firms.

In this study, I do not consider the impact of the appointment of a CEO from outside of the organization. The literature suggests that the appointment of a CEO from outside the firm may reduce the strength of the correlation between the tournament incentive and the ARL. Subsequent studies may examine the factors that may strengthen or weaken this correlation such as the appointment of a CEO from outside the firm, and the age of the new CEO. Considering that when CEOs double as board chair, they may have an influence on the CEOs compensation. I expect that such influences over CEO compensation may widen the gap between the CEOs compensation and that of the CFO, the mean, median or the sum of the CEO and CFO compensation. This widened gap has the potential of strengthening the negative relationship between the tournament incentive and ARL. In this present study, I do not consider the impact of CEO duality and subsequent studies may investigate the impact of CEO duality on the association between ARL and tournament incentive.

In the second essay, I use a sample of 2,770 firm-years for 693 distinct firms, to examine the association between ARL and EINDEX. I find a significantly positive association between ARL and the EINDEX. The results suggest that firms that are protected by anti-takeover provisions experience extended ARLs. This is consistent with the exacerbating theory that argues that entrenched managers are motivated by short-term performance and therefore are more likely to engage in short-term projects for immediate results that are intended to improve shareholder wealth. Because managers of these firms engage in earnings management, auditors are more likely to assess the client's audit risk and the audit firm's own business risk as high, which consequently results in the longer ARL predicted by the model. This result is consistent with the line of research that emphasizes that anti-takeover provisions entrench managers and encourages managerial myopia.

I test the association between ARL, and the provisions used to create the EINDEX. The results also show that staggered boards, golden parachutes, and supermajority requirement to amend the corporate bylaws positively associate with ARL. Additionally, the results show that supermajority requirement to amend the corporate charter negatively associates with ARL. The negative association between supermajority requirement to amend the corporate charter and ARL is consistent with the mitigation theory which argues that managerial entrenchment does not engender managerial misbehavior.



The outcome of this study may be of great interest to researchers, regulators, market participant, auditors, and policymakers who intend to explore ways to minimize the effect of managerial misbehavior, attenuate managerial myopia, and eventually provide market participants and shareholders timely information to help them to make investment decisions. This study also contributes to the literature on the relationship between anti-takeover provisions and firm values by providing empirical evidence to support the associations that exist between the anti-takeover provisions and ARL. Bebchuk and Cohen (2005) find a negative relation between staggered boards and firm values, and this study extends that finding by documenting a positive relationship between staggered boards and ARL.

The literature suggests that institutional investors tend to have an extended interest and significant investments in the firms. By virtue of their investments, institutional investors may demand better corporate governance and have the incentive to monitor management behavior to protect their investment. This study does not consider the impact that institutional investors may have on the relationship between ARL and anti-takeover provision. Future studies may consider the inclusion of institutional investors as this may affect the relationship under consideration.

In the third essay, I investigate the correlation between extreme cut to CEO compensation and the ARL. I used two different methods to measure extreme CEO compensation. Firstly, I measure extreme CEO compensation as

a binary variable. However, this method did not produce any evidence to suggest that there exists a significant relationship between extreme cut in CEO compensation and ARL. Secondly, I put the CEO compensation data into three categories such that category one includes all CEO compensation cut above 25 percent defined as extreme compensation cut. Category two includes all CEO compensation cut below 25 percent, and category three includes all CEO compensation increases. Using CEO compensation cut below 25 percent as my reference point, I include extreme CEO compensation cut and CEO compensation increases in model 2. This test also did not provide any evidence to suggest that there exists a relationship between extreme cut in CEO compensation and ARL.

This study may be of interest to boards of directors when they determine whether to impose extreme cuts on the compensation of their CEOs. I argue that these cuts can lead to income-increasing earnings management and can prolong the time it takes auditors to complete their work. The research shows that the market responds negatively to late SEC filings (Bartov et al., 2011; Li & Ramesh, 2009). Therefore, market participants benefit from the information that the delay in the disclosure of financial information conveys. The delay may indicate that CEOs are engaging in earnings management to improve firm performance in an attempt to bring their compensation to pre-cut levels. The study also extends the literature by revealing the correlation between audit risk, audit fees, executive compensation, and ARL.

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## APPENDIX

### Variable Definitions

Variable	Definition
ARPP365	the ARL of firm <i>i</i> in year <i>t</i> .
EINDEX	the entrenchment index of firm <i>i</i> in year <i>t</i>
STAGBOD	a binary variable equal to one when firm <i>i</i> adopts staggered boards by the end of year <i>t</i> , zero otherwise
POIPILL	a binary variable equal to one when firm <i>i</i> adopts poison pills by the end of year <i>t</i> , zero otherwise.
GOLDPAR	a binary variable equal to one when firm <i>i</i> adopts golden parachute by the end of year <i>t</i> , zero otherwise.
ABYLAWS	a binary variable equal to one when firm <i>i</i> requires supermajority to amend corporate bylaws by the end of year <i>t</i> , zero otherwise.
ACHART	a binary variable equal to one when firm <i>i</i> requires supermajority to amend corporate charter by the end of year <i>t</i> , zero otherwise.
SUPMERG	a binary variable equal to one when firm <i>i</i> requires supermajority to approve mergers and acquisitions by the end of year <i>t</i> , zero otherwise.
LCFDIFF	Natural logarithm of the difference between compensation and the CEO compensation
CEOTL	The ratio of CEO compensation to the sum of CEO compensation and CFO compensation
LCMEDIF	Natural logarithm of the difference between the mean compensation of VPs and the CEO
LCMIDIF	Natural logarithm of the difference between the median compensation of VPs and the CEO
EXCOCUT	Binary variable equal to 1 when the CEO experiences a pay cut greater than 25 percent, 0 otherwise
EXCOMCUT	Categorical variable equal to 1 when the CEO experiences pay cut greater than 25 percent
COMINC	Categorical variable equal to 1 when the CEO experiences pay increase
COMCUT	Categorical variable equal to 0 as a reference point for all EXCOMCUT or COMINC
IRISKIR	the inherent risk of the firm <i>i</i> in year <i>t</i> .
MCW	a binary variable which is equal to one when firm <i>i</i> has material control weaknesses in year <i>t</i> , zero otherwise.
ROA	the return of assets of firm <i>i</i> in year <i>t</i> .
LEV	the leverage of firm <i>i</i> in year <i>t</i> .
ACQ	a binary variable equal to one if firm <i>i</i> engages in acquisitions in year <i>t</i> , zero otherwise.
ACF	a binary variable equal to one when the firm <i>i</i> is an accelerated filer in year <i>t</i> , zero otherwise.

(continued)

### Variable Definitions (continued)

<b>Variable</b>	<b>Definition</b>
LACF	a binary variable equal to one when firm <i>i</i> is a large accelerated filer in year <i>t</i> .
BIG4	a binary variable equal to one when firm <i>i</i> is audited by a BIG4 audit firm in year <i>t</i> , zero otherwise.
HITECH	a binary variable equal to one when firm <i>i</i> is engaged in high technology industry in year <i>t</i> , zero otherwise. (3-digit SIC codes 283, 284, 357, 366, 367, 371, 382, 384, and 737)
HILIT	a binary variable equal to one when firm <i>i</i> is engaged in high litigious industry in year <i>t</i> , zero otherwise. (2-digit SIC codes 28, 35, 36, 38, and 73)
HIGROTH	a binary variable equal to one when firm <i>i</i> engages in growth industry in year <i>t</i> , zero otherwise. (2-digit SIC codes 35, 45, 48, 49, 52, 57, 73, 78, and 80)
LNAUDFEE	to the fees paid by firm <i>i</i> in the year <i>t</i> for nonaudit services